

IBM TotalStorage DS8000



# Messages Reference



IBM TotalStorage DS8000



# Messages Reference

**Note:**

Before using this information and the product it supports, read the information in the **Safety and environmental notices** and **Notices** sections.

**This edition replaces GC26-7659-03 and all previous editions of GC26-7659.**

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## About messages

Message types and organization.

Three types of messages are issued to you from the user interfaces and supporting software:

- **Informational messages** are identified by the letter “I” at the end of the message identifier. They provide information about activities as they take place. For instance, an informational message might report that a volume was successfully created. No user action is necessary.
- **Warning messages** are identified by the letter “W” at the end of the message identifier. They warn that activities might have consequences that you do not anticipate. Warning messages normally provide the opportunity to continue an activity or to cancel it.
- **Error messages** are identified by the letter “E” at the end of the message identifier. They indicate that an error has occurred. Refer to the explanations and recommended actions in this document to resolve the problem.

The messages in this document are grouped by the reporting interface or software:

- **Framework** message identifiers are prefixed by the letters “CMMC” and “CMUF”. The framework is the basic software that supports your user interface.
- **Command-line interface** message identifiers are prefixed by the letters “CMUC”.
- **DS Storage manager** message identifiers are prefixed by the letters “CMUG”, “CMUL”, “CMUR” and “CMUS”.
- **Storage management console server** message identifiers are prefixed by the letters “CMUN”.

**Note:** OpenVMS systems display framework and command-line interface message identifiers prefixed by the letters “IBMDCLI\_”.



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## Safety and environmental notices

This section contains information about safety notices that are used in this guide and environmental notices for this product.

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### Safety notices

Use this process to find information about safety notices.

To find the translated text for a danger or caution notice:

1. Look for the identification number at the end of each danger notice or each caution notice. In the following examples, the numbers **1000** and **1001** are the identification numbers.

#### **DANGER**

**A danger notice indicates the presence of a hazard that has the potential of causing death or serious personal injury.**

**1000**

#### **CAUTION:**

**A caution notice indicates the presence of a hazard that has the potential of causing moderate or minor personal injury.**

**1001**

2. Find the number that matches in the *IBM TotalStorage Solutions Safety Notices for IBM Versatile Storage Server and IBM TotalStorage Enterprise Storage Server, GC26-7229*.

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### Environmental notices

This section identifies the environmental guidelines that pertain to this product.

#### Product recycling

This unit contains recyclable materials.

Recycle these materials at your local recycling sites. Recycle the materials according to local regulations. In some areas, IBM provides a product take-back program that ensures proper handling of the product. Contact your IBM representative for more information.

#### Disposing of products

This topic contains information about how to dispose of products.

This unit might contain batteries. Remove and discard these batteries, or recycle them, according to local regulations.

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### Conventions used in this guide

The following typefaces are used to show emphasis:

**boldface**

Text in **boldface** represents menu items and lowercase or mixed-case command names.

*italics* Text in *italics* is used to emphasize a word. In command syntax, it is used for variables for which you supply actual values.

**monospace**

Text in monospace identifies the data or commands that you type, samples of command output, or examples of program code or messages from the system.

## Related information

The tables in this section list and describe the following publications:

- The publications that make up the IBM® TotalStorage™ DS8000 series library
- Other IBM publications that relate to the DS8000 series
- Non-IBM publications that relate to the DS8000 series

See “Ordering IBM publications” on page xii for information about how to order publications in the IBM TotalStorage DS8000 series publication library. See “How to send your comments” on page xiii for information about how to send comments about the publications.

## DS8000 series library

These customer publications make up the DS8000 series library.

Unless otherwise noted, these publications are available in Adobe portable document format (PDF) on a compact disc (CD) that comes with the storage unit. If you need additional copies of this CD, the order number is SK2T-8803. These publications are also available as PDF files by clicking on the **Documentation link** on the following Web site:

<http://www-1.ibm.com/servers/storage/support/disk/ds8100/index.html>

See “Ordering IBM publications” on page xii for information about ordering these and other IBM publications.

Title	Description	Order Number
<i>IBM® TotalStorage® DS: Command-Line Interface User's Guide</i>	This guide describes the commands that you can use from the command-line interface (CLI) for managing your DS8000 configuration and Copy Services relationships. The CLI application provides a set of commands that you can use to write customized scripts for a host system. The scripts initiate predefined tasks in a Copy Services server application. You can use the CLI commands to indirectly control Remote Mirror and Copy and FlashCopy® configuration tasks within a Copy Services server group.	SC26-7625 (See Note.)
<i>IBM TotalStorage DS8000: Host Systems Attachment Guide</i>	This guide provides guidelines for attaching the DS8000 to your host system and for migrating to fibre-channel attachment from a small computer system interface.	SC26-7628 (See Note.)
<i>IBM TotalStorage DS8000: Introduction and Planning Guide</i>	This guide introduces the DS8000 product and lists the features you can order. It also provides guidelines for planning the installation and configuration of the storage unit.	GC35-0495



<b>Title</b>	<b>Description</b>	<b>Order Number</b>
<i>IBM TotalStorage Multipath Subsystem Device Driver User's Guide</i>	This publication describes how to use the IBM Subsystem Device Driver (SDD) on open-systems hosts to enhance performance and availability on the DS8000. SDD creates redundant paths for shared logical unit numbers. SDD permits applications to run without interruption when path errors occur. It balances the workload across paths, and it transparently integrates with applications.	SC30-4096
<i>IBM TotalStorage DS8000: User's Guide</i>	This guide provides instructions for setting up and operating the DS8000 and for analyzing problems.	SC26-7623 (See Note.)
<i>IBM TotalStorage DS Application Programming Interface Reference</i>	This publication provides reference information for the IBM TotalStorage DS application programming interface (API) and provides instructions for installing the Common Information Model Agent, which implements the API.	GC35-0493
<i>IBM TotalStorage DS8000 Messages Reference</i>	This publication provides explanations of error, information, and warning messages that are issued from the DS8000 user interfaces.	GC26-7659
<b>Note:</b> No hardcopy book is produced for this publication. However, a PDF file is available from the following Web site: <a href="http://www-1.ibm.com/servers/storage/support/disk/ds8100/index.html">http://www-1.ibm.com/servers/storage/support/disk/ds8100/index.html</a>		

## Other IBM publications

Other IBM publications contain additional information that is related to the DS product library.

The following list is divided into categories to help you find publications that are related to specific topics. Some of the publications are listed under more than one category. See "Ordering IBM publications" on page xii for information about ordering these and other IBM publications.

<b>Title</b>	<b>Description</b>	<b>Order Number</b>
<b>Data-copy services</b>		
<i>z/OS DFSMS Advanced Copy Services</i>	This publication helps you understand and use IBM Advanced Copy Services functions. It describes three dynamic copy functions and several point-in-time copy functions. These functions provide backup and recovery of data if a disaster occurs to your data center. The dynamic copy functions are peer-to-peer remote copy, extended remote copy, and coupled extended remote copy. Collectively, these functions are known as remote copy. FlashCopy, SnapShot, and concurrent copy are the point-in-time copy functions.	SC35-0428
<i>IBM Enterprise Storage Server</i>	This publication, from the IBM International Technical Support Organization, introduces the Enterprise Storage Server and provides an understanding of its benefits. It also describes in detail the architecture, hardware, and functions, including the advanced copy functions, of the Enterprise Storage Server.	SG24-5465
<i>Implementing Copy Services On S/390</i>	This publication, from the IBM International Technical Support Organization, tells you how to install, customize, and configure Copy Services on an Enterprise Storage Server that is attached to an S/390 or zSeries host system. Copy Services functions include peer-to-peer remote copy, extended remote copy, FlashCopy <sup>®</sup> , and concurrent copy. This publication describes the functions, prerequisites, and corequisites and describes how to implement each function into your environment.	SG24-5680

Title	Description	Order Number
<i>IBM TotalStorage ESS Implementing Copy Services in an Open Environment</i>	This publication, from the IBM International Technical Support Organization, tells you how to install, customize, and configure Copy Services on UNIX, Windows NT®, Windows 2000, Sun Solaris, HP-UX, Tru64, OpenVMS, and iSeries host systems. The Copy Services functions that are described include peer-to-peer remote copy and FlashCopy. This publication describes the functions and shows you how to implement them into your environment. It also shows you how to implement these functions in a high-availability cluster multiprocessing environment.	SG24-5757
<b>Fibre channel</b>		
<i>Fibre Channel Connection (FICON) I/O Interface: Physical Layer</i>	This publication provides information about the fibre-channel I/O interface. This book is also available as a PDF file from the following Web site: <a href="http://www.ibm.com/servers/resourcelink/">http://www.ibm.com/servers/resourcelink/</a>	SA24-7172
<i>Fibre Transport Services (FTS): Physical and Configuration Planning Guide</i>	This publication provides information about fibre-optic and ESCON-trunking systems.	GA22-7234
<i>IBM SAN Fibre Channel Switch: 2109 Model S08 Installation and Service Guide</i>	This guide describes how to install and maintain the IBM SAN Fibre Channel Switch 2109 Model S08.	SC26-7350
<i>IBM SAN Fibre Channel Switch: 2109 Model S08 User's Guide</i>	This guide describes the IBM SAN Fibre Channel Switch and the IBM TotalStorage ESS Specialist. It provides information about the commands and how to manage the switch with Telnet and the Simple Network Management Protocol.	SC26-7349
<i>IBM SAN Fibre Channel Switch: 2109 Model S16 Installation and Service Guide</i>	This publication describes how to install and maintain the IBM SAN Fibre Channel Switch 2109 Model S16. It is intended for trained service representatives and service providers.	SC26-7352
<i>IBM SAN Fibre Channel Switch: 2109 Model S16 User's Guide</i>	This guide introduces the IBM SAN Fibre Channel Switch 2109 Model S16 and tells you how to manage and monitor the switch using zoning and how to manage the switch remotely.	SC26-7351
<i>Implementing Fibre Channel Attachment on the ESS</i>	This publication, from the IBM International Technical Support Organization, helps you install, tailor, and configure fibre-channel attachment of open-systems hosts to the Enterprise Storage Server. It provides you with a broad understanding of the procedures that are involved and describes the prerequisites and requirements. It also shows you how to implement fibre-channel attachment.	SG24-6113
<b>Open-systems hosts</b>		
<i>ESS Solutions for Open Systems Storage: Compaq AlphaServer, HP, and Sun</i>	This publication, from the IBM International Technical Support Organization, helps you install, tailor, and configure the Enterprise Storage Server when you attach Compaq AlphaServer (running Tru64 UNIX), HP, and Sun hosts. This book does not cover Compaq AlphaServer that is running the OpenVMS operating system. This book also focuses on the settings that are required to give optimal performance and on the settings for device driver levels. This book is for the experienced UNIX professional who has a broad understanding of storage concepts.	SG24-6119

Title	Description	Order Number
<i>IBM TotalStorage ESS Implementing Copy Services in an Open Environment</i>	This publication, from the IBM International Technical Support Organization, tells you how to install, customize, and configure Copy Services on UNIX or Windows 2000 host systems. The Copy Services functions that are described include peer-to-peer remote copy and FlashCopy. This publication describes the functions and shows you how to implement them into your environment. It also shows you how to implement these functions in a high-availability cluster multiprocessing environment.	SG24-5757
<i>Implementing Fibre Channel Attachment on the ESS</i>	This publication, from the IBM International Technical Support Organization, helps you install, tailor, and configure fibre-channel attachment of open-systems hosts to the Enterprise Storage Server. It gives you a broad understanding of the procedures that are involved and describes the prerequisites and requirements. It also shows you how to implement fibre-channel attachment.	SG24-6113
<b>S/390 and zSeries hosts</b>		
<i>Device Support Facilities: User's Guide and Reference</i>	This publication describes the IBM Device Support Facilities (ICKDSF) product that are used with IBM direct access storage device (DASD) subsystems. ICKDSF is a program that you can use to perform functions that are needed for the installation, the use, and the maintenance of IBM DASD. You can also use it to perform service functions, error detection, and media maintenance.	GC35-0033
<i>z/OS Advanced Copy Services</i>	This publication helps you understand and use IBM Advanced Copy Services functions. It describes three dynamic copy functions and several point-in-time copy functions. These functions provide backup and recovery of data if a disaster occurs to your data center. The dynamic copy functions are peer-to-peer remote copy, extended remote copy, and coupled extended remote copy. Collectively, these functions are known as remote copy. FlashCopy, SnapShot, and concurrent copy are the point-in-time copy functions.	SC35-0428
<i>DFSMS/MVS V1: Remote Copy Guide and Reference</i>	This publication provides guidelines for using remote copy functions with S/390 and zSeries hosts.	SC35-0169
<i>Fibre Transport Services (FTS): Physical and Configuration Planning Guide</i>	This publication provides information about fibre-optic and ESCON-trunking systems.	GA22-7234
<i>Implementing ESS Copy Services on S/390</i>	This publication, from the IBM International Technical Support Organization, tells you how to install, customize, and configure Copy Services on an Enterprise Storage Server that is attached to an S/390 or zSeries host system. Copy Services functions include peer-to-peer remote copy, extended remote copy, FlashCopy, and concurrent copy. This publication describes the functions, prerequisites, and corequisites and describes how to implement each function into your environment.	SG24-5680
<i>ES/9000, ES/3090: IOCP User Guide Volume A04</i>	This publication describes the Input/Output Configuration Program that supports the Enterprise Systems Connection (ESCON) architecture. It describes how to define, install, and configure the channels or channel paths, control units, and I/O devices on the ES/9000 processors and the IBM ES/3090 Processor Complex.	GC38-0097
<i>IOCP User's Guide, IBM e(logo)server zSeries 800 and 900</i>	This publication describes the Input/Output Configuration Program that supports the zSeries 800 and 900 servers. This publication is available in PDF format by accessing ResourceLink at the following Web site:  <a href="http://www.ibm.com/servers/resourcelink/">www.ibm.com/servers/resourcelink/</a>	SB10-7029

Title	Description	Order Number
<i>IOCP User's Guide, IBM e(logo)server zSeries</i>	This publication describes the Input/Output Configuration Program that supports the zSeries server. This publication is available in PDF format by accessing ResourceLink at the following Web site:  www.ibm.com/servers/resourceLink/	SB10-7037
<i>S/390: Input/Output Configuration Program User's Guide and ESCON Channel-to-Channel Reference</i>	This publication describes the Input/Output Configuration Program that supports ESCON architecture and the ESCON multiple image facility.	GC38-0401
<i>IBM z/OS Hardware Configuration Definition User's Guide</i>	This guide provides conceptual and procedural information to help you use the z/OS Hardware Configuration Definition (HCD) application. It also explains: <ul style="list-style-type: none"> <li>• How to migrate existing IOCP/MVSCP definitions</li> <li>• How to use HCD to dynamically activate a new configuration</li> <li>• How to resolve problems in conjunction with MVS/ESA HCD</li> </ul>	SC33-7988
<i>OS/390: Hardware Configuration Definition User's Guide</i>	This guide provides detailed information about the input/output definition file and about how to configure parallel access volumes. This guide discusses how to use Hardware Configuration Definition for both OS/390® and z/OS V1R1.	SC28-1848
<i>OS/390 V2R10.0: MVS System Messages Volume 1 (ABA - ASA)</i>	This publication lists OS/390 MVS™ system messages ABA to ASA.	GC28-1784
<i>Using IBM 3390 Direct Access Storage in a VM Environment</i>	This publication provides device-specific information for the various models of the 3390 and describes methods you can use to manage storage efficiently using the VM operating system. It provides guidance on managing system performance, availability, and space through effective use of the direct access storage subsystem.	GG26-4575
<i>Using IBM 3390 Direct Access Storage in a VSE Environment</i>	This publication helps you use the 3390 in a VSE environment. It includes planning information for adding new 3390 units and instructions for installing devices, migrating data, and performing ongoing storage management activities.	GC26-4576
<i>Using IBM 3390 Direct Access Storage in an MVS Environment</i>	This publication helps you use the 3390 in an MVS environment. It includes device-specific information for the various models of the 3390 and illustrates techniques for more efficient storage management. It also offers guidance on managing system performance, availability, and space utilization through effective use of the direct access storage subsystem.	GC26-4574
<i>z/Architecture Principles of Operation</i>	This publication provides a detailed definition of the z/Architecture™. It is written as a reference for use primarily by assembler language programmers and describes each function at the level of detail needed to prepare an assembler language program that relies on a particular function. However, anyone concerned with the functional details of z/Architecture will find this publication useful.	SA22-7832
<b>SAN</b>		

Title	Description	Order Number
<i>IBM OS/390 Hardware Configuration Definition User's Guide</i>	This guide explains how to use the Hardware Configuration Data application to perform the following tasks: <ul style="list-style-type: none"> <li>• Define new hardware configurations</li> <li>• View and modify existing hardware configurations</li> <li>• Activate configurations</li> <li>• Query supported hardware</li> <li>• Maintain input/output definition files (IODFs)</li> <li>• Compare two IODFs or compare an IODF with an actual configuration</li> <li>• Print reports of configurations</li> <li>• Create graphical reports of a configuration</li> <li>• Migrate existing configuration data</li> </ul>	SC28-1848
<i>IBM SAN Fibre Channel Switch: 2109 Model S08 Installation and Service Guide</i>	This guide describes how to install and maintain the IBM SAN Fibre Channel Switch 2109 Model S08.	SC26-7350
<i>IBM SAN Fibre Channel Switch: 2109 Model S08 User's Guide</i>	This guide describes the IBM SAN Fibre Channel Switch and the IBM TotalStorage ESS Specialist. It provides information about the commands and how to manage the switch with Telnet and the Simple Network Management Protocol (SNMP).	SC26-7349
<i>IBM SAN Fibre Channel Switch: 2109 Model S16 Installation and Service Guide</i>	This publication describes how to install and maintain the IBM SAN Fibre Channel Switch 2109 Model S16. It is intended for trained service representatives and service providers.	SC26-7352
<i>IBM SAN Fibre Channel Switch: 2109 Model S16 User's Guide</i>	This guide introduces the IBM SAN Fibre Channel Switch 2109 Model S16 and tells you how to manage and monitor the switch using zoning and how to manage the switch remotely.	SC26-7351
<i>Implementing Fibre Channel Attachment on the ESS</i>	This publication, from the IBM International Technical Support Organization, helps you install, tailor, and configure fibre-channel attachment of open-systems hosts to the Enterprise Storage Server. It provides you with a broad understanding of the procedures that are involved and describes the prerequisites and requirements. It also shows you how to implement fibre-channel attachment.	SG24-6113
<b>Seascope family</b>		
<i>IBM Enterprise Storage Server</i>	This publication, from the IBM International Technical Support Organization, introduces the Enterprise Storage Server and provides an understanding of its benefits. It also describes in detail the architecture, hardware, and functions, including the advanced copy functions, of the Enterprise Storage Server.	SG24-5465
<i>IBM Enterprise Storage Server Performance Monitoring and Tuning Guide</i>	This guide, from the IBM International Technical Support Organization, provides guidance on the best way to configure, monitor, and manage your Enterprise Storage Server to ensure optimum performance.	SG24-5656
<i>IBM Versatile Storage Server: Introduction and Planning Guide</i>	This publication introduces the IBM Versatile Storage Server™ and lists the features you can order. It also provides planning information for both 2105 Models B09 and 100.	GC26-7223
<i>Implementing the IBM Enterprise Storage Server in Your Environment</i>	This publication, from the IBM International Technical Support Organization, can help you install, tailor, and configure the Enterprise Storage Server in your environment.	SG24-5420
<b>Storage management</b>		

Title	Description	Order Number
<i>Device Support Facilities: User's Guide and Reference</i>	This publication describes the IBM Device Support Facilities (ICKDSF) product used with IBM direct access storage device (DASD) subsystems. ICKDSF is a program that you can use to perform functions that are needed for the installation, the use, and the maintenance of IBM DASD. You can also use it to perform service functions, error detection, and media maintenance.	GC35-0033
<i>IBM TotalStorage Solutions Handbook</i>	This handbook, from the IBM International Technical Support Organization, helps you understand what makes up enterprise storage management. The concepts include the key technologies that you must know and the IBM subsystems, software, and solutions that are available today. It also provides guidelines for implementing various enterprise storage administration tasks so that you can establish your own enterprise storage management environment.	SG24-5250

## Ordering IBM publications

This section tells you how to order copies of IBM publications and how to set up a profile to receive notifications about new or changed publications.

### IBM publications center

The publications center is a worldwide central repository for IBM product publications and marketing material.

The IBM publications center offers customized search functions to help you find the publications that you need. Some publications are available for you to view or download free of charge. You can also order publications. The publications center displays prices in your local currency. You can access the IBM publications center through the following Web site:

<http://www.ibm.com/shop/publications/order>

### Publications notification system

The IBM publications center Web site offers you a notification system for IBM publications.

If you register, you can create your own profile of publications that interest you. The publications notification system sends you a daily e-mail that contains information about new or revised publications that are based on your profile.

If you want to subscribe, you can access the publications notification system from the IBM publications center at the following Web site:

<http://www.ibm.com/shop/publications/order>

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## Web sites

The following Web sites provide information about the IBM TotalStorage DS8000 series and other IBM storage products.

Type of Storage Information	Web Site
Concurrent Copy for S/390 and zSeries host systems	<a href="http://www.storage.ibm.com/software/sms/sdm/">http://www.storage.ibm.com/software/sms/sdm/</a>



Type of Storage Information	Web Site
Copy Services command-line interface (CLI)	<a href="http://www-1.ibm.com/servers/storage/support/software/cscli.html">http://www-1.ibm.com/servers/storage/support/software/cscli.html</a>
DS8000 series publications	<a href="http://www-1.ibm.com/servers/storage/support/disk/ds8100/index.html">http://www-1.ibm.com/servers/storage/support/disk/ds8100/index.html</a> Click <b>Documentation</b> .
FlashCopy for S/390 and zSeries host systems	<a href="http://www.storage.ibm.com/software/sms/sdm/">http://www.storage.ibm.com/software/sms/sdm/</a>
Host system models, operating systems, and adapters that the storage unit supports	<a href="http://www.ibm.com/servers/storage/disk/ds8000/interop.html">http://www.ibm.com/servers/storage/disk/ds8000/interop.html</a> Click <b>Interoperability matrix</b> .
IBM Disk Storage Feature Activation (DSFA)	<a href="http://www.ibm.com/storage/dsfa">http://www.ibm.com/storage/dsfa</a>
IBM storage products	<a href="http://www.storage.ibm.com/">http://www.storage.ibm.com/</a>
IBM TotalStorage DS8000 series	<a href="http://www-1.ibm.com/servers/storage/disk/ds8000">http://www-1.ibm.com/servers/storage/disk/ds8000</a>
IBM version of the Java (JRE) that is often required for IBM products	<a href="http://www-106.ibm.com/developerworks/java/jdk/">http://www-106.ibm.com/developerworks/java/jdk/</a>
Multiple Device Manager (MDM)	<a href="http://www.ibm.com/servers/storage/support/">http://www.ibm.com/servers/storage/support/</a> Click <b>Storage Virtualization</b> .
Remote Mirror and Copy (formerly PPRC) for S/390 and zSeries host systems	<a href="http://www.storage.ibm.com/software/sms/sdm/">http://www.storage.ibm.com/software/sms/sdm/</a>
SAN fibre channel switches	<a href="http://www.ibm.com/storage/fcswitch/">http://www.ibm.com/storage/fcswitch/</a>
Storage Area Network Gateway and Router	<a href="http://www-1.ibm.com/servers/storage/support/san/index.html">http://www-1.ibm.com/servers/storage/support/san/index.html</a>
Subsystem Device Driver (SDD)	<a href="http://www-1.ibm.com/servers/storage/support/software/sdd.html">http://www-1.ibm.com/servers/storage/support/software/sdd.html</a>
z/OS Global Mirror (formerly XRC) for S/390 and zSeries host systems	<a href="http://www.storage.ibm.com/software/sms/sdm/">http://www.storage.ibm.com/software/sms/sdm/</a>

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## How to send your comments

Your feedback is important to help us provide the highest quality information. If you have any comments about this information or any other DS8000 series documentation, you can submit them in the following ways:

- e-mail

Submit your comments electronically to the following e-mail address:  
starpubs@us.ibm.com

Be sure to include the name and order number of the book and, if applicable, the specific location of the text you are commenting on, such as a page number or table number.

- Mail

Fill out the Readers' Comments form (RCF) at the back of this book. Return it by mail or give it to an IBM representative. If the RCF has been removed, you can address your comments to:

International Business Machines Corporation  
RCF Processing Department

Department 61C  
9032 South Rita Road  
TUCSON AZ 85775-4401



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# Summary of Changes for GC26-7659-04 IBM TotalStorage DS8000

This document contains terminology, maintenance, and editorial changes. Technical changes or additions to the text and illustrations are indicated by a vertical line to the left of the change. This summary of changes describes new functions that have been added to this release.

## New Information

The following messages have been added in this edition.

*Table 1. Command-line interface messages*

- CMUC00216I
- CMUC00217E
- CMUC00218E
- CMUC00219E
- CMUC00220E

*Table 2. DS Storage Manager messages*

- CMUG00134E
- CMUG00135E
- CMUG00136E
- CMUG00137E
- CMUG00138E
- CMUG00139E
- CMUG00140E

*Table 3. Storage management console server messages*

- |              |              |              |              |
|--------------|--------------|--------------|--------------|
| • CMUN02389E | • CMUN02398E | • CMUN02406E | • CMUN02434E |
| • CMUN02390E | • CMUN02399E | • CMUN02427E | • CMUN02435E |
| • CMUN02391E | • CMUN02400E | • CMUN02428E | • CMUN02436E |
| • CMUN02392E | • CMUN02401E | • CMUN02429E | • CMUN02437E |
| • CMUN02393E | • CMUN02402E | • CMUN02430E | • CMUN02438E |
| • CMUN02394E | • CMUN02403E | • CMUN02431E | • CMUN02439E |
| • CMUN02395E | • CMUN02404E | • CMUN02432E | • CMUN03119E |
| • CMUN02396E | • CMUN02405E | • CMUN02433E | • CMUN80025E |
| • CMUN02397E |              |              |              |

## Changed Information

The following messages have been changed in this edition.

*Table 4. Command-line interface messages*

- CMUC00172I

Table 5. DS Storage Manager messages

- CMUR00001W
- CMUR00002W
- CMUR00003W
- CMUS00030W

Table 6. Storage management console server messages

- CMUN02137E
- CMUN02149E
- CMUN02208E
- CMUN02337E
- CMUN02387E
- CMUN03030E
- CMUN03032E
- CMUN03038E
- CMUN03048E
- CMUN03051E
- CMUN03052E
- CMUN03065E
- CMUN03066E
- CMUN03067E
- CMUN03070E
- CMUN03078E
- CMUN03079E
- CMUN03083E
- CMUN03087E
- CMUN03088E
- CMUN06001E
- CMUN06004E
- CMUN06006E
- CMUN06015E
- CMUN06016E
- CMUN06017E
- CMUN06018E
- CMUN06019E
- CMUN06020E
- CMUN06021E
- CMUN06022E
- CMUN06024E
- CMUN06026E
- CMUN06028E
- CMUN06029E
- CMUN06030E

## Deleted Information

No messages have been deleted in this edition.

## Moved Information

The following messages have been moved in this edition.

Table 7. Moved messages

Original message identifier	New message identifier
CMUN01003E	CMUN02407E
CMUN01004E	CMUN02408E
CMUN01005E	CMUN02409E
CMUN01006E	CMUN02410E
CMUN01007E	CMUN02411E
CMUN01008E	CMUN02412E
CMUN01009E	CMUN02413E
CMUN01010E	CMUN02414E
CMUN01011E	CMUN02415E
CMUN01013E	CMUN02416E
CMUN01014E	CMUN02417E
CMUN01015E	CMUN02418E
CMUN01016E	CMUN02419E
CMUN01017E	CMUN02420E
CMUN01018E	CMUN02421E
CMUN01019E	CMUN02422E
CMUN01020E	CMUN02423E
CMUN01021E	CMUN02424E

Table 7. Moved messages (continued)

<b>Original message identifier</b>	<b>New message identifier</b>
CMUN01022E	CMUN02425E
CMUN01023E	CMUN02426E
CMUS00030E	CMUS00030W



---

## Chapter 1. Framework messages

Framework messages

These messages are issued by the user interface framework.

---

**CMMCI9001E** Command *command\_name* resulted in an internal server error (error number *return\_code*). View the log file for details.

**Explanation**

An unexpected value was returned for this command.

**Action**

Run the command again. If the problem persists, contact your service representative.

---

**CMMCI9002I** Command *command\_name* halted.

**Explanation**

The command **command\_name** was unexpectedly halted.

**Action**

Perform the following actions to resolve the problem.

1. View the cluster log to determine if other errors might be causing this error.
2. Run the command again.
3. If the problem persists, contact your service representative.

---

**CMMCI9003W** No *object\_name* instances found in the system.

**Explanation**

You attempted to list all instances of **object\_name**. No instances were found.

**Action**

No action is required.

---

**CMMCI9004E** Cannot modify *object\_type* *object\_name* because it does not exist.

**Explanation**

You are attempting to modify the attributes for the **object\_type** named **object\_name**, but **object\_name** does not exist.

**Action**

Make sure that the object with the attributes that you are modifying exists.

---

**CMMCI9005I There is nothing to modify.****Explanation**

You are attempting to modify the attributes for an object, but the values that you specified are already defined for that object.

**Action**

If you must modify the attributes for an object, run the command again. Ensure that you are specifying different attribute values.

---

**CMMCI9006E No *class\_type* instances *object\_name* found that match criteria: *criteria*.****Explanation**

You are attempting to list all occurrences of an object, but no instances of the object that meet your search criteria were found.

**Action**

If the search criteria that you specified was correct, no action is required. Otherwise, attempt to list all occurrences of the object again by specifying different search criteria.

---

**CMMCI9007E *object\_type* *object\_name* does not exist.****Explanation**

You are attempting to run a command on an object that does not exist.

**Action**

Ensure that you are running this command on an existing object.

---

**CMMCI9008I Unsupported command *command\_name* completed successfully.****Explanation**

The command **command\_name** is not a supported command. However, the command did complete successfully.

**Action**

No action is required.

---

**CMMCI9009E The unsupported *command\_name* command failed with a value *return\_code*****Explanation**

The command **command\_name** is not a supported command. The command did not complete successfully.

### Action

Make sure that you are running only supported commands.

---

## **CMMCI9010E The command did not complete successfully.**

### Explanation

The command did not complete successfully.

### Action

Verify that you are using the correct syntax. Then run the command again.

---

## **CMMCI9013E Command: *command\_name* was not found.**

### Explanation

You attempted to run a command that does not exist.

### Action

Make sure that you run valid administrative command-line interface commands. Enter "help" for a list of available commands.

---

## **CMMCI9014E The parameter *-parameter\_name* is not valid.**

### Explanation

You attempted to run a command, but the parameter that you specified is not valid.

### Action

Run the command again, specifying valid parameters. Enter "help **command\_name**" for a list of valid parameters.

---

## **CMMCI9015E The value *value* for parameter *-parameter\_name* is not formatted correctly.**

### Explanation

The parameter that you specified is not formatted correctly.

### Action

Run the command again, specifying parameter values that are formatted correctly. Enter "help **command\_name**" for a list of valid parameters.

---

## **CMMCI9016E Missing parameter name after -.**

### Explanation

You specified a dash, but you did not specify a parameter name after the dash.

### Action

Run the command again using correct parameters. Enter "help **command\_name**" for a list of valid parameters.

---

## **CMMCI9017E** Parameter *parameter\_name* is already specified.

### Explanation

You are attempting to specify the same parameter twice on a single command.

### Action

Run the command again, specifying the parameter only once. Enter "help **command\_name**" for a list of valid parameters.

---

## **CMMCI9018E** Parameter *parameter\_name* is missing a required value.

### Explanation

The parameter **parameter\_name** requires a value.

### Action

Run the command again, specifying valid values for all parameters. Enter "help **command\_name**" for a list of valid parameters and values.

---

## **CMMCI9019E** The value for *parameter\_name*: *value* is not valid.

### Explanation

The value that you specified for the listed parameter name is not valid.

### Action

Run the command again, specifying valid values for all parameters. Enter "help **command\_name**" for a list of valid parameters and values.

---

## **CMMCI9021E** Command *command\_name* is not formatted correctly.

### Explanation

The command that you specified is not formatted correctly.

### Action

Run the command again, making sure that it is formatted correctly. Enter "help **command\_name**" for the correct format.

---

## **CMMCI9022E** Missing required parameter: *parameter\_name*.

### Explanation

The parameter **parameter\_name** is required.



### Action

Run the command again, specifying all required parameters. Enter "help **command\_name**" for a list of valid parameters and values.

---

**CMMCI9023E** *parameter\_name* is mutually exclusive of *parameter\_name*

### Explanation

You specified two parameters that cannot be used together. You cannot specify both parameters on a single command.

### Action

Run the command again, specifying only one of the parameters.

---

**CMMCI9024E** *value* exceeds the maximum allowable value of *maximum\_value* for the parameter *command\_name*

### Explanation

The value that you specified is greater than the maximum value that is allowed for this parameter.

### Action

Run the command again, specifying valid values for all parameters. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9025E** *value* does not meet the minimum allowable value of *minimum\_value* for the parameter *parameter\_name*

### Explanation

The value that you specified is less than the minimum value that is allowed for this parameter.

### Action

Run the command again, specifying valid values for all parameters. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9026E** Unmatched *character\_value* characters.

### Explanation

There are unmatched **character\_value** characters in the command that you specified.

### Action

Run the command again, making sure that you specify matching **character\_value** characters, such as matching quotation marks. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9027E Invalid value for *parameter\_name*. The length exceeds *maximum\_length* characters.**

**Explanation**

The length of the value that you specified for this parameter exceeds the maximum length for this value.

**Action**

Run the command again, making sure that the length of the value that you specify for this parameter is not greater than the maximum length. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9028E The value *value* specified for parameter *parameter\_value* is not valid.**

**Explanation**

The value that you specified for this parameter is not valid for this parameter.

**Action**

Run the command again, making sure that you specify valid values for all parameters. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9029E *object\_type* *object\_name* does not exist.**

**Explanation**

You specified the object **object\_type** with the name **object\_name**, but it does not exist.

**Action**

Run the command again, making sure that you specify an existing object. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9030E Value *value* cannot be accepted with any other value for the *-parameter\_name* parameter.**

**Explanation**

You specified multiple values for the parameter **parameter\_name**. However, if you specify the parameter value of **value**, it must be the only value that is specified for this parameter.

**Action**

Run the command again, making sure that you specify valid parameter values. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9031E** The help page for command *command\_name* does not exist.

**Explanation**

You requested help for the command **command\_name**, but no help exists for this command.

**Action**

Make sure that you are requesting help for a valid command. Enter "help" for a list of available commands.

---

**CMMCI9032E** You must specify parameter *parameter\_name* if you specify parameter *parameter\_name*

**Explanation**

If you specify one of these parameters on a command, you must specify both parameters.

**Action**

Run the command again, making sure that you specify both parameters. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9033E** File *file\_name* does not exist.

**Explanation**

The file name that you specified does not exist.

**Action**

Run the command again, making sure that you specify a valid file name.

---

**CMMCI9034E** Parameter *parameter\_name* cannot be used in the same command as parameter *parameter\_name*.

**Explanation**

These two parameters cannot be used together. You cannot specify both of them in the same command.

**Action**

Run the command again, making sure that you specify only one of these parameters. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9035E** *object\_type object\_name* already exists.

**Explanation**

You are attempting to create an object of type **object\_type** by the name **object\_name**, but it already exists.

### Action

Make sure that this is the object that you are trying to create. If so, no action is required. If not, run the command again using a new object name.

---

**CMMCI9036E** The value *value* for parameter *-parameter\_name* is already specified.

### Explanation

You are attempting to specify the same parameter twice in a single command.

### Action

Run the command again, specifying the parameter only once. Enter "help **command\_name**" for a list of valid parameters.

---

**CMMCI9037E** Multiple targets not allowed for command *command\_name*

### Explanation

You cannot specify multiple targets for this command.

### Action

Run the command again, specifying a single target. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9038E** You cannot specify multiple *values* when using the *parameter\_name* parameter.

### Explanation

You specified multiple values for the parameter **parameter\_name**. You can specify only a single value for this parameter.

### Action

Run the command again, making sure that you specify valid parameter values. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9039E** The value *value* for *parameter\_name* is not valid. It contains unsupported characters.

### Explanation

You specified a value for this parameter that contains unsupported characters.

### Action

Run the command again, making sure that you specify valid parameter values. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9040E** The value *value* for the parameter *parameter\_name* is not valid. It contains unsupported characters.

**Explanation**

You specified an object name that contains unsupported characters.

**Action**

Run the command again, making sure that you specify a valid object name. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9041E** The value for *parameter\_name* is not valid. You must specify either *value1* or *value2*.

**Explanation**

You specified a value for this parameter that is not valid. You must specify either **value1** or **value2**.

**Action**

Run the command again, making sure that you specify valid values for all parameters. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9042E** The value for the parameter *-parameter\_name* cannot contain a *value*.

**Explanation**

You specified a value for this parameter that is not valid.

**Action**

Run the command again, making sure that you specify valid values for all parameters. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9043E** Number of entries (*entries*) is exceeded for the *-parameter\_name* parameter.

**Explanation**

You specified too many values for this parameter.

**Action**

Run the command again, making sure that you specify valid values for all parameters. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9044E** Entry *entry\_value* exceeds the length limit (*entry\_limit*) for one item for the *-parameter\_name* parameter.

**Explanation**

The length of the value that you specified for this parameter is too long.

**Action**

Run the command again, making sure that you specify valid values for all parameters. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9045E** The value for *-parameter\_name* must be operator the current setting of *value*.

**Explanation**

The value that you specified for the listed operator is not valid. The **operator** explains how **value** must be changed.

**Action**

Run the command again, making sure that you specify valid values for all parameters. Enter "help **command\_name**" for a list of valid parameters and parameter values.

---

**CMMCI9046E** Unrecognized syntax error in command *command\_name*

**Explanation**

There is a syntax error in the command that you specified.

**Action**

Run the command again, making sure that you use a valid syntax. Enter "help **command\_name**" for the syntax to use.

---

**CMMCI9047E** Cannot run *command\_name* as a command within the *application\_name* application. Tip: Enter "help *command\_name*" for more information.

**Explanation**

You cannot specify the command **command\_name** within this application.

**Action**

Enter "help **command\_name**" for more information about using this command.

---

**CMMCI9048E** The date provided: *date\_value* is invalid. Tip: Correct format for the date field is YYYY-MM-DD

**Explanation**

The value that you entered for the date specifier is invalid.

**Action**

The format of the date field is YYYY-MM-DD. Check that the value that you entered follows this format and is a valid date.

---

**CMMCI9049E** You must specify one flag from the following group when issuing this command: *param\_group*.

**Explanation**

It is required that one of the parameters that is specified in the grouping is provided for this command.

**Action**

Restate the command with the correct list of required parameters.

---

**CMMCI9050E** The "-" option is not valid in interactive mode. Tip: If you intended to use this as a value substitution indicator, you must enter the value.

**Explanation**

Using the operator to instruct the process to read from stdin while in interactive mode is illegal.

**Action**

Do not use the stdin read operator. Provide the actual value instead.

---

**CMUF00000E** You must enter a user name.

**Explanation**

You must enter a user name to log into the DS Storage Manager.

**Action**

Enter a user name, and then resubmit the task.

---

**CMUF00001E** You must enter a password.

**Explanation**

You must enter a password to log into the DS Storage Manager.

**Action**

Enter a password, and then resubmit the task.

---

**CMUF00002E You must enter a user name and a password.****Explanation**

You must enter a user name and a password to log into the DS Storage Manager.

**Action**

Enter a user name and a password, and then resubmit the task.

---

**CMUF00003E An unexpected error has occurred.****Explanation**

An unexpected runtime error has occurred.

**Action**

Resubmit the task. If the problem persists, contact IBM technical support for assistance.



---

## Chapter 2. DS command-line interface messages

DS CLI messages

These messages are issued by the DS command-line interface.

---

**CMUC00000I** *COMMAND\_INFO* Extent pool *VALUE\_0* successfully created.

**Explanation**

The extent pool has been created successfully.

**Action**

None.

---

**CMUC00001I** *COMMAND\_INFO* Extent pool *VALUE\_0* successfully modified.

**Explanation**

The extent pool has been modified successfully.

**Action**

None.

---

**CMUC00002W** *COMMAND\_INFO* Are you sure you want to delete extent pool *EXTENT\_POOL\_ID*? [y/n]:

**Explanation**

You are being asked to confirm that you want to delete the extent pool.

**Action**

Enter **Y** to delete the extent pool. Enter **N** to cancel the operation.

---

**CMUC00003I** *COMMAND\_INFO* Extent pool *VALUE\_0* successfully deleted.

**Explanation**

The extent pool has been deleted successfully.

**Action**

None.

---

**CMUC00004I** *COMMAND\_INFO* Array *VALUE\_0* successfully created.

**Explanation**

The array has been created successfully.

**Action**

None.

---

**CMUC00005W** *COMMAND\_INFO* **Are you sure you want to delete array  
ARRAY\_ID? [y/n]:**

**Explanation**

You are being asked to confirm that you want to delete the array.

**Action**

Enter **Y** to delete the array. Enter **N** to cancel the operation.

---

**CMUC00006I** *COMMAND\_INFO* **Array VALUE\_0 successfully deleted.**

**Explanation**

The array has been deleted successfully.

**Action**

None.

---

**CMUC00007I** *COMMAND\_INFO* **Rank VALUE\_0 successfully created.**

**Explanation**

The rank has been created successfully.

**Action**

None.

---

**CMUC00008I** *COMMAND\_INFO* **Rank VALUE\_0 successfully modified.**

**Explanation**

The rank has been modified successfully.

**Action**

None.

---

**CMUC00009W** *COMMAND\_INFO* **Are you sure you want to delete rank  
RANK\_ID? [y/n]:**

**Explanation**

You are being asked to confirm that you want to delete the rank.

**Action**

Enter **Y** to delete the rank. Enter **N** to cancel the operation.

---

**CMUC00010I** *COMMAND\_INFO* Rank *VALUE\_0* successfully deleted. **NOTE:** The rank might still be visible to queries until reformatting completes.

**Explanation**

The rank has been deleted successfully. However, device reformatting can take up to several hours to complete, depending on the size of the devices. The rank might still be visible in queries until reformatting completes.

**Action**

None.

---

**CMUC00011I** *COMMAND\_INFO* I/O Port *VALUE\_0* successfully configured.

**Explanation**

The I/O port has been configured successfully.

**Action**

None.

---

**CMUC00012I** *COMMAND\_INFO* Host connection *VALUE\_0* successfully created.

**Explanation**

The host connection has been created successfully.

**Action**

None.

---

**CMUC00013I** *COMMAND\_INFO* Host connection *VALUE\_0* successfully modified.

**Explanation**

The host connection has been modified successfully.

**Action**

None.

---

**CMUC00014W** *COMMAND\_INFO* Are you sure you want to delete host connection *HOST\_CONNECT\_ID*? [y/n]:

**Explanation**

You are being asked to confirm that you want to delete the host connection.

**Action**

Enter **Y** to delete the host connection. Enter **N** to cancel the operation.

---

**CMUC00015I** *COMMAND\_INFO* **Host connection VALUE\_0 successfully deleted.**

**Explanation**

The host connection has been deleted successfully.

**Action**

None.

---

**CMUC00016I** *COMMAND\_INFO* **Port group number PORT\_GROUP successfully modified.**

**Explanation**

The port group has been modified successfully.

**Action**

None.

---

**CMUC00017I** *COMMAND\_INFO* **LCU VALUE\_0 successfully created.**

**Explanation**

The logical control unit has been created successfully.

**Action**

None.

---

**CMUC00018I** *COMMAND\_INFO* **LCU VALUE\_0 successfully modified.**

**Explanation**

The logical control unit has been modified successfully.

**Action**

None.

---

**CMUC00019W** *COMMAND\_INFO* **Are you sure you want to delete LCU LCU\_ID? [y/n]:**

**Explanation**

You are being asked to confirm that you want to delete the logical control unit.

**Action**

Enter **Y** to delete the logical control unit. Enter **N** to cancel the operation.

---

**CMUC00020I** *COMMAND\_INFO* **LCU VALUE\_0 successfully deleted.**

**Explanation**

The logical control unit has been deleted successfully.

**Action**

None.

---

**CMUC00021I** *COMMAND\_INFO* **CKD Volume VALUE\_0 successfully created.**

**Explanation**

The count-key-data volume has been created successfully.

**Action**

None.

---

**CMUC00022I** *COMMAND\_INFO* **CKD Volume VALUE\_0 successfully modified.**

**Explanation**

The count-key-data volume has been modified successfully.

**Action**

None.

---

**CMUC00023W** *COMMAND\_INFO* **Are you sure you want to delete CKD volume VOLUME\_ID? [y/n]:**

**Explanation**

You are being asked to confirm that you want to delete the count-key-data volume.

**Action**

Enter **Y** to delete the volume. Enter **N** to cancel the operation.

---

**CMUC00024I** *COMMAND\_INFO* **CKD volume VALUE\_0 successfully deleted.**

**Explanation**

The count-key-data volume has been deleted successfully.

**Action**

None.

---

**CMUC00025I** *COMMAND\_INFO* **FB volume VALUE\_0 successfully created.**

**Explanation**

The fixed block volume has been created successfully.

**Action**

None.

---

**CMUC00026I** *COMMAND\_INFO* **FB volume VALUE\_0 successfully modified.**

**Explanation**

The fixed block volume has been modified successfully.

**Action**

None.

---

**CMUC00027W** *COMMAND\_INFO* **Are you sure you want to delete FB volume VOLUME\_ID? [y/n]:**

**Explanation**

You are being asked to confirm that you want to delete the fixed block volume.

**Action**

Enter **Y** to delete the volume. Enter **N** to cancel the operation.

---

**CMUC00028I** *COMMAND\_INFO* **FB volume VALUE\_0 successfully deleted.**

**Explanation**

The fixed block volume has been deleted successfully.

**Action**

None.

---

**CMUC00029I** *COMMAND\_INFO* **LSS VALUE\_0 successfully modified.**

**Explanation**

The logical subsystem has been modified successfully.

**Action**

None.

---

**CMUC00030I** *COMMAND\_INFO* Volume group *VALUE\_0* successfully created.

**Explanation**

The volume group has been created successfully.

**Action**

None.

---

**CMUC00031I** *COMMAND\_INFO* Volume group *VALUE\_0* successfully modified.

**Explanation**

The volume group has been modified successfully.

**Action**

None.

---

**CMUC00032W** *COMMAND\_INFO* Are you sure you want to delete volume group *VOLGRP\_ID*? [y/n]:

**Explanation**

You are being asked to confirm that you want to delete the volume group.

**Action**

Enter **Y** to delete the volume group. Enter **N** to cancel the operation.

---

**CMUC00033I** *COMMAND\_INFO* Volume group *VALUE\_0* successfully deleted.

**Explanation**

The volume group has been deleted successfully.

**Action**

None.

---

**CMUC00034W** *COMMAND\_INFO* Data can be lost. You have requested an operation that discards a portion of the volume. Are you sure that you want to delete tracks *START* to *END* on volume *VOLUME\_ID*? [y/n]:

**Explanation**

You are being asked to confirm that you want to delete pinned data.

**Action**

Enter **Y** to delete the data. Enter **N** to cancel the operation.

---

**CMUC00035I** *COMMAND\_INFO* Pinned tracks *START* to *END* on volume *VOLUME\_ID* successfully deleted.

**Explanation**

The pinned track data on the volume has been deleted successfully.

**Action**

None.

---

**CMUC00036W** *COMMAND\_INFO* Are you sure you want to reset the access state for volume *VOLUME\_ID*? [y/n]:

**Explanation**

You are being asked to confirm that you want to restore access to the volume by resetting the volume access state.

**Action**

Enter **Y** to restore access to the volume. Enter **N** to cancel the operation.

---

**CMUC00037I** *COMMAND\_INFO* Access state for volume *VOLUME\_ID* successfully reset.

**Explanation**

Access to the volume has been restored successfully. The access state has been reset.

**Action**

None.

---

**CMUC00038W** *COMMAND\_INFO* Are you sure you want to clear volume *VOLUME\_ID*? [y/n]:

**Explanation**

You are being asked to confirm that you want to clear the Copy Services relationships for the base volume.

**Action**

Enter **Y** to clear the volume. Enter **N** to cancel the operation.



---

**CMUC00039I** *COMMAND\_INFO* No FlashCopy or Remote Mirror and Copy relationships exist for volume *VOLUME\_ID*. The volume is clear.

**Explanation**

No Copy Services relationships can be found for this volume. No action can be taken because the volume is already clear.

**Action**

None.

---

**CMUC00040I** *COMMAND\_INFO* Storage complex *VALUE\_0* successfully modified.

**Explanation**

The storage complex has been modified successfully.

**Action**

None.

---

**CMUC00041I** *COMMAND\_INFO* Storage unit *VALUE\_0* successfully modified.

**Explanation**

The storage unit has been modified successfully.

**Action**

None.

---

**CMUC00042I** *COMMAND\_INFO* Storage image *VALUE\_0* successfully modified.

**Explanation**

The storage image has been modified successfully.

**Action**

None.

---

**CMUC00043I** *COMMAND\_INFO* Environment variable successfully set.

**Explanation**

The command-line interface environment variable has been set successfully.

**Action**

None.

---

**CMUC00044E** *COMMAND\_INFO* **Unknown error returned by management console server.**

**Explanation**

The management console server reports a failure for unknown reasons.

**Action**

Verify that the correct versions of the management console server software and the command-line interface are installed. If the problem persists, contact IBM technical support for assistance.

---

**CMUC00045E** *COMMAND\_INFO ERROR\_CODE* **Unknown error code returned by management console server.**

**Explanation**

The management console server returns an unknown error code.

**Action**

Contact IBM technical support for assistance.

---

**CMUC00046E** *COMMAND\_INFO* **Failure returned by management console server.**

**Explanation**

The management console server reports that the operation fails.

**Action**

Specify the command and the parameters properly, and then resubmit the command. Verify that the correct versions of the management console server software and the command-line interface are installed. If the problem persists, contact IBM technical support for assistance.

---

**CMUC00047E** *COMMAND\_INFO* **Resource *VALUE\_0* does not exist.**

**Explanation**

The resource that is specified as a command parameter cannot be found.

**Action**

Correctly specify the resource, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00048E** *COMMAND\_INFO* Array site *VALUE\_0* does not exist.**Explanation**

You are attempting to list, show, or create an array, but the array site that is specified as a command parameter cannot be found.

**Action**

Correctly specify the array site, or resubmit the command with another array site ID.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00049E** *COMMAND\_INFO* Array ID *VALUE\_0* does not exist.**Explanation**

The array that is specified as a command parameter cannot be found.

**Action**

Correctly specify the array ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00050E** *COMMAND\_INFO* Rank ID *VALUE\_0* does not exist.**Explanation**

You are attempting to list, show, change, or remove a rank, but the rank that is specified as a command parameter cannot be found.

**Action**

Correctly specify the rank ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00051E** *COMMAND\_INFO* Extent pool *VALUE\_0* does not exist.**Explanation**

The extent pool that is specified as a command parameter cannot be found.

**Action**

Specify the correct extent pool ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00052E** *COMMAND\_INFO* Storage image *VALUE\_0* does not exist.**Explanation**

The storage image that is specified as a command parameter (for example, -dev) cannot be found.

**Action**

Specify a valid storage image, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00053E** *COMMAND\_INFO* **I/O port VALUE\_0 does not exist.****Explanation**

The I/O port that is specified as a command parameter cannot be found.

**Action**

Specify the correct I/O port ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00054E** *COMMAND\_INFO* **LSS VALUE\_0 does not exist.****Explanation**

The logical subsystem ID that is specified as a command parameter cannot be found.

**Action**

Specify the correct logical subsystem ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00055E** *COMMAND\_INFO* **Storage image ID VALUE\_0 does not exist.****Explanation**

The storage image ID that is specified as a command parameter cannot be found.

**Action**

Specify the correct storage image ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00056E** *COMMAND\_INFO* **Storage image VALUE\_0 does not exist.****Explanation**

You attempting to list a storage image, but the storage image ID that is specified as a command parameter cannot be found.

**Action**

Specify the correct storage image ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00057E** *COMMAND\_INFO* Volume group *VALUE\_0* does not exist.**Explanation**

The volume group ID that is specified as a command parameter cannot be found.

**Action**

Specify the correct volume group ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00058E** *COMMAND\_INFO* Volume *VALUE\_0* does not exist.**Explanation**

The volume ID that is specified as a command parameter cannot be found.

**Action**

Specify the correct volume ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00059E** *COMMAND\_INFO* Storage complex *VALUE\_0* does not exist.**Explanation**

The storage complex that is specified as a command parameter cannot be found.

**Action**

Specify the correct storage complex, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00060E** *COMMAND\_INFO* Enclosure *VALUE\_0* does not exist.**Explanation**

The enclosure that is specified as a command parameter cannot be found.

**Action**

Specify the correct enclosure, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00061E** *COMMAND\_INFO* CEC enclosure *VALUE\_0* does not exist.**Explanation**

The computer electronic complex (CEC) enclosure that is specified as a command parameter cannot be found.

### Action

Specify the correct CEC enclosure, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

## **CMUC00062E** *COMMAND\_INFO* Storage management console enclosure *VALUE\_0* does not exist.

### Explanation

The management console enclosure that is specified as a command parameter cannot be found.

### Action

Specify the correct management console enclosure, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

## **CMUC00063E** *COMMAND\_INFO* I/O enclosure *VALUE\_0* does not exist.

### Explanation

The input/output (I/O) enclosure that is specified as a command parameter cannot be found.

### Action

Specify the correct I/O enclosure, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

## **CMUC00064E** *COMMAND\_INFO* Processor complex enclosure *VALUE\_0* does not exist.

### Explanation

The processor complex enclosure that is specified as a command parameter cannot be found.

### Action

Specify the correct processor complex enclosure, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

## **CMUC00065E** *COMMAND\_INFO* Frame enclosure *VALUE\_0* does not exist.

### Explanation

The frame enclosure that is specified as a command parameter cannot be found.

### **Action**

Specify the correct frame enclosure, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

## **CMUC00066E** *COMMAND\_INFO* **Storage enclosure VALUE\_0 does not exist.**

### **Explanation**

The storage enclosure that is specified as a command parameter cannot be found.

### **Action**

Specify the correct storage enclosure, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

## **CMUC00067E** *COMMAND\_INFO* **FRU VALUE\_0 does not exist.**

### **Explanation**

The field-replaceable unit (FRU) that is specified as a command parameter cannot be found.

### **Action**

Specify the correct FRU, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

## **CMUC00068E** *COMMAND\_INFO* **Host connection VALUE\_0 does not exist.**

### **Explanation**

The host connection that is specified as a command parameter cannot be found.

### **Action**

Specify the correct host connection, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

## **CMUC00069E** *COMMAND\_INFO* **Invalid storage image ID VALUE\_0.**

### **Explanation**

The format of the specified storage image ID is incorrect.

### **Action**

Specify the storage image ID in the correct format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00070E** *COMMAND\_INFO* **Inconsistent storage image ID VALUE\_0.****Explanation**

Two or more different storage image IDs are specified in a single command.

**Action**

Specify only one storage image ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00071E** *COMMAND\_INFO* **Invalid ID VALUE\_0.****Explanation**

The format of the specified ID is incorrect.

**Action**

Specify the ID in the correct format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00072E** *COMMAND\_INFO* **Invalid array site ID VALUE\_0.****Explanation**

The format of the array site ID is incorrect.

**Action**

Specify the array site ID in the correct format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00073E** *COMMAND\_INFO* **Invalid array ID VALUE\_0.****Explanation**

The format of the array ID is incorrect.

**Action**

Specify the array ID in the correct format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00074E** *COMMAND\_INFO* **Invalid Rank ID VALUE\_0.****Explanation**

The format of the rank ID is incorrect.



**Action**

Specify the rank ID in the correct format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00075E** *COMMAND\_INFO* Invalid extent pool ID *VALUE\_0*.**Explanation**

The format of the extent pool ID is incorrect.

**Action**

Specify the extent pool ID in the correct format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00076E** *COMMAND\_INFO* Invalid address group *VALUE\_0*.**Explanation**

The format of the specified address group is incorrect.

**Action**

Specify the address group in the correct format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00077E** *COMMAND\_INFO* Invalid storage image ID *VALUE\_0*.**Explanation**

The format of the specified storage image ID is incorrect.

**Action**

Specify the storage image ID in the correct format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00078E** *COMMAND\_INFO* Invalid I/O port *VALUE\_0*.**Explanation**

The format of the specified input/output (I/O) port is incorrect.

**Action**

Specify the I/O port in the correct format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00079E** *COMMAND\_INFO* Invalid LSS VALUE\_0.**Explanation**

The format of the specified logical subsystem is incorrect.

**Action**

Specify the logical subsystem in the correct format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00080E** *COMMAND\_INFO* Invalid storage unit ID VALUE\_0.**Explanation**

The format of the specified storage unit ID is incorrect.

**Action**

Specify the storage unit ID in the correct format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00081E** *COMMAND\_INFO* Invalid storage server ID VALUE\_0.**Explanation**

The format of the specified storage server ID is incorrect. Each storage image contains two storage servers: 00 and 01. You must specify a fully qualified server ID.

Example: IBM.2107-1300321/00

**Action**

Specify a fully qualified storage server ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00082E** *COMMAND\_INFO* Invalid volume group VALUE\_0.**Explanation**

The format of the specified volume group ID is incorrect.

**Action**

Specify the volume group in the correct format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00083E** *COMMAND\_INFO* Invalid volume *VALUE\_0*.

**Explanation**

The format of the specified volume ID is incorrect.

**Action**

Specify the volume in the correct format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00084E** *COMMAND\_INFO* The specified parameter *VALUE\_0* is out of range.

**Explanation**

The specified parameter value is not within acceptable limits.

**Action**

Specify the parameter within range, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00085E** *COMMAND\_INFO* The specified parameter *VALUE\_0* is invalid.

**Explanation**

The specified parameter value is invalid.

**Action**

Specify a valid parameter value, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00086E** *COMMAND\_INFO* Invalid topology *TOPOLOGY* specified for I/O port *PORT*.

**Explanation**

The specified port topology is invalid.

**Action**

Specify a valid port topology, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00087E** *COMMAND\_INFO* The specified LCU *VALUE\_0* is invalid.

**Explanation**

The specified logical control unit is invalid.

**Action**

Specify a valid, existing logical control unit, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00088E** *COMMAND\_INFO* The specified LCU *VALUE\_0* already exists.

**Explanation**

The specified logical control unit already exists. A new ID is required.

**Action**

Specify a logical control unit ID that is not currently in use, and then resubmit the command.

---

**CMUC00089E** *COMMAND\_INFO* The specified ID *VALUE\_0* is not an LCU.

**Explanation**

The specified ID exists, but it is not a logical control unit. A logical control unit is required for this operation.

**Action**

Specify a logical control unit, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00090E** *COMMAND\_INFO* The specified ID *VALUE\_0* is not an LSS.

**Explanation**

The specified ID exists, but it is not a logical subsystem. A logical subsystem is required for this operation.

**Action**

Specify a logical subsystem, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00091E** *COMMAND\_INFO* The specified SSID *VALUE\_0* is invalid.

**Explanation**

The format of the specified subsystem ID is invalid.

### Action

Specify the subsystem ID in the proper format, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00092E** *COMMAND\_INFO* **The specified volume ID *VALUE\_0* already exists.**

### Explanation

The specified volume exists.

### Action

Use a volume ID not currently in use, and then resubmit the command.

---

**CMUC00093E** *COMMAND\_INFO* **The specified volume *VALUE\_0* is not type CKD.**

### Explanation

The specified volume is a fixed block volume. The volume type must be count-key-data for this operation.

### Action

Specify a count-key-data volume, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00094E** *COMMAND\_INFO* **The specified volume *VALUE\_0* is not of type FB.**

### Explanation

The specified volume is a count-key-data volume. The volume type must be fixed block for this operation.

### Action

Specify a fixed block volume, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00095E** *COMMAND\_INFO* **No storage image ID is specified.**

### Explanation

A storage image ID must be specified in your profile or by using the **-dev** flag with the command.

### Action

Specify a storage image ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

## **CMUC00096E** *COMMAND\_INFO* **No remote storage image ID is specified.**

### Explanation

The command requires a remote storage image ID as a parameter. No remote storage image ID is specified.

### Action

Include a remote storage image ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

## **CMUC00097E** *COMMAND\_INFO* **A single storage image ID is specified. A pair of storage image IDs is required for this command.**

### Explanation

The command requires a pair of storage image IDs as a parameter. However, a single storage image ID is specified.

### Action

Specify a pair of storage image IDs, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

## **CMUC00098E** *COMMAND\_INFO* **A pair of storage image IDs is specified. A single storage image ID is required for this command.**

### Explanation

The command issued requires a single storage image ID as a parameter. However, a pair of storage image IDs is specified.

### Action

Specify a single storage image ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

## **CMUC00099E** *COMMAND\_INFO* **A single subsystem ID *VALUE\_0* is specified. A pair of subsystem IDs is required for this command.**

### Explanation

The command requires a pair of subsystem IDs as a parameter. A subsystem ID pair consists of two subsystem IDs that are separated by a colon, with no spaces.

### Action

Specify a pair of subsystem IDs, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00100E** *COMMAND\_INFO* A pair of subsystem IDs *VALUE\_0* is specified. A single subsystem ID is required for this command.

### Explanation

The command requires a single subsystem ID as a parameter.

### Action

Specify a single subsystem ID, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00101E** *COMMAND\_INFO* FlashCopy pairs *VALUE\_0* are persistent. The **-wait** option cannot be specified for persistent pairs.

### Explanation

The FlashCopy pairs were established as persistent, with the intention of retaining the relationship after the copy completes. This definition overrides the **-wait** option.

### Action

Resubmit the command without the **-wait** option.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00102E** *COMMAND\_INFO* The **-cp** option must be used in conjunction with the **-wait** option.

### Explanation

You must include a **-cp** flag and value when the **-wait** option is used with this command.

### Action

Resubmit the command, specifying both **-cp** and **-wait** flags and values, or omit the **-wait** option.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00103E** *COMMAND\_INFO* When specifying the **-range** parameter, the starting and ending volume IDs must be on the same storage image.

**Explanation**

The **-range** parameter initiates a query that displays volume relationships that exist for source or target volumes within the specified volume ID range. The range is meaningless unless it is specified for volumes that are on the same storage image.

**Action**

Specify volumes on the same storage image, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00104E** *COMMAND\_INFO* The specified options for this command are incompatible or invalid: *VALUE\_0*

**Explanation**

You are attempting to establish or change a path. Two or more of the options that have been supplied are incompatible, or at least one of the options is invalid.

**Action**

Specify compatible and valid options, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00105E** *COMMAND\_INFO* The following parameters are incompatible: *VALUE\_0*.

**Explanation**

Two or more of the command parameters are incompatible.

**Action**

Specify only compatible parameters, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00106E** *COMMAND\_INFO* The parameter value *VALUE\_0* is larger than the maximum allowable value: *VALUE\_1*.

**Explanation**

The parameter that has been supplied is larger than the maximum value that is allowed.

**Action**

Specify a value equal to or lower than the maximum value that is allowed, and then resubmit the command.



Tip: Enter "help **command\_name**" for more information.

---

**CMUC00107E** *COMMAND\_INFO* The parameter value *VALUE\_0* is smaller than the minimum allowable value: *VALUE\_1*.

**Explanation**

The parameter that has been supplied is smaller than the minimum value that is allowed.

**Action**

Specify a value equal to or higher than the minimum value that is allowed, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00108E** *COMMAND\_INFO* The Remote Mirror and Copy volume pair must be in full-duplex mode before the host server can read from target volumes.

**Explanation**

The No Target Read **-notgthread** option has been specified, and the pair is not in full-duplex mode. For the host server to read the volume, the Remote Mirror and Copy volume pair must be in full-duplex mode.

**Action**

Place the pair in full-duplex mode, and then resubmit the command. You can use the **-mode full** option to place the Remote Mirror and Copy volume pair in full-duplex mode.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00109E** *COMMAND\_INFO* The **-unconditional** flag is invalid unless it is used in conjunction with the **-at** parameter.

**Explanation**

The **-unconditional** flag indicates that a source or target volume has been selected individually, and not as a pair. It is valid only if the **-at** option specifies a source or a target.

**Action**

Specify both **-unconditional** and **-at** flags, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00110E** *COMMAND\_INFO* **No matching candidate connection found.****Explanation**

The candidate Remote Mirror and Copy path between source and target ports cannot be established because one or both of the physical connections cannot be found.

**Action**

Specify existing source and target ports, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00111E** *COMMAND\_INFO* **One or more of the specified volumes is not within the specified LSS.****Explanation**

This command requires a logical subsystem ID and one or more volume IDs. The volumes must be members of the specified logical subsystem. One or more of the volumes are not members of the specified logical subsystem.

**Action**

Specify only volumes within the specified logical subsystem, and then resubmit the command.

---

**CMUC00112E** *COMMAND\_INFO* **Port candidate *VALUE\_0* is not available for an ESCON connection.****Explanation**

You are attempting to create a path between source and target logical subsystems on an IBM model 2105 storage unit over an ESCON connection. The specified port is not available for an ESCON connection. This might be because the port does not exist, because it is not identified as an ESCON port, or because it is already in use.

**Action**

Use the **lsavailpprcport** command to list available ports and their types. Specify an available ESCON port, and then resubmit the command.

---

**CMUC00113E** *COMMAND\_INFO* **Record *VALUE\_1* already exists in password file *FILE\_NAME*.****Explanation**

You are attempting to add a password record in the password file. However, the specified user name already exists in the file.

### Action

Specify a user name that is not currently in use, and then resubmit the command. If you want to change the record specified, issue the **managepwfile** command with the **-action change** flag.

---

**CMUC00114E** *COMMAND\_INFO* Record *VALUE\_1* does not exist in password file *FILE\_NAME*.

### Explanation

You are attempting to change or remove a record in the password file. However, the file contains no record for the specified user name and management console.

### Action

Specify a valid record, and then resubmit the command. If you want to add a new record, issue the **managepwfile** command with the **-action add** flag.

---

**CMUC00115E** *COMMAND\_INFO* User account file *VALUE\_0* not found.

### Explanation

You are attempting to change or remove a user. The specified user account file cannot be found. This might be because the file name is incorrect, or because you lack necessary permissions.

### Action

Ensure that you have appropriate permissions. Specify the correct user account file name, and then resubmit the command.

---

**CMUC00116E** *COMMAND\_INFO* User account file *FILE\_NAME* is used for another user.

### Explanation

You are attempting to create a user. The specified user account file is in use for another user. A different file name must be specified.

### Action

Specify another file name, and then resubmit the command.

---

**CMUC00117E** *COMMAND\_INFO* Unable to create password file *FILE\_NAME*.

### Explanation

You are attempting to create a password file. The system is unable to create the file. This might be because you lack necessary permissions or have exceeded a quota.

### Action

Ensure that you have appropriate file creation permissions or alter the quota, and then resubmit the command.

---

**CMUC00118E** *COMMAND\_INFO* **Unable to update password file *FILE\_NAME*.**

### Explanation

You are attempting to update a password file. The system is unable to update the file. This might be because you lack necessary permissions or have exceeded a quota.

### Action

Ensure that you have appropriate file permissions or alter the quota, and then resubmit the command.

---

**CMUC00119E** *COMMAND\_INFO* **Invalid password format.**

### Explanation

The format of the specified password is invalid.

- A password must be a minimum of six alphanumeric characters (a - z, A - Z, or 0 - 9) in length.
- A password must contain at least one numeric character (0 - 9).
- The initial character of the password cannot be numeric.
- Passwords are case-sensitive.

### Action

Use an appropriately formatted password, and then resubmit the command.

---

**CMUC00120E** *COMMAND\_INFO* **Invalid password.**

### Explanation

The specified password is incorrect.

### Action

Use the correct password, and then resubmit the command.

---

**CMUC00121E** *COMMAND\_INFO* **Invalid account file *VALUE\_0* for user *USERNAME*.**

### Explanation

You are attempting to change or remove a user. The user and account file name do not match.

### Action

Use the correct user name and account file name combination, and then resubmit the command.

---

## **CMUC00122E** *COMMAND\_INFO* Invalid admin user.

### Explanation

You are attempting to show a user. Your user name is not a member of the admin group, and lacks sufficient privileges to use this command.

### Action

Resubmit the command as a user who is a member of the admin group.

---

## **CMUC00123E** *COMMAND\_INFO* Unable to create user account *USERNAME*.

### Explanation

You are attempting to create a new user on the management console server. The task fails.

### Action

Ensure that the management console server is available and that you have proper privileges to create a user account. You must be a member of the admin group to use this command. Resubmit the command.

---

## **CMUC00124E** *COMMAND\_INFO* Unable to assign user *USERNAME* to group *GROUP*.

### Explanation

You are attempting to create a new user on the management console server. The user cannot be assigned to the specified group.

### Action

Ensure that the group exists. If the problem persists, contact IBM technical support for assistance.

---

## **CMUC00125E** *COMMAND\_INFO* Unable to modify user group to *NEW\_GROUP*.

### Explanation

You are attempting to change a user's group to a new group. The user's group cannot be modified to the specified group.

### Action

Ensure that the group exists. If the problem persists, contact IBM technical support for assistance.

---

**CMUC00126E** *COMMAND\_INFO* **Unable to modify password.****Explanation**

You are attempting to change a user's password. The password cannot be changed to the specified password.

- A password must be a minimum of six alphanumeric characters (a - z, A - Z, or 0 - 9) in length.
- A password must contain at least one numeric character (0 - 9).
- The initial character of the password cannot be numeric.
- Passwords are case-sensitive.

**Action**

Correctly specify the new password. If the problem persists, contact IBM technical support for assistance.

---

**CMUC00127E** *COMMAND\_INFO* **Unable to delete user account *USERNAME* on the management console server.****Explanation**

You are attempting to delete a user on the management console server. The task fails.

**Action**

Ensure that you have appropriate privileges. You must be a member of the admin group to use this command. If the problem persists, contact IBM technical support for assistance.

---

**CMUC00128E** *COMMAND\_INFO* **Unable to find a Remote Mirror and Copy path for the specified logical subsystems.****Explanation**

The paths cannot be deleted for the specified logical subsystems. No paths can be found.

**Action**

Ensure that the correct logical subsystems are specified, and then resubmit the task.

---

**CMUC00129E** *COMMAND\_INFO* **All source volumes must be within the same logical subsystem.****Explanation**

The **-srcss** flag is specified with the command. This flag requires that all source volumes are contained within the same logical subsystem. Not all of the source volumes specified are contained within the same logical subsystem.

### Action

Specify source volumes that are all contained within the same logical subsystem, and then resubmit the command. Issue separate commands for volumes that are contained within different logical subsystems.

---

## CMUC00130E *COMMAND\_INFO* All target volumes must be within the same logical subsystem.

### Explanation

The **-tgtss** flag is specified with the command. This flag requires that all target volumes are contained within the same logical subsystem. Not all of the target volumes specified are contained within the same logical subsystem.

### Action

Specify target volumes that are all contained within the same logical subsystem, and then resubmit the command. Issue separate commands for volumes that are contained within different logical subsystems.

---

## CMUC00131E *COMMAND\_INFO* Operation failure

### Explanation

The **lshostvol** command fails for one of the following reasons:

- The CLI installation did not complete successfully.
- A platform-dependent external command is being invoked unsuccessfully.
- You lack sufficient privileges.

### Action

Check the CLI installation log for errors and reinstall if necessary. Ensure that you have the appropriate privileges to perform the task. If the problem persists, contact IBM technical support for assistance.

---

## CMUC00132E *COMMAND\_INFO* Command interrupted. Resubmit the command.

### Explanation

The **lshostvol** command was interrupted for an unknown reason.

### Action

Resubmit the command. If the problem persists, contact IBM technical support for assistance.

---

## CMUC00133I *COMMAND\_INFO* User *USERNAME* successfully created.

### Explanation

The user has been created successfully.

**Action**

None.

---

**CMUC00134I** *COMMAND\_INFO* **User USERNAME successfully modified.**

**Explanation**

The user has been modified successfully.

**Action**

None.

---

**CMUC00135W** *COMMAND\_INFO* **Are you sure you want to delete user USERNAME? [y/n]:**

**Explanation**

You are being asked to confirm that you want to delete the user.

**Action**

Enter **Y** to delete the user. Enter **N** to cancel the operation.

---

**CMUC00136I** *COMMAND\_INFO* **User USERNAME successfully deleted.**

**Explanation**

The user has been deleted successfully.

**Action**

None.

---

**CMUC00137I** *COMMAND\_INFO* **FlashCopy pair VALUE\_0 successfully created.**

**Explanation**

The FlashCopy pair has been created successfully.

**Action**

None.

---

**CMUC00138I** *COMMAND\_INFO* **Background copy for FlashCopy pair VALUE\_0 successful.**

**Explanation**

The command has been invoked with the **-wait** flag. The background copy for the specified pair ran successfully.



**Action**

None.

---

**CMUC00139E** *COMMAND\_INFO* FlashCopy pair *VALUE\_0* cannot be created.**Explanation**

The FlashCopy pair cannot be created.

**Action**

Contact IBM technical support for assistance.

---

**CMUC00140I** *COMMAND\_INFO* FlashCopy pair *VALUE\_0* successfully removed.**Explanation**

The command has been invoked without the **-cp** flag. The specified FlashCopy pair has been removed successfully.

**Action**

None.

---

**CMUC00141I** *COMMAND\_INFO* Background copy for FlashCopy pair *VALUE\_0* ended successfully. Relationship successfully removed.**Explanation**

The command has been invoked with the **-cp** and **-wait** flags. The background copy for the specified pair ended successfully, and the relationship has been removed.

**Action**

None.

---

**CMUC00142I** *COMMAND\_INFO* Background copy process for FlashCopy pair *PAIR\_ID* successfully started. The relationship will be removed when the copy ends.**Explanation**

The **-cp** flag has been used, and the FlashCopy pair is not persistent. The background copy process for the FlashCopy pair has started successfully. The FlashCopy volume pair relationship will be withdrawn when the copy process completes.

**Action**

None.

---

**CMUC00143I** *COMMAND\_INFO* Background copy process for FlashCopy pair *PAIR\_ID* successfully started. The persistent relationship will not be removed.

**Explanation**

The **-cp** flag has been used, and the FlashCopy pair is persistent. The background copy process for the FlashCopy pair has started successfully. The FlashCopy volume pair relationship will continue when the copy process completes.

**Action**

None.

---

**CMUC00144W** *COMMAND\_INFO* Are you sure you want to remove the FlashCopy pair *PAIR\_ID*? [y/n]:

**Explanation**

You are being asked to confirm that you want to remove the FlashCopy pair that is specified in the `rmflash` command.

**Action**

Enter **Y** to delete the pair. Enter **N** to cancel the operation.

---

**CMUC00145I** *COMMAND\_INFO* Session *SESSION\_ID* opened successfully.

**Explanation**

The Global Mirror session has opened successfully.

**Action**

None.

---

**CMUC00146I** *COMMAND\_INFO* Session *SESSION\_ID* closed successfully.

**Explanation**

The Global Mirror session has closed successfully.

**Action**

None.

---

**CMUC00147I** *COMMAND\_INFO* Session *SESSION\_ID* successfully modified.

**Explanation**

The Global Mirror session has been modified successfully.

**Action**

None.

---

**CMUC00148W** *COMMAND\_INFO* **Are you sure you want to close session *SESSION\_ID*? [y/n]:**

**Explanation**

You are being asked to confirm that you want to close the session that you specified.

**Action**

Enter **Y** to close the session. Enter **N** to cancel the operation.

---

**CMUC00149I** *COMMAND\_INFO* **Remote Mirror and Copy path *TARGET\_LSS* successfully established.**

**Explanation**

The Remote Mirror and Copy path between source and target logical subsystems has been established successfully.

**Action**

None.

---

**CMUC00150I** *COMMAND\_INFO* **Remote Mirror and Copy path *VALUE\_0* successfully removed.**

**Explanation**

The Remote Mirror and Copy path between source and target logical subsystems has been removed successfully.

**Action**

None.

---

**CMUC00151I** *COMMAND\_INFO* **Remote Mirror and Copy path *VALUE\_0* successfully modified.**

**Explanation**

The Remote Mirror and Copy path between source and target logical subsystems has been modified successfully.

**Action**

None.

---

**CMUC00152W** *COMMAND\_INFO* Are you sure you want to remove the Remote Mirror and Copy path *PATH\_ID*? [y/n]:

**Explanation**

You are being asked to confirm that you want to remove the Remote Mirror and Copy path that you specified.

**Action**

Enter **Y** to remove the path. Enter **N** to cancel the operation.

---

**CMUC00153I** *COMMAND\_INFO* Remote Mirror and Copy volume pair relationship *VALUE\_0* successfully created.

**Explanation**

The Remote Mirror and Copy volume pair relationship has been created successfully.

**Action**

None.

---

**CMUC00154I** *COMMAND\_INFO* Remote Mirror and Copy volume pair *VALUE\_0* relationship successfully created and in full-duplex state.

**Explanation**

The command has been invoked with the **-wait** flag. The Remote Mirror and Copy volume pair relationship has been created successfully and is now in full-duplex state.

**Action**

None.

---

**CMUC00155I** *COMMAND\_INFO* Remote Mirror and Copy volume pair *VALUE\_0* relationship successfully withdrawn.

**Explanation**

The Remote Mirror and Copy source and target pair relationship has been withdrawn successfully.

**Action**

None.

---

**CMUC00156I** *COMMAND\_INFO* Remote Mirror and Copy volume pair *VALUE\_0* relationship successfully modified.

**Explanation**

The Remote Mirror and Copy source and target volume pair relationship has been modified successfully.

**Action**

None.

---

**CMUC00157I** *COMMAND\_INFO* Remote Mirror and Copy volume pair *VALUE\_0* relationship successfully paused.

**Explanation**

The Remote Mirror and Copy source and target volume pair relationship has paused successfully.

**Action**

None.

---

**CMUC00158I** *COMMAND\_INFO* Remote Mirror and Copy volume pair *VALUE\_0* relationship successfully resumed. This message is being returned before the copy completes.

**Explanation**

The Remote Mirror and Copy source and target volume pair relationship has resumed successfully. An asynchronous copy from source to target began, but this message is being returned before the copy completes.

**Action**

None.

---

**CMUC00159I** *COMMAND\_INFO* Remote Mirror and Copy volume pair *VALUE\_0* relationship successfully resumed and completed. All data has been copied to the target. The relationship is now in full-duplex mode.

**Explanation**

The Remote Mirror and Copy source and target volume pair relationship resumed successfully and completed. The **-wait** flag was specified when the command was issued, and the command has now completed successfully.

**Action**

None.

---

**CMUC00160W** *COMMAND\_INFO* Are you sure you want to delete the Remote Mirror and Copy volume pair relationship *PAIR\_ID*? [y/n]:

**Explanation**

You are being asked to confirm that you want to delete the Remote Mirror and Copy volume pair relationship that you specified.

**Action**

Enter **Y** to delete the Remote Mirror and Copy volume pair relationship. Enter **N** to cancel the operation.

---

**CMUC00161W** *COMMAND\_INFO* Remote Mirror and Copy consistency group *VALUE\_0* successfully created.

**Explanation**

The Remote Mirror and Copy consistency group was created successfully.

**Action**

None.

---

**CMUC00162I** *COMMAND\_INFO* Global Mirror for session *SESSION\_ID* successfully started.

**Explanation**

Global Mirror for the session started successfully.

**Action**

None.

---

**CMUC00163I** *COMMAND\_INFO* Global Mirror for session *SESSION\_ID* successfully paused.

**Explanation**

Global Mirror for the session has paused successfully.

**Action**

None.

---

**CMUC00164I** *COMMAND\_INFO* Global Mirror for session *SESSION\_ID* successfully resumed.

**Explanation**

Global Mirror for the session has resumed successfully.

**Action**

None.

---

**CMUC00165I** *COMMAND\_INFO* **Global Mirror for session *SESSION\_ID* successfully stopped.**

**Explanation**

Global Mirror for the session has been stopped successfully.

**Action**

None.

---

**CMUC00166W** *COMMAND\_INFO* **Are you sure you want to stop the Global Mirror session *SESSION\_ID*? [y/n]:**

**Explanation**

You are being asked to confirm that you want to stop the specified Global Mirror session.

**Action**

Enter **Y** to stop the Global Mirror session. Enter **N** to cancel the operation.

---

**CMUC00167I** *COMMAND\_INFO* **FlashCopy volume pair *PAIR\_ID* successfully made revertible.**

**Explanation**

The FlashCopy volume pair that is part of an Global Mirror relationship has been modified to **revertible**. The source data can now be **committed** to the target, or the source data can be **reverted** to the data image that is currently on the target.

**Action**

None.

---

**CMUC00168I** *COMMAND\_INFO* **FlashCopy volume pair *PAIR\_ID* successfully resynchronized.**

**Explanation**

Incremental changes to the FlashCopy source volume data have been written successfully to the target volume.

**Action**

None.

---

**CMUC00169I** *COMMAND\_INFO* FlashCopy volume pair *PAIR\_ID* successfully reversed.

**Explanation**

The original FlashCopy source volume has been made the target volume. The original FlashCopy target volume has been made the source volume. Any uncommitted incremental changes to the original source volume data have been overwritten with older data from the new source volume.

**Action**

None.

---

**CMUC00170I** *COMMAND\_INFO* FlashCopy volume pair *PAIR\_ID* successfully committed.

**Explanation**

Changes to the FlashCopy source volume data have been committed to the target volume.

**Action**

None.

---

**CMUC00171I** *COMMAND\_INFO* FlashCopy volume pair *PAIR\_ID* successfully reverted.

**Explanation**

All new writes to the source volume since the last time source data was committed to the target volume have been discarded.

**Action**

None.

---

**CMUC00172I** *COMMAND\_INFO* FlashCopy consistency group for logical subsystem *PAIR\_ID* successfully reset.

**Explanation**

A **mkflash -freeze** or **resyncflash -freeze** command has been invoked previously against this consistency group. The **unfreezeflash** command successfully reset the consistency group.

**Action**

None.



---

**CMUC00173I** *COMMAND\_INFO* Remote FlashCopy volume pair *PAIR\_ID* successfully created. Use the `lsremoteflash` command to determine copy completion.

**Explanation**

The remote FlashCopy relationship has been created and started successfully, but this message is being returned before the copy completes. Use the `lsremoteflash` command to determine if the copy has completed.

**Action**

None.

---

**CMUC00174I** *COMMAND\_INFO* Remote FlashCopy pair *PAIR\_ID* successfully made revertible.

**Explanation**

The remote FlashCopy volume pair has been modified to **revertible**. The source data can now be **committed** to the target, or the source data can be **reverted** to the data image that is currently on the target.

**Action**

None.

---

**CMUC00175I** *COMMAND\_INFO* Remote FlashCopy volume pair *PAIR\_ID* successfully resynchronized. Use the `lsremoteflash` command to determine copy completion.

**Explanation**

The remote FlashCopy relationship resynchronization operation started successfully, but this message is being returned before the copy completes. Use the `lsremoteflash` command to determine if the copy has completed.

**Action**

None.

---

**CMUC00176I** *COMMAND\_INFO* Remote FlashCopy volume pair *PAIR\_ID* successfully committed.

**Explanation**

The remote FlashCopy relationship has been committed. The target data is an identical image of the source data at the time the commit command was issued.

**Action**

None.

---

**CMUC00177I** *COMMAND\_INFO* Remote FlashCopy volume pair *PAIR\_ID* successfully reverted.

**Explanation**

All new writes to the source volume since the last time data was committed to the target volume are being discarded.

**Action**

None.

---

**CMUC00178I** *COMMAND\_INFO* Remote FlashCopy volume pair *PAIR\_ID* successfully reversed.

**Explanation**

The original remote FlashCopy source volume has been made the target volume. The original remote FlashCopy target volume has been made the source volume. Any uncommitted incremental changes to the original source volume data are being overwritten with older data from the new source volume.

**Action**

None.

---

**CMUC00179I** *COMMAND\_INFO* Are you sure you want to remove the remote FlashCopy pair *PAIR\_ID*? [y/n]:

**Explanation**

You are being asked to confirm that you want to remove the remote FlashCopy pair relationship.

**Action**

Enter **Y** to delete the remote FlashCopy volume pair relationship. Enter **N** to cancel the operation.

---

**CMUC00180I** *COMMAND\_INFO* Removal of the remote FlashCopy volume pair *PAIR\_ID* has been initiated successfully. Use the **lsremoteflash** command to determine when the relationship is deleted.

**Explanation**

The deletion of the remote FlashCopy relationship has been started, but this message is being returned before the process completes. You must use the **lsremoteflash** command to determine if the removal has completed.

**Action**

None.

---

**CMUC00181E** *COMMAND\_INFO* **A user name must be specified.****Explanation**

This command requires a user name. You can specify the user name with the **-user** command-line flag or in the password file.

**Action**

Specify a valid user name, and then resubmit the command.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00182E** *COMMAND\_INFO* **No management console IP address is specified.****Explanation**

No command can be issued until you have specified the IP address of the management console. This IP address establishes communication between the command-line interface client and the management console server.

**Action**

Specify a valid IP address for the management console, and then resubmit the command. Specify the IP address in your user profile or by using appropriate options on some commands.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00183E** *COMMAND\_INFO* **Invalid management console IP address: VALUE\_0.****Explanation**

An invalid IP address for the management console is specified in the user profile or with command flags.

**Action**

Specify a valid IP address for the management console, and then resubmit the command. You can specify the IP address in your user profile or by using appropriate options on some commands.

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00184E** *COMMAND\_INFO* **Management console server connections cannot be changed during an interactive or script session.****Explanation**

The current CLI session is either in interactive mode or script mode, and the command specifies a new management console server address. The command is

rejected because changing the management console server connection is not permitted.

### **Action**

Open a different session to issue commands to the new management console server.

---

## **CMUC00185E Unable to access CLI user profile file *FILE\_NAME*.**

### **Explanation**

The CLI is unable to read your user profile for one of the following reasons:

- The file does not exist.
- The file is in the wrong location.
- The file is corrupted.
- You lack sufficient privileges on the profile directory or file.

### **Action**

Ensure that the file exists in the proper location, and that you have access privileges.

---

## **CMUC00186E User profile file *FILE\_NAME*. not found.**

### **Explanation**

The specified profile file cannot be found.

### **Action**

Ensure that the file exists in the proper location.

---

## **CMUC00187E Unable to access CLI user password file *FILE\_NAME*.**

### **Explanation**

The CLI is unable to find your user password file for one of the following reasons:

- The file does not exist.
- The file is in the wrong location.
- The file is improperly named.
- You lack sufficient privileges on the password directory or file.

### **Action**

Ensure that the file exists in the proper location, and that you have access privileges.

---

**CMUC00188E Unable to read CLI user password file *FILE\_NAME*.****Explanation**

The CLI is unable to read your user password file for one of the following reasons:

- The file does not exist.
- The file is in the wrong location.
- The file is improperly named.
- The file is corrupted.
- You lack sufficient privileges on the password directory or file.

**Action**

Ensure that the file exists in the proper location, and that you have access privileges.

---

**CMUC00189E Internal error: *VALUE\_0*.****Explanation**

The CLI reports an internal error.

**Action**

Contact IBM technical support for assistance.

---

**CMUC00190E *VALUE\_0*: Authentication failure: invalid password****Explanation**

Authentication fails because the password is incorrect.

**Action**

Provide a valid password, and then resubmit the task.

---

**CMUC00191E *VALUE\_0*: Authentication failure: invalid user name****Explanation**

Authentication fails because the specified user account does not exist.

**Action**

Provide a valid user name, and then resubmit the task.

---

**CMUC00192E *VALUE\_0*: Authentication failure: the user account is locked.****Explanation**

Authentication fails because the specified user account has been locked by the system administrator or because the wrong password was entered three times in

succession. Your system administrator can unlock the account with the **chuser** command.

**Action**

Contact your system administrator.

---

**CMUC00193E** *VALUE\_0*: **Authentication failure: unable to access account database.**

**Explanation**

Authentication fails because the user account database cannot be accessed. The system administrator might be performing maintenance or other activities.

**Action**

Contact your system administrator.

---

**CMUC00194E** *VALUE\_0*: **Authentication failure: unable to authenticate on Enterprise Storage Server.**

**Explanation**

You are attempting to authenticate on an Enterprise Storage Server (2105). Authentication fails for an unknown reason. Additional information is unavailable from the ESS.

**Action**

Ensure that you are providing the correct user name and password for the ESS. Contact your system administrator. If the problem persists, contact IBM technical support for assistance.

---

**CMUC00195I** *COMMAND\_INFO* **Security properties successfully set.**

**Explanation**

The security properties have been set successfully.

**Action**

None.

---

**CMUC00196I** *COMMAND\_INFO* **Remote Mirror and Copy pair *PAIR\_ID* successfully reversed.**

**Explanation**

The source and target volume have been reversed. The secondary volume at the recovery site is now the primary volume.

**Action**

None.

---

**CMUC00197I** *COMMAND\_INFO* Remote Mirror and Copy pair *PAIR\_ID* successfully failed back.

**Explanation**

The source and target volumes have been resynchronized. The data at the production site and recovery site are now identical.

**Action**

None.

---

**CMUC00198I** *COMMAND\_INFO* Remote Mirror and Copy pair *PAIR\_ID* successfully thawed.

**Explanation**

All queued write operations to the source volume are written. The **Queue Full** condition for the primary volume is reset.

**Action**

None.

---

**CMUC00199I** *COMMAND\_INFO* License Machine Code successfully applied to storage image *STORAGE\_IMAGE\_ID*.

**Explanation**

The License Machine Code has been applied successfully to the storage image.

**Action**

None.

---

**CMUC00200E** *COMMAND\_INFO* This command is not supported for machine type *TYPE*.

**Explanation**

The command is not supported on the type of machine that is currently connected to the command-line interface. For example, you might be issuing a machine type 2107 command to a storage unit that is machine type 2105.

**Action**

Tip: Enter "help **command\_name**" for more information.

---

**CMUC00201E** *VALUE\_0*: Authentication failure: Your password has expired. Change your password with the **chuser** command.

**Explanation**

Authentication fails because your password has expired. You must change your password with the **chuser** command before you can issue any other commands.

**Action**

Change your password using the **chuser** command.

---

**CMUC00202I** *COMMAND\_INFO* Remote Mirror and Copy ESCON path *TARGET\_LSS* successfully created.

**Explanation**

The Remote Mirror and Copy ESCON path has been created successfully.

**Action**

None.

---

**CMUC00203E** *COMMAND\_INFO* Invalid pair. Each source volume must have a matching target volume.

**Explanation**

The number of specified source volumes does not equal the number of specified target volumes.

**Action**

Enter complete *source\_volume:target\_volume* pairs, and then resubmit the task.

---

**CMUC00204I** *COMMAND\_INFO* Password file *FILE\_NAME* successfully created.

**Explanation**

The command to create a password file completed successfully.

**Action**

Update the **pwfile** entry in your profile to indicate this password file name.

---

**CMUC00205I** *COMMAND\_INFO* Password file *FILE\_NAME* successfully created.

**Explanation**

The command succeeded and a new password file was created.



**Action**

Set the appropriate access control level for the new password file.

---

**CMUC00206I** *COMMAND\_INFO* Record *VALUE\_1* successfully added to password file *FILE\_NAME*.

**Explanation**

The specified record has been added to the password file.

**Action**

None.

---

**CMUC00207I** *COMMAND\_INFO* Record *VALUE\_1* successfully changed in password file *FILE\_NAME*.

**Explanation**

The specified record has been changed in the password file.

**Action**

None.

---

**CMUC00208I** *COMMAND\_INFO* Record *VALUE\_1* successfully removed from password file *FILE\_NAME*.

**Explanation**

The specified record has been removed from the password file.

**Action**

None.

---

**CMUC00209E** *COMMAND\_INFO* Unable to open password file *FILE\_NAME* for write access.

**Explanation**

You are attempting to update the specified password file. However, you do not have permission to write to the file.

**Action**

Ask your system administrator to grant you write permissions to the file, and then resubmit the command.

---

**CMUC00210E Password file *FILE\_NAME* is not formatted correctly.****Explanation**

You are attempting to authenticate, but the specified password file is not valid. Either this file is corrupted or it is not the correct file.

**Action**

Specify a correctly formatted password file, and then resubmit the task.

---

**CMUC00211E *COMMAND\_INFO* The specified capacity *CAPACITY* is not valid for type *TYPE*.****Explanation**

The value that you specified with the **-cap** flag is not valid for the type that you specified with the **-type** flag. Refer to the **IBM TotalStorage DS Command-Line Interface User's Guide** for a description of valid capacities.

**Action**

Specify a capacity that is valid for the type that is specified, and then resubmit the task.

---

**CMUC00212I *COMMAND\_INFO* completed successfully.****Explanation**

The command completed successfully.

**Action**

None.

---

**CMUC00213E *COMMAND\_INFO* Unable to read License Machine Code activation codes file****Explanation**

The file containing License Machine Code activation codes for this storage image cannot be read. The file that you specify must be an xml formatted file that you have obtained from an authorized IBM source.

**Action**

Resubmit the task. If the problem persists, specify a different file.

---

**CMUC00214E** *COMMAND\_INFO* File *FILE* contains no License Machine Code for storage image *STORAGE\_IMAGE\_ID*.

**Explanation**

The specified file does not contain License Machine Code activation codes for this storage image. The file that you specify must be an xml formatted file that you have obtained from an authorized IBM source, and it must contain activation codes that are designated for this storage image.

**Action**

Specify the correct file and then resubmit the task.

---

**CMUC00215E** *COMMAND\_INFO* Incorrectly formatted License Machine Code activation codes file

**Explanation**

The file containing License Machine Code activation codes for this storage image is not the correct format. The file that you specify must be an xml formatted file that you have obtained from an authorized IBM source.

**Action**

Specify the correct file and then resubmit the task.

---

**CMUC00216I** *COMMAND\_INFO* CKD alias volume *VOLUME* successfully created.

**Explanation**

The CKD alias volume was created successfully.

**Action**

None.

---

**CMUC00217E** *COMMAND\_INFO* The specified logical subsystem number for volume *VOLUME* is not valid.

**Explanation**

The specified logical subsystem number contains characters that are not valid or is not an existing logical subsystem.

**Action**

Specify a valid logical subsystem number for the volume, and then resubmit the task.

---

**CMUC00218E** *COMMAND\_INFO* The specified logical control unit number for volume *VOLUME* is not valid. Either you specified this volume explicitly or you specified it implicitly by parameter values.

**Explanation**

The specified logical control unit number contains characters that are not valid or is not an existing logical control unit.

**Action**

Specify a valid logical control unit number for the volume, and then resubmit the task.

---

**CMUC00219E** *COMMAND\_INFO* Connection failure: The specified storage management console peers are not valid.

**Explanation**

The storage management console peers that are specified either as input, as command options, or in a profile file are not valid. The IP addresses might not be correct, or the storage management consoles might not be configured as peers.

**Action**

Specify valid peers, and then resubmit the task.

---

**CMUC00220E** *COMMAND\_INFO* Connection failure: *VALUE\_0*

**Explanation**

Connection to the specified storage management consoles failed.

**Action**

Ensure that the storage management console IP addresses are correct, that a network connection to the storage management consoles exists, and that the storage management consoles are available. Then resubmit the task.

---

**CMUC00219X** *COMMAND\_INFO*

**Explanation**

**Action**

---

## Chapter 3. DS Storage Manager messages

Graphical user interface messages

These messages are issued by the DS Storage Manager.

---

### **CMUG00000E Select an array from the table or create a new array.**

#### **Explanation**

To create a rank on an array, you must first select the array from the table of available arrays or create a new array.

#### **Action**

Select an array from the table of available arrays or create a new array by selecting the **Create new array** button.

---

### **CMUG00001E Select an extent pool from the table or create a new extent pool.**

#### **Explanation**

You must associate the rank with an extent pool by selecting an extent pool from the table.

#### **Action**

Select an extent pool from the extent pool list or create a new extent pool by selecting the **Create new extent pool** button.

---

### **CMUG00002W The following volumes have storage configured on the ranks: *VALUE\_0*. These volumes are deleted as part of the rank deletion process. Select Continue to delete the ranks and volumes. Select Cancel to cancel the operation.**

#### **Explanation**

Deleting the ranks also deletes the volumes configured on the ranks.

#### **Action**

Select **Continue** to delete the ranks and volumes that are listed in the message. Select **Cancel** to cancel the operation.

---

**CMUG00003W This operation removes ranks from the extent pools. Select OK to remove the ranks. Select Cancel to cancel the operation.**

**Explanation**

You are being asked to confirm that you want to remove the ranks from their extent pools.

**Action**

Select **OK** to remove the ranks from the extent pools. Select **Cancel** to cancel the operation.

---

**CMUG00004W This operation deletes the selected ranks. Select OK to delete the ranks. Select Cancel to cancel the operation.**

**Explanation**

You are being asked to confirm that you want to delete the selected unassigned ranks.

**Action**

Select **OK** to delete the ranks. Select **Cancel** to cancel the operation.

---

**CMUG00005E Select at least one ID from the table of available LCU IDs.**

**Explanation**

To create a logical control unit (LCU), you must select at least one ID from the table of available IDs.

**Action**

Select at least one LCU ID from the table of available LCU IDs.

---

**CMUG00006W This operation deletes the selected LCUs. Select Continue to delete the LCUs. Select Cancel to cancel the operation.**

**Explanation**

You are being asked to confirm that you want to delete the logical control units (LCUs) that you have selected.

**Action**

Select **Continue** to delete the LCUs. Select **Cancel** to cancel the operation.

---

**CMUG00007W** The following volumes have storage configured on the selected LCUs: *VALUE\_0*. These volumes are deleted as part of the LCU deletion process. Select **Continue** to delete the LCUs. Select **Cancel** to cancel the operation.

**Explanation**

Deleting the logical control units (LCUs) deletes the volumes that are configured on the LCUs.

**Action**

Select **Continue** to delete the LCUs and volumes that are listed in the message. Select **Cancel** to cancel the operation.

---

**CMUG00008E** An SSID is required.

**Explanation**

To continue, you must enter a unique logical subsystem identifier (SSID) for the logical control units being created.

**Action**

Enter an SSID.

---

**CMUG00009E** An SSID must be a 4 hexadecimal digit non zero number.

**Explanation**

The logical subsystem ID must be 4 hexadecimal digits long, in the range (0001 - FFFF).

**Action**

Enter a non zero 4 hexadecimal digit SSID in the correct format: (0 - 9, A - F). Example: 01AF.

---

**CMUG00010E** The SSID is not unique.

**Explanation**

The logical subsystem identifier (SSID) must be unique.

**Action**

Enter a unique SSID.

---

**CMUG00011E** Consistency group timeout required

**Explanation**

When you define or modify logical control units, you must enter a value in the **consistency group timeout** field.

**Action**

Enter a positive integer value in the field.

---

**CMUG00012E Consistency group timeout: A positive integer value is required.**

**Explanation**

When you define or modify logical control units, you must enter a positive integer value in the **consistency group timeout** field. The field contains an invalid value.

**Action**

Enter a positive integer value in the field.

---

**CMUG00013E Select at least one LCU.**

**Explanation**

When you are defining volume characteristics, you must select at least one logical control unit from the selection box.

**Action**

Select at least one LCU from the selection box.

---

**CMUG00014W This operation deletes volumes. Select OK to delete the volumes. Select Cancel to cancel the operation.**

**Explanation**

You are being asked to confirm that you want to delete the volumes that you have selected.

**Action**

Select **OK** to delete the volumes. Select **Cancel** to cancel the operation.

---

**CMUG00015E You must select an extent pool from which to create these volumes.**

**Explanation**

You must select an extent pool from which the volumes are created.

**Action**

Select an extent pool from the table.



---

**CMUG00016E** *VALUE\_0* must be between *VALUE\_1* and *VALUE\_2*.

**Explanation**

The entered value must be within the specified range that is provided in the message.

**Action**

Enter a value within the specified range.

---

**CMUG00017E** You must enter an alphabetic prefix or a numeric suffix. You may enter both.

**Explanation**

This operation assists you in creating a range of volume nicknames consisting of an alphabetic prefix followed by a number that increases sequentially. If you enter a prefix only, all the volumes that you create will have the same nickname. If you enter a suffix only, the volumes that you create will be identified by a sequence of numerical volume nicknames. If you enter both a prefix and a suffix, the volume nicknames will all have the same prefix, and have numerically increasing suffixes.

**Action**

Enter a prefix, a suffix, or both.

---

**CMUG00018E** The value that you enter for a suffix must be a number.

**Explanation**

This operation assists you in creating a range of volume nicknames consisting of an alphabetic prefix followed by a number that increases sequentially. If you enter a prefix only, all the volumes that you create will have the same nickname. If you enter a suffix only, the volumes that you create will be identified by a sequence of numerical volume nicknames. If you enter both a prefix and a suffix, the volume nicknames will all have the same prefix, and have numerically increasing suffixes.

**Action**

Enter a numerical value for the suffix.

---

**CMUG00019E** Volume nicknames must be unique within a storage image. Do you want *VALUE\_1* increased sequentially and concatenated to *VALUE\_0*?

**Explanation**

This operation assists you in creating a range of volume nicknames consisting of an alphabetic prefix followed by a number that increases sequentially. You are being asked to confirm that you want sequentially increasing suffixes appended to the prefix to create volume nicknames, starting with the value that you entered.

### Action

Select **OK** to use the prefix and number combination to create volume nicknames with sequentially increasing numbers. Select **Cancel** to enter names manually.

---

## CMUG00020E Too few volume addresses are available to create the volumes specified. Select additional logical subsystems.

### Explanation

You have checked the **select LSS** check box in the wizard, but either no logical subsystems are selected, or not enough logical subsystems are selected to provide valid addresses for the volumes that are being created.

### Action

Select one or more logical subsystems from the list.

---

## CMUG00021E Multiple volume creation is not permitted with automatic nickname sequence generation disabled.

### Explanation

You have disabled automatic nickname sequence generation by unchecking the check box, but are creating more than one volume. This is not permitted.

### Action

Create only one volume, or enable automatic nickname sequence generation by checking the check box.

---

## CMUG00022E Select a volume group.

### Explanation

You are defining volume characteristics in the wizard. The **select volume groups** check box has been checked, but no volume groups are selected.

### Action

Select a volume group or uncheck the check box.

---

## CMUG00023E You must select one volume to complete the operation.

### Explanation

Selecting a single volume is required for this operation. A volume is not selected, or multiple volumes are selected.

### Action

Select a single volume.

---

**CMUG00024E You must select at least one volume to complete the operation.**

**Explanation**

Selecting one or more volumes is required for this operation. No volume is selected.

**Action**

Select at least one volume.

---

**CMUG00025W Volumes will be deleted. Select OK to delete the volumes. Select Cancel to cancel the operation.**

**Explanation**

You are being asked to confirm that you want to delete the selected volumes.

**Action**

Select **OK** to delete the volumes. Select **Cancel** to cancel the operation.

---

**CMUG00026E You must select one extent pool.**

**Explanation**

You must select an extent pool to continue. No extent pool is selected.

**Action**

Select an extent pool.

---

**CMUG00027E *VALUE\_0* must be between *VALUE\_1* and *VALUE\_2*.**

**Explanation**

The entered value must be within the specified range in the message.

**Action**

Enter a value within the specified range.

---

**CMUG00028E The ratio of alias volumes to base volumes must be expressible in whole numbers. Fractional ratios are not permitted.**

**Explanation**

You can specify more aliases than base volumes, or you can specify more base volumes than aliases. In either case, the larger number must be evenly divisible by the smaller number, with no remainder.

You can assign 4 aliases to 1 base volume. The ratio is 4:1. You can assign 1 alias to 3 base volumes. The ratio is 1:3. You cannot assign 2 aliases to 5 base volumes. The ratio is 1:2.5.

### **Action**

Specify numbers of aliases and base volumes such that the larger number is evenly divisible by the smaller number.

---

**CMUG00029E The number of table selections does not agree with the number entered in the text box.**

### **Explanation**

You must select the same number of volumes from the table as you indicated in the text box.

### **Action**

Select the same number of volumes from the table, or change the number in the text box.

---

**CMUG00030E No base volumes have been specified.**

### **Explanation**

To add aliases, the number of base volumes must be greater than zero.

### **Action**

Specify at least one base volume, and then resubmit the task.

---

**CMUG00031E The selected extent pool is too small. No volumes can be created.**

### **Explanation**

The size of the selected extent pool is smaller than the smallest possible volume size. No volumes can be created.

### **Action**

Increase the size of the extent pool, select a larger extent pool, or specify a smaller volume size.

---

**CMUG00032E All of the selected volumes must be of the same data type.**

### **Explanation**

All of the volumes in a volume group must be of the same data type. Not all of the selected volumes are of the same data type.

### **Action**

Select volumes that are all of the same data type, and then resubmit the task.

---

**CMUG00033E The specified combination of volume quantity and size exceeds the available space in the extent pool.**

**Explanation**

The requested storage space exceeds the available storage space in the extent pool.

**Action**

Specify fewer volumes or a smaller volume size such that the requested space is less than or equal to the available space in the extent pool.

---

**CMUG00034E Volume nicknames must be unique within a storage image. Do you want *VALUE\_1* increased sequentially and concatenated to *VALUE\_0*?**

**Explanation**

This operation assists you in creating a range of volume nicknames consisting of an alphabetic prefix followed by a number that increases sequentially. You are being asked to confirm that you want sequentially increasing suffixes appended to the prefix to create volume nicknames, starting with the value that you entered.

**Action**

Select **OK** to use the prefix and number combination to create volume nicknames with sequentially increasing numbers. Select **Cancel** to enter names manually.

---

**CMUG00035E Multiple volume creation is not permitted with automatic nickname sequence generation disabled.**

**Explanation**

You have disabled automatic nickname sequence generation by unchecking the check box, but are creating more than one volume. This is not permitted.

**Action**

Create only one volume, or enable automatic nickname sequence generation by checking the check box.

---

**CMUG00036E The value you enter for a suffix must be a number.**

**Explanation**

This operation assists you in creating a range of volume nicknames consisting of an alphabetic prefix followed by a number that increases sequentially. If you enter a prefix only, all the volumes that you create will have the same nickname. If you enter a suffix only, the volumes that you create will be identified by a sequence of numerical volume nicknames. If you enter both a prefix and a suffix, the volume nicknames will all have the same prefix, and have numerically increasing suffixes.

### Action

Enter a numerical value for the suffix.

---

**CMUG00037E You must enter an alphabetic prefix or a numeric suffix. You may enter both.**

### Explanation

This operation assists you in creating a range of volume nicknames consisting of an alphabetic prefix followed by a number that increases sequentially. If you enter a prefix only, all the volumes you create will have the same nickname. If you enter a suffix only, the volumes you create will be identified by a sequence of numerical volume nicknames. If you enter both a prefix and a suffix, the volume nicknames will all have the same prefix, and have numerically increasing suffixes.

### Action

Enter a prefix, a suffix, or both.

---

**CMUG00038W Extent pools will be deleted. Select OK to delete the extent pools. Select Cancel to cancel the operation.**

### Explanation

You are being asked to confirm that you want to delete the selected extent pools.

### Action

Select **OK** to delete the extent pools. Select **Cancel** to cancel the operation.

---

**CMUG00039W The extent pools have volumes configured in them. These volumes will be deleted as part of the extent pool deletion process: *VALUE\_0*. Select Continue to delete the extent pools and volumes that are listed. Select Cancel to cancel the operation.**

### Explanation

Deleting the selected extent pools also deletes the volumes that are configured in the extent pools.

### Action

Select **Continue** to delete the extent pools and volumes that are listed in the message. Select **Cancel** to cancel the operation.

---

**CMUG00040E Nicknames must be no more than 16 characters long.**

### Explanation

The entered nickname is longer than the allowed maximum length.

**Action**

Enter a nickname 16 characters or shorter in length.

---

**CMUG00041E The requested storage is not available. Only *VALUE\_0* GB is available.**

**Explanation**

More storage space than the amount that is available has been requested.

**Action**

Enter an amount less than or equal to the amount available.

---

**CMUG00042E No storage is available for this configuration.**

**Explanation**

You are attempting to define an extent pool, but no storage space is available.

**Action**

Add more storage to the storage image, or free storage space that is currently in use.

---

**CMUG00044E Select a rank from the table or create a new rank.**

**Explanation**

You must choose at least one rank to assign to the extent pool. No rank is selected from the table.

**Action**

Select a rank from the available ranks table or select the **Create new ranks** button to create a rank.

---

**CMUG00045E The number entered must be a percentage, entered as an integer between 0 and 100.**

**Explanation**

Reserve storage must be entered as a percentage of total extent pool storage.

**Action**

Enter an integer between 0 and 100.

---

**CMUG00046E** The threshold amount is not available. Only *VALUE\_0* GB is available.

**Explanation**

You are requesting a threshold amount greater than the available amount.

**Action**

Enter an amount less than or equal to the available amount.

---

**CMUG00047E** Select an array site.

**Explanation**

When you create custom arrays, you must select at least one array site.

**Action**

Select at least one array site for the custom array.

---

**CMUG00048E** You must enter a number less than or equal to *VALUE\_0*.

**Explanation**

You have requested more arrays than can be created for the RAID type.

**Action**

Enter a number less than or equal to the number that is supplied in the message.

---

**CMUG00049W** The selected arrays and their associated ranks will be deleted. Select **OK** to delete the arrays and their associated ranks. Select **Cancel** to cancel the operation.

**Explanation**

You are being asked to confirm that you want to delete the arrays that you have selected. Any ranks built upon these arrays will be deleted also.

**Action**

Select **OK** to delete the arrays and their associated ranks. Select **Cancel** to cancel the operation.

---

**CMUG00050W** The following volumes have storage configured on the arrays: *VALUE\_0*. These volumes will be deleted as part of the array deletion process. Select **Continue** to delete the arrays and volumes. Select **Cancel** to cancel the operation.

**Explanation**

Deleting the arrays also deletes the volumes that are configured on the arrays.



### Action

Select **Continue** to delete the arrays and volumes that are listed in the message.  
Select **Cancel** to cancel the operation.

---

**CMUG00051E Array creation is not possible. No array sites are available on the storage image.**

### Explanation

Arrays are created on array sites. You have selected the **Create arrays automatically** radio button, but the necessary resources are not available on the storage image.

### Action

Add one or more array sites to the storage image, and then resubmit the task.

---

**CMUG00052E A nickname is required.**

### Explanation

A nickname is required to continue the wizard.

### Action

Enter a nickname.

---

**CMUG00053E Select at least one volume.**

### Explanation

To continue, at least one volume must be selected from the table.

### Action

Select one or more volumes from the table.

---

**CMUG00054W The selected volume groups will be deleted. Select OK to delete the volume groups. Select Cancel to cancel the operation.**

### Explanation

You are being asked to confirm that you want to delete the volume groups that you have selected.

### Action

Select **OK** to delete the volume groups. Select **Cancel** to cancel the operation.

---

**CMUG00055E Select one or more host types.****Explanation**

To create a volume group, you must select one or more host types that can be attached to the volume group. As you select types, the list of available types is automatically narrowed to a set of compatible host types.

**Action**

Select one or more host types from the list of available host types.

---

**CMUG00056E A host nickname is required.****Explanation**

A nickname for the host is necessary to complete this operation.

**Action**

Enter a host nickname.

---

**CMUG00057E A host type is required to create a new host. Select a host type.****Explanation**

A host type is required to create a new host. No host type is selected.

**Action**

Select a type from the list of host systems.

---

**CMUG00058E The port quantity is required. Enter the quantity of ports for this type.****Explanation**

To properly define host ports, you must identify the quantity of each type of port. No quantity is entered.

**Action**

Enter a quantity.

---

**CMUG00059E The port type is required. Select a port type.****Explanation**

To properly define host ports, you must identify the type of each port. No type is selected from the list.

**Action**

Select a type from the drop-down list.

---

**CMUG00060E Select WPNs for all the ports.****Explanation**

For communication and security purposes, each host port is identified by its worldwide unique port name (WWPN). A list of names is provided in the drop-down box. You must identify each port in this host attachment by selecting a name from the list or manually entering a WWPN.

**Action**

To identify each port, select a WWPN from the list, or manually enter a WWPN.

---

**CMUG00061E Select a host attachment identifier to connect to the storage image ports.****Explanation**

To complete the link between host ports and storage image ports, you must associate a host attachment identifier with the storage image.

**Action**

Select a host attachment identifier from the table.

---

**CMUG00062E At least one host port must be defined for this host system before data can be saved.****Explanation**

As part of the process of creating a host system, you must define at least one port for that host.

**Action**

Define at least one host port before saving the host system data.

---

**CMUG00063E At least one storage image must be selected for attachment to the newly defined host port.****Explanation**

The newly defined SCSI host port is not attached to a storage image. You must select at least one storage image for attachment before the host data can be saved.

**Action**

Select a storage image to which the host port can be attached.

---

**CMUG00064E A host nickname is required.****Explanation**

You must identify the host system by supplying a host nickname before modifications can be performed.

**Action**

Enter a host nickname.

---

**CMUG00065E The port quantity is required. Provide the number of ports for this host attachment.****Explanation**

You are modifying a host attachment, but no quantity is entered.

**Action**

Enter the number of ports for this port type in the quantity field.

---

**CMUG00066E The port type is required. Select a port type.****Explanation**

You are modifying a host attachment, but no port type is selected.

**Action**

Select the type of the ports for the attachment for the drop-down list.

---

**CMUG00067E Select the WWPNS for all the ports for this host attachment.****Explanation**

For communication and security purposes, each host port is identified by its worldwide unique port name (WWPN). A list of names is provided in the drop-down box. You must identify each port in this host attachment by selecting a name from the list or manually entering a WWPN.

**Action**

To identify each port, select a WWPN from the list, or manually enter a WWPN.

---

**CMUG00068E Select a host attachment identifier to connect to the storage image ports.****Explanation**

To complete the link between host ports and storage image ports, you must associate a host attachment identifier with the storage image.

### Action

Select a host attachment identifier from the table.

---

**CMUG00069W** These hosts will be deleted: *VALUE\_0*. Select **Continue** to delete the hosts. Select **Cancel** to cancel the operation.

### Explanation

You are being asked to confirm that you want to delete the hosts that you have selected.

### Action

Select **Continue** to delete the hosts. Select **Cancel** to cancel the operation.

---

**CMUG00070W** The selected host attachment ports will be deleted. Select **Continue** to delete the host attachment ports. Select **Cancel** to cancel the operation.

### Explanation

You are being asked to confirm that you want to delete the host attachment ports that you have selected.

### Action

Select **Continue** to delete the host attachment ports. Select **Cancel** to cancel the operation.

---

**CMUG00071E** Select one or more of the choices below.

### Explanation

You are in the process of importing data about a storage complex, and you are being asked to identify which type of data to import:

- General storage complex settings.
- All storage unit physical configurations.
- All storage unit logical configurations.
- All host attachments for the storage units.

You must select at least one of the check boxes to continue.

### Action

Select one or more of the check boxes.

---

**CMUG00072W** The selected storage complexes will be deleted. Select **OK** to delete the storage complexes. Select **Cancel** to cancel the operation.

**Explanation**

You are being asked to confirm that you want to remove the storage complexes that you have selected from the list.

**Action**

Select **OK** to delete the storage complexes. Select **Cancel** to cancel the operation.

---

**CMUG00073E** Storage complex authentication error.

**Explanation**

When you add a storage complex, its management console must be properly identified, and a valid user name and password must be supplied.

**Action**

Specify the correct management console IP address, user name, and password.

---

**CMUG00074W** You have selected a choice that initiates the power on sequence for this storage unit. Select **OK** to turn on power to the storage unit. Select **Cancel** to cancel the operation.

**Explanation**

If you proceed, the unit is turned on.

**Action**

Select **OK** to turn on the storage unit. Select **Cancel** to cancel the operation.

---

**CMUG00075W** You have selected a choice that will initiate the power off sequence for this storage unit. Select **OK** to turn off power to the storage unit. Select **Cancel** to cancel the operation.

**Explanation**

If you proceed, the unit is turned off.

**Action**

Select **OK** to turn off the storage unit. Select **Cancel** to cancel the operation.

---

**CMUG00076W** You have selected a choice that will force the offline sequence for this storage unit. Select **OK** to force the storage unit offline. Select **Cancel** to cancel the operation.

**Explanation**

If you proceed, the unit is forced offline.

**Action**

Select **OK** to force the storage unit offline. Select **Cancel** to cancel the operation.

---

**CMUG00077W** You have selected a choice that initiates the sequence to bring this storage unit online. Select **OK** to bring the storage unit online. Select **Cancel** to cancel the operation.

**Explanation**

If you proceed, the unit is brought online.

**Action**

Select **OK** to bring the storage unit online. Select **Cancel** to cancel the operation.

---

**CMUG00078W** You have selected a choice that initiates the sequence to take this storage unit offline. Select **OK** to take the storage unit offline. Select **Cancel** to cancel the operation.

**Explanation**

If you proceed, the unit is taken offline.

**Action**

Select **OK** to take the storage unit offline. Select **Cancel** to cancel the operation.

---

**CMUG00079W** Cannot perform the task. The storage unit is not online.

**Explanation**

You have submitted a task to a storage unit that is not online. The task cannot be performed by a system that is not online.

**Action**

Bring the system online, and then resubmit the task.

---

**CMUG00080W** Do you want to delete the simulated storage units *STORAGE\_UNITS* in the selected storage complexes as well? Select **OK** to delete the storage units. Select **Continue** to delete only the storage complexes. Select **Cancel** to cancel the operation.

**Explanation**

You have assigned simulated storage units to the storage complexes that you intend to delete. By selecting **OK** you will delete these storage units as well. By selecting **Continue** you will retain the storage units and continue to delete the storage complexes only. By selecting **Cancel** you will cancel the operation.

**Action**

Select **OK** to delete the simulated storage units. Select **Continue** to continue without deleting the storage units. Select **Cancel** to cancel the operation.

---

**CMUG00081W** Changing the physical configuration will clear the existing logical configuration. Select **Continue** to change the physical configuration of the storage unit and clear the existing logical configuration. Select **Cancel** to cancel the operation.

**Explanation**

Modifying the physical configuration of a simulated storage unit (in offline mode) makes any existing logical configuration obsolete. Any existing logical configuration is automatically deleted. By selecting **Continue** you will continue with the change and the logical configuration will be deleted. By selecting **Cancel** you will cancel the physical configuration change and retain the existing logical configuration.

**Action**

Select **Continue** to change the physical configuration and delete the logical configuration. Select **Cancel** to cancel the change.

---

**CMUG00082E** At least two DDM packs must be added to the Selected DDM packs table.

**Explanation**

You cannot continue the wizard before adding the minimum number of DDM packs to the **Selected DDM packs** table.

**Action**

Add at least two DDM packs to the **Selected DDM packs** table.



---

**CMUG00083E Invalid I/O adapter quantity. The quantity must be between *VALUE\_0*. and *VALUE\_1*.**

**Explanation**

An invalid adapter quantity has been specified. For any entry field, you can enter a value between 2 and 32. The total number of adapters for all fields must be less than or equal to 32.

**Action**

Specify a valid adapter quantity.

---

**CMUG00084W The selected storage units will be deleted. Select OK to delete the storage units. Select Cancel to cancel the operation.**

**Explanation**

You are being asked to confirm that you want to delete the selected storage units. By selecting **OK**, you will delete the storage units. By selecting **Cancel**, you will return to the wizard without deleting the storage units.

**Action**

Select **OK** to delete the storage units. Select **Cancel** to cancel the operation.

---

**CMUG00085E Select a storage complex.**

**Explanation**

You have elected to select a storage complex from a list of storage complexes, but no storage complex is selected.

**Action**

Select a storage complex from the list.

---

**CMUG00086E Select a storage unit.**

**Explanation**

You must select a storage unit from a list of storage units in the storage complex, but no storage unit is selected.

**Action**

Select a storage unit from the list.

---

**CMUG00087E Select at least one storage image.**

**Explanation**

You are loading a configuration to a storage unit that contains more than one storage image. You must select at least one storage image where the configuration

is to be applied from a list of the storage images on the storage unit. No storage image is selected.

**Action**

Select a storage image from the list.

---

**CMUG00088E Select an xml file containing License Machine Code activation codes for this storage image.**

**Explanation**

You have chosen to import your License Machine Code activation codes using an xml formatted file, but no file is selected.

**Action**

Select a file and select **OK** to import the activation codes. Select **Cancel** to cancel the operation.

---

**CMUG00089E Incorrectly formatted License Machine Code activation codes file**

**Explanation**

The file containing License Machine Code activation codes for this storage image is not the correct format. The file you select must be an xml formatted file that you have obtained from an authorized IBM source.

**Action**

Select the correct file and select **OK** to import the activation codes. Select **Cancel** to cancel the operation.

---

**CMUG00090E Incorrect License Machine Code activation codes file**

**Explanation**

The selected file does not contain License Machine Code activation codes for this storage image. The file that you select must be an xml formatted file that you have obtained from an authorized IBM source, and it must contain activation codes designated for this storage image.

**Action**

Select the correct file and select **OK** to import the activation codes, or select **Cancel** to cancel the operation.

---

**CMUG00091W** The current License Machine Code activation codes will be overwritten by the codes being imported. Select **Continue** to overwrite the current codes with the new codes. Select **Cancel** to cancel the operation.

**Explanation**

You are being asked to confirm that you want to overwrite the current License Machine Code activation codes with values imported from the file you selected.

**Action**

Select **Continue** to overwrite the current codes with the new codes. Select **Cancel** to cancel the operation.

---

**CMUG00092W** This operation applies the activation codes to the storage image. Select **OK** to apply the activation codes. Select **Cancel** to cancel the operation.

**Explanation**

You are being asked to confirm that you want to apply the activation codes to the selected storage image.

**Action**

Select **OK** to apply the activation codes. Select **Cancel** to cancel the operation.

---

**CMUG00093E** You must add at least one host attachment to the storage image.

**Explanation**

Before information about your newly defined host can be saved, you must add at least one host attachment to the storage image.

**Action**

Add at least one host attachment, and then resubmit the task.

---

**CMUG00094E** Unable to attach host. No I/O port is selected.

**Explanation**

You have selected a host to attach to an I/O port, but no I/O port is selected from the table.

**Action**

Select an I/O port from the table of available ports, and then resubmit the task.

---

**CMUG00095E Unable to attach host. No compatible I/O ports are available on the storage image.**

**Explanation**

You have selected a host to attach to an I/O port, but no compatible I/O ports are available on the storage image.

**Action**

Add a compatible I/O port to the storage image or make an existing port available, and then resubmit the task.

---

**CMUG00096E Model 2105 storage unit authentication error**

**Explanation**

You are adding a model 2105 Enterprise Storage Server Copy Services domain, but the authentication information provided produced an error.

**Action**

Provide a valid IP address, user name, and password.

---

**CMUG00097W This operation deletes the selected enterprise configuration. Select OK to delete the configuration. Select Cancel to cancel the operation.**

**Explanation**

You are being asked to confirm that you want to delete the selected enterprise configuration.

**Action**

Select **OK** to delete the enterprise configuration. Select **Cancel** to cancel the operation.

---

**CMUG00098W Only one enterprise configuration can be open at any time. Select OK to save the current configuration. Select Continue to continue without saving the current configuration.**

**Explanation**

You are being asked if you want to save the current enterprise configuration before you open the selected configuration.

**Action**

Select **OK** to save the current enterprise configuration. Select **Continue** to continue without saving the current configuration.

---

**CMUG00099W Select an xml file that contains an enterprise configuration.**

**Explanation**

This process imports an enterprise configuration by reading an xml file on your file system. No xml file is selected, or the file cannot be found.

**Action**

Select an enterprise configuration file that is in the correct xml format, and then resubmit the task.

---

**CMUG00100E Unable to connect to the specified storage management console.**

**Explanation**

The DS Storage Manager is unable to connect to the specified storage management console. This might be because the specified IP address is incorrect, because the storage management console is not online, or because a network path is not available.

**Action**

Ensure that the specified IP address is correct, that the storage management console is available, and that the network is functioning.

---

**CMUG00101E The IP address of management console 2 cannot be the same as the IP address of management console 1.**

**Explanation**

You are being asked to provide the IP addresses of two different storage management consoles.

**Action**

Enter two distinct IP addresses, and then resubmit the task.

---

**CMUG00102E Select unique WWPNS for ports *VALUE\_0*.**

**Explanation**

Host ports must have unique worldwide port names (WWPNs). The same WWPN is selected more than once.

**Action**

Select unique WWPNs for each port, and then resubmit the task.

---

**CMUG00103E Enter unique WWPNs for ports *VALUE\_0*.**

**Explanation**

Host ports must have unique worldwide port names (WWPNs). The same WWPN is entered more than once.

**Action**

Enter unique WWPNs for each port, and then resubmit the task.

---

**CMUG00104E Unable to attach host port *PORT*. WWPNs *WWPN\_IDs* are being used by another host port on storage image *IMAGE*.**

**Explanation**

Host ports must have unique worldwide port names (WWPNs). The specified WWPN is being used by another host port on the storage image.

**Action**

Select unique WWPNs for the port, and then resubmit the task.

---

**CMUG00105W These ranks will be deleted from the selected extent pool: *VALUE\_0*. Select Continue to delete the ranks that are listed. Select Cancel to cancel the operation.**

**Explanation**

You are being asked to confirm that you want to delete the ranks.

**Action**

Select **Continue** to delete the ranks that are listed in the message. Select **Cancel** to cancel the operation.

---

**CMUG00106E The specified storage complex is incompatible with this DS Storage Manager software.**

**Explanation**

If you are using the DS8000 Storage Manager, you cannot connect to a DS6000 storage complex. If you are using the DS6000 Storage Manager, you cannot connect to a DS8000 storage complex.

**Action**

Specify the IP address of a compatible storage complex, and then resubmit the task.

---

**CMUG00107E A nickname must be between 1 and 16 characters long.**

**Explanation**

You must specify a nickname that is between 1 and 16 characters in length.

**Action**

Specify a nickname between 1 and 16 characters long, and then resubmit the task.

---

**CMUG00108E You must select at least one array site before you can continue.**

**Explanation**

To create an array, you must first select an array site.

**Action**

Select an array site from the table, and then resubmit the task.

---

**CMUG00109E These ranks have extents in use and they cannot be removed from the extent pool: *RANKS*.**

**Explanation**

A rank can be removed from an extent pool only if there are no extents on that rank in use.

**Action**

Specify different ranks or remove any volumes that use extents from the ranks, and then resubmit the task.

---

**CMUG00110E The number of selections in the table must be a whole number multiple of the number of base volumes you enter. Fractional ratios are not permitted.**

**Explanation**

The number of base volumes must be equal to the number of selections in the table, or the number of selections must be a whole number multiple of the number of base volumes.

**Action**

Specify a number of base volumes or select from the table such that the number of selections is evenly divisible by the number of base volumes.

---

**CMUG00111E** The nickname *NICKNAME* is already used for another host. Enter a unique nickname.

**Explanation**

The nickname that you specified is not unique. A unique nickname is required.

**Action**

Specify a unique nickname, and then resubmit the task.

---

**CMUG00112E** The storage complex found at the specified IP address is offline. Only online storage complexes can be added when using the Realtime Manager.

**Explanation**

The Realtime Manager tool cannot accept connections to offline storage complexes.

**Action**

Place the storage complex online or select another storage complex that is online, and then resubmit the task.

---

**CMUG00113E** The total number of aliases and bases that are to be created exceeds the number of available addresses in the selected LCUs.

**Explanation**

You cannot create more aliases and bases than the number of available addresses in the selected logical control units.

**Action**

Either reduce the number of aliases that you want to create or select more logical control units in the **define volume characteristics** step.

---

**CMUG00114E** The number of fibre channel port I/O adapters cannot be 1. You must have at least 2 of the same adapter if you are configuring an adapter.

**Explanation**

You must specify a valid number of short wave and long wave I/O adapters (2 - 32) when you are configuring the I/O adapters for a storage unit. The cumulative sum of all adapters must be greater than or equal to 2 and less than or equal to 32. You must have at least 2 of the same adapter before incrementing by one.

**Action**

Enter the number of short wave adapters (0, 2 - 32). Do not enter 1.



---

**CMUG00115E Select a machine model from the list.****Explanation**

The model is required.

**Action**

Select a model from the list, and then resubmit the task.

---

**CMUG00116E Storage image *ID* has been configured on this storage management console, but it is not accessible at this time.****Explanation**

The storage image may be unavailable for one of the following reasons:

- The storage unit is powered off.
- The network connection to the storage unit has been removed or has failed.
- The storage unit has multiple storage images, and the specified storage image has been deconfigured.

**Action**

Ensure that the storage unit is powered on and available, and that the storage image is still configured. If the problem persists, contact IBM technical support for assistance.

---

**CMUG00117I The default enterprise is being opened.****Explanation**

The default enterprise database is being opened to ensure that your offline configuration is stored properly.

**Action**

None.

---

**CMUG00118W This operation changes the configuration of the selected I/O ports. Changing the configuration might make the ports unusable by hosts that are now attached to them. Select Continue to change the I/O port configuration. Select Cancel to cancel the operation.****Explanation**

The operation that you selected changes the configuration of the selected I/O ports. If those ports have hosts that are attached to them, the hosts might not be able to access data using the ports.

### Action

Select **Continue** to reconfigure the selected I/O ports. Select **Cancel** to cancel the operation.

---

**CMUG00119E Invalid value: *VALUE\_0* entered for *VALUE\_1* . The WPN must be a hexadecimal number between *VALUE\_2* and *VALUE\_3*.**

### Explanation

The port specification contains an invalid value for the worldwide port name of a host port. You must enter a hexadecimal number within the specified range.

### Action

Enter a valid hexadecimal number within the specified range.

---

**CMUG00120W The following hosts are attached to incompatible ports: *VALUE\_0* . The hosts might be unable to communicate using these ports.**

### Explanation

Another user might have modified the I/O port topology at the same time that you modified or created the host attachment. For example, a host port with the attachment type FCAL might be attached to I/O ports that have their topology set to FICON.

### Action

Move the host cables to compatible I/O ports, or select the **Configure I/O Ports** button at the bottom of the screen and then reconfigure the I/O ports.

---

**CMUG00121W The selected volume size is compatible with only iSeries V5R3.**

### Explanation

The selected volume size is compatible with only iSeries V5R3. It is not compatible with other systems.

### Action

Ensure that the volume is connected to only iSeries V5R3 systems, or select another volume size.

---

**CMUG00122E Unable to create volume. No extent pools are available.**

### Explanation

Either no extent pools are configured or insufficient space is available on the configured extent pools.

## Action

Configure one or more additional extent pools, and then resubmit the task.

---

### CMUG00123E The selected storage complexes do not exist in the current configuration.

#### Explanation

You began to delete one or more storage complexes from an enterprise, but the enterprise configuration changed or the enterprise was closed before you completed the task for the following possible reasons:

- The storage complexes were deleted from another session.
- The enterprise was closed and you are now configuring another enterprise.
- The network connection to the storage complexes failed.

#### Action

Close the current panels and reopen the enterprise. If the problem persists, contact IBM technical support for assistance.

---

### CMUG00124E Invalid logical volume size. See the help text for this message for valid sizes.

#### Explanation

The specified volume size is not supported on all platforms. Supported logical volume sizes are microcode level dependent.

For DS microcode levels 5.0.3 and above:

- Supported Enterprise Storage System (ESS) logical volume sizes range from 0.1 to 982.2 decimal gigabytes (1GB =  $10^9$  bytes). You can calculate the exact number of 512 byte blocks as  $\text{INT}((\text{INT}(\text{GB} \times 10^9 / 512) + 63) / 64) \times 64$ . The size of the volume that is created on the ESS is identical to the size of the volume that is created on the DS.
- Supported DS logical volume sizes range from 1 to 2048 binary gigabytes (1GB =  $2^{30}$  bytes). This allocation uses the storage capacity of DS systems most efficiently.
- Supported block logical volume sizes range from 1 to 4 binary gigablocks (1 gigablock =  $2^{30}$  512-byte blocks). If a specified size matches a supported DS or ESS logical volume size, the volume is identified as a DS or ESS logical volume, even though it is created by specifying the **blocks** volume type.
- Supported iSeries logical volume sizes are expressed in decimal gigabytes (1GB =  $10^9$  bytes):

A0 (8.6 GB protected)	A81 (8.6GB, unprotected)
A02 (17.5 GB protected)	A82 (17.5 GB unprotected)
A04 (70.5 GB protected)	A84 (70.5 GB unprotected)
A05 (35.1 GB protected)	A85 (35.1 GB unprotected)
A06 (141.12 GB protected)	A86 (141.12 GB unprotected)
A07 (282.25 GB protected)	A87 (282.25 GB unprotected)

For DS microcode levels 5.0.1 and 5.0.2, block logical volume sizes must be a multiple of 128, and ESS logical volume sizes must be in the following list:

0.1 (0.1)	0.2 (0.2)	0.3 (0.3)	0.4 (0.4)
0.9 (0.8)	1.0 (0.9)	1.1 (1.0)	1.2 (1.1)
1.7 (1.6)	1.8 (1.7)	1.9 (1.8)	2.0 (1.9)
2.5 (2.3)	2.6 (2.4)	2.7 (2.5)	2.8 (2.6)
3.3 (3.1)	3.4 (3.2)	3.5 (3.3)	3.6 (3.4)
3.7 (3.4)	4.2 (3.9)	4.3 (4.0)	4.4 (4.1)
4.5 (4.2)	5.0 (4.7)	5.1 (4.7)	5.2 (4.8)
5.3 (4.9)	5.8 (5.4)	5.9 (5.5)	6.0 (5.6)
6.1 (5.7)	6.7 (6.2)	6.8 (6.3)	6.9 (6.4)
7.0 (6.5)	7.5 (7.0)	7.6 (7.1)	7.7 (7.2)
7.8 (7.3)	8.3 (7.7)	8.4 (7.8)	8.5 (7.9)
8.6 (8.0)	9.1 (8.5)	9.2 (8.6)	9.3 (8.7)
9.4 (8.8)	10.0 (9.3)	10.1 (9.4)	10.2 (9.5)
10.3 (9.6)	10.8 (10.1)	10.9 (10.2)	11.0 (10.2)
11.1 (10.3)	11.6 (10.8)	11.7 (10.9)	11.8 (11.0)
11.9 (11.1)	12.4 (11.5)	12.5 (11.6)	12.6 (11.7)
12.7 (11.8)	13.3 (12.4)	13.4 (12.5)	13.5 (12.6)
13.6 (12.7)	14.1 (13.1)	14.2 (13.2)	14.3 (13.3)
14.4 (13.4)	14.9 (13.9)	15.0 (14.0)	15.1 (14.1)
15.2 (14.2)	15.7 (14.6)	15.8 (14.7)	15.9 (14.8)
16.0 (14.9)	16.6 (15.5)	16.7 (15.6)	16.8 (15.6)
16.9 (15.7)	17.4 (16.2)	17.5 (16.3)	17.6 (16.4)
17.7 (16.5)	18.2 (17.0)	18.3 (17.0)	18.4 (17.1)
18.5 (17.2)	19.0 (17.7)	19.1 (17.8)	19.2 (17.9)
19.3 (18.0)	19.4 (18.1)	19.9 (18.5)	20.0 (18.6)
20.1 (18.7)	20.2 (18.8)	20.7 (19.3)	20.8 (19.4)
20.9 (19.5)	21.0 (19.6)	21.5 (20.0)	21.6 (20.1)
21.7 (20.2)	21.8 (20.3)	22.3 (20.8)	22.4 (20.9)
22.5 (21.0)	22.6 (21.0)	22.7 (21.1)	23.2 (21.6)
23.3 (21.7)	23.4 (21.8)	23.5 (21.9)	24.0 (22.4)
24.1 (22.4)	24.2 (22.5)	24.3 (22.6)	24.8 (23.1)
24.9 (23.2)	25.0 (23.3)	25.1 (23.4)	25.6 (23.8)
25.7 (23.9)	25.8 (24.0)	25.9 (24.1)	26.0 (24.2)
26.5 (24.7)	26.6 (24.8)	26.7 (24.9)	26.8 (25.0)
27.3 (25.4)	27.4 (25.5)	27.5 (25.6)	27.6 (25.7)
28.1 (26.2)	28.2 (26.3)	28.3 (26.4)	28.4 (26.4)
28.9 (26.9)	29.0 (27.0)	29.1 (27.1)	29.2 (27.2)
29.3 (27.3)	29.8 (27.8)	29.9 (27.8)	30.0 (27.9)
30.1 (28.0)	30.6 (28.5)	30.7 (28.6)	30.8 (28.7)
30.9 (28.8)	31.4 (29.2)	31.5 (29.3)	31.6 (29.4)
31.7 (29.5)	32.3 (30.1)	32.4 (30.2)	32.5 (30.3)
32.6 (30.4)	33.1 (30.8)	33.2 (30.9)	33.3 (31.0)
33.4 (31.1)	33.9 (31.6)	34.0 (31.7)	34.1 (31.8)
34.2 (31.9)	34.7 (32.3)	34.8 (32.4)	34.9 (32.5)
35.0 (32.6)	35.6 (33.2)	35.7 (33.2)	35.8 (33.3)
35.9 (33.4)	36.4 (33.9)	36.5 (34.0)	36.6 (34.1)
36.7 (34.2)	37.2 (34.6)	37.3 (34.7)	37.4 (34.8)
37.5 (34.9)	38.0 (35.4)	38.1 (35.5)	38.2 (35.6)
38.3 (35.7)	38.9 (36.2)	39.0 (36.3)	39.1 (36.4)
39.2 (36.5)	39.7 (37.0)	39.8 (37.1)	39.9 (37.2)
40.0 (37.3)	40.5 (37.7)	40.6 (37.8)	40.7 (37.9)
40.8 (38.0)	41.3 (38.5)	41.4 (38.6)	41.5 (38.6)
41.6 (38.7)	42.2 (39.3)	42.3 (39.4)	42.4 (39.5)
42.5 (39.6)	43.0 (40.0)	43.1 (40.1)	43.2 (40.2)
43.3 (40.3)	43.8 (40.8)	43.9 (40.9)	44.0 (41.0)
44.1 (41.1)	44.6 (41.5)	44.7 (41.6)	44.8 (41.7)
44.9 (41.8)	45.0 (41.9)	45.5 (42.4)	45.6 (42.5)
45.7 (42.6)	45.8 (42.7)	46.3 (43.1)	46.4 (43.2)
46.5 (43.3)	46.6 (43.4)	47.1 (43.9)	47.2 (44.0)
47.3 (44.1)	47.4 (44.1)	47.9 (44.6)	48.0 (44.7)
48.1 (44.8)	48.2 (44.9)	48.3 (45.0)	48.8 (45.4)
48.9 (45.5)	49.0 (45.6)	49.1 (45.7)	49.6 (46.2)
49.7 (46.3)	49.8 (46.4)	49.9 (46.5)	50.4 (46.9)
50.5 (47.0)	50.6 (47.1)	50.7 (47.2)	51.2 (47.7)
51.3 (47.8)	51.4 (47.9)	51.5 (48.0)	51.6 (48.1)
52.1 (48.5)	52.2 (48.6)	52.3 (48.7)	52.4 (48.8)

52.9 (49.3)	53.0 (49.4)	53.1 (49.5)	53.2 (49.5)
53.7 (50.0)	53.8 (50.1)	53.9 (50.2)	54.0 (50.3)
54.5 (50.8)	54.6 (50.9)	54.7 (50.9)	54.8 (51.0)
54.9 (51.1)	55.4 (51.6)	55.5 (51.7)	55.6 (51.8)
55.7 (51.9)	56.2 (52.3)	56.3 (52.4)	56.4 (52.5)
56.5 (52.6)	57.0 (53.1)	57.1 (53.2)	57.2 (53.3)
57.3 (53.4)	57.9 (53.9)	58.0 (54.0)	58.1 (54.1)
58.2 (54.2)	58.7 (54.7)	58.8 (54.8)	58.9 (54.9)
59.0 (54.9)	59.5 (55.4)	59.6 (55.5)	59.7 (55.6)
59.8 (55.7)	60.3 (56.2)	60.4 (56.3)	60.5 (56.3)
60.6 (56.4)	61.2 (57.0)	61.3 (57.1)	61.4 (57.2)
61.5 (57.3)	62.0 (57.7)	62.1 (57.8)	62.2 (57.9)
62.3 (58.0)	62.8 (58.5)	62.9 (58.6)	63.0 (58.7)
63.1 (58.8)	63.6 (59.2)	63.7 (59.3)	63.8 (59.4)
63.9 (59.5)	64.5 (60.1)	64.6 (60.2)	64.7 (60.3)
64.8 (60.3)	65.3 (60.8)	65.4 (60.9)	65.5 (61.0)
65.6 (61.1)	66.1 (61.6)	66.2 (61.7)	66.3 (61.7)
66.4 (61.8)	66.9 (62.3)	67.0 (62.4)	67.1 (62.5)
67.2 (62.6)	67.8 (63.1)	67.9 (63.2)	68.0 (63.3)
68.1 (63.4)	68.6 (63.9)	68.7 (64.0)	68.8 (64.1)
68.9 (64.2)	69.4 (64.6)	69.5 (64.7)	69.6 (64.8)
69.7 (64.9)	70.2 (65.4)	70.3 (65.5)	70.4 (65.6)
70.5 (65.7)	70.6 (65.8)	71.1 (66.2)	71.2 (66.3)
71.3 (66.4)	71.4 (66.5)	71.9 (67.0)	72.0 (67.1)
72.1 (67.1)	72.2 (67.2)	72.7 (67.7)	72.8 (67.8)
72.9 (67.9)	73.0 (68.0)	73.5 (68.5)	73.6 (68.5)
73.7 (68.6)	73.8 (68.7)	73.9 (68.8)	74.4 (69.3)
74.5 (69.4)	74.6 (69.5)	74.7 (69.6)	75.2 (70.0)
75.3 (70.1)	75.4 (70.2)	75.5 (70.3)	76.0 (70.8)
76.1 (70.9)	76.2 (71.0)	76.3 (71.1)	76.8 (71.5)
76.9 (71.6)	77.0 (71.7)	77.1 (71.8)	77.2 (71.9)
77.7 (72.4)	77.8 (72.5)	77.9 (72.6)	78.0 (72.6)
78.5 (73.1)	78.6 (73.2)	78.7 (73.3)	78.8 (73.4)
79.3 (73.9)	79.4 (73.9)	79.5 (74.0)	79.6 (74.1)
80.1 (74.6)	80.2 (74.7)	80.3 (74.8)	80.4 (74.9)
80.5 (75.0)	81.0 (75.4)	81.1 (75.5)	81.2 (75.6)
81.3 (75.7)	81.8 (76.2)	81.9 (76.3)	82.0 (76.4)
82.1 (76.5)	82.6 (76.9)	82.7 (77.0)	82.8 (77.1)
82.9 (77.2)	83.5 (77.8)	83.6 (77.9)	83.7 (78.0)
83.8 (78.0)	84.3 (78.5)	84.4 (78.6)	84.5 (78.7)
84.6 (78.8)	85.1 (79.3)	85.2 (79.3)	85.3 (79.4)
85.4 (79.5)	85.9 (80.0)	86.0 (80.1)	86.1 (80.2)
86.2 (80.3)	86.8 (80.8)	86.9 (80.9)	87.0 (81.0)
87.1 (81.1)	87.6 (81.6)	87.7 (81.7)	87.8 (81.8)
87.9 (81.9)	88.4 (82.3)	88.5 (82.4)	88.6 (82.5)
88.7 (82.6)	89.2 (83.1)	89.3 (83.2)	89.4 (83.3)
89.5 (83.4)	90.1 (83.9)	90.2 (84.0)	90.3 (84.1)
90.4 (84.2)	90.9 (84.7)	91.0 (84.8)	91.1 (84.8)
91.2 (84.9)	91.7 (85.4)	91.8 (85.5)	91.9 (85.6)
92.0 (85.7)	92.5 (86.1)	92.6 (86.2)	92.7 (86.3)
92.8 (86.4)	93.4 (87.0)	93.5 (87.1)	93.6 (87.2)
93.7 (87.3)	94.2 (87.7)	94.3 (87.8)	94.4 (87.9)
94.5 (88.0)	95.0 (88.5)	95.1 (88.6)	95.2 (88.7)
95.3 (88.8)	95.8 (89.2)	95.9 (89.3)	96.0 (89.4)
96.1 (89.5)	96.2 (89.6)	96.7 (90.1)	96.8 (90.2)
96.9 (90.2)	97.0 (90.3)	97.5 (90.8)	97.6 (90.9)
97.7 (91.0)	97.8 (91.1)	98.3 (91.5)	98.4 (91.6)
98.5 (91.7)	98.6 (91.8)	99.1 (92.3)	99.2 (92.4)
99.3 (92.5)	99.4 (92.6)	99.5 (92.7)	100.0 (93.1)
100.1 (93.2)	100.2 (93.3)	100.3 (93.4)	100.8 (93.9)
100.9 (94.0)	101.0 (94.1)	101.1 (94.2)	101.6 (94.6)
101.7 (94.7)	101.8 (94.8)	101.9 (94.9)	102.4 (95.4)
102.5 (95.5)	102.6 (95.6)	102.7 (95.6)	102.8 (95.7)
103.3 (96.2)	103.4 (96.3)	103.5 (96.4)	103.6 (96.5)
104.1 (97.0)	104.2 (97.0)	104.3 (97.1)	104.4 (97.2)
104.9 (97.7)	105.0 (97.8)	105.1 (97.9)	105.2 (98.0)
105.7 (98.4)	105.8 (98.5)	105.9 (98.6)	106.0 (98.7)

106.1 (98.8)	106.6 (99.3)	106.7 (99.4)	106.8 (99.5)
106.9 (99.6)	107.4 (100.0)	107.5 (100.1)	107.6 (100.2)
107.7 (100.3)	108.2 (100.8)	108.3 (100.9)	108.4 (101.0)
108.5 (101.0)	109.1 (101.6)	109.2 (101.7)	109.3 (101.8)
109.4 (101.9)	109.9 (102.4)	110.0 (102.4)	110.1 (102.5)
110.2 (102.6)	110.7 (103.1)	110.8 (103.2)	110.9 (103.3)
111.0 (103.4)	111.5 (103.8)	111.6 (103.9)	111.7 (104.0)
111.8 (104.1)	112.4 (104.7)	112.5 (104.8)	112.6 (104.9)
112.7 (105.0)	113.2 (105.4)	113.3 (105.5)	113.4 (105.6)
113.5 (105.7)	114.0 (106.2)	114.1 (106.3)	114.2 (106.4)
114.3 (106.5)	114.8 (106.9)	114.9 (107.0)	115.0 (107.1)
115.1 (107.2)	115.7 (107.8)	115.8 (107.8)	115.9 (107.9)
116.0 (108.0)	116.5 (108.5)	116.6 (108.6)	116.7 (108.7)
116.8 (108.8)	117.3 (109.2)	117.4 (109.3)	117.5 (109.4)
117.6 (109.5)	118.1 (110.0)	118.2 (110.1)	118.3 (110.2)
118.4 (110.3)	119.0 (110.8)	119.1 (110.9)	119.2 (111.0)
119.3 (111.1)	119.8 (111.6)	119.9 (111.7)	120.0 (111.8)
120.1 (111.9)	120.6 (112.3)	120.7 (112.4)	120.8 (112.5)
120.9 (112.6)	121.4 (113.1)	121.5 (113.2)	121.6 (113.2)
121.7 (113.3)	121.8 (113.4)	122.3 (113.9)	122.4 (114.0)
122.5 (114.1)	122.6 (114.2)	123.1 (114.6)	123.2 (114.7)
123.3 (114.8)	123.4 (114.9)	123.9 (115.4)	124.0 (115.5)
124.1 (115.6)	124.2 (115.7)	124.7 (116.1)	124.8 (116.2)
124.9 (116.3)	125.0 (116.4)	125.1 (116.5)	125.6 (117.0)
125.7 (117.1)	125.8 (117.2)	125.9 (117.3)	126.4 (117.7)
126.5 (117.8)	126.6 (117.9)	126.7 (118.0)	127.2 (118.5)
127.3 (118.6)	127.4 (118.7)	127.5 (118.7)	128.0 (119.2)
128.1 (119.3)	128.2 (119.4)	128.3 (119.5)	128.4 (119.6)
128.9 (120.0)	129.0 (120.1)	129.1 (120.2)	129.2 (120.3)
129.7 (120.8)	129.8 (120.9)	129.9 (121.0)	130.0 (121.1)
130.5 (121.5)	130.6 (121.6)	130.7 (121.7)	130.8 (121.8)
131.3 (122.3)	131.4 (122.4)	131.5 (122.5)	131.6 (122.6)
131.7 (122.7)	132.2 (123.1)	132.3 (123.2)	132.4 (123.3)
132.5 (123.4)	133.0 (123.9)	133.1 (124.0)	133.2 (124.1)
133.3 (124.1)	133.8 (124.6)	133.9 (124.7)	134.0 (124.8)
134.1 (124.9)	134.7 (125.4)	134.8 (125.5)	134.9 (125.6)
135.0 (125.7)	135.5 (126.2)	135.6 (126.3)	135.7 (126.4)
135.8 (126.5)	136.3 (126.9)	136.4 (127.0)	136.5 (127.1)
136.6 (127.2)	137.1 (127.7)	137.2 (127.8)	137.3 (127.9)
137.4 (128.0)	138.0 (128.5)	138.1 (128.6)	138.2 (128.7)
138.3 (128.8)	138.8 (129.3)	138.9 (129.4)	139.0 (129.5)
139.1 (129.5)	139.6 (130.0)	139.7 (130.1)	139.8 (130.2)
139.9 (130.3)	140.4 (130.8)	140.5 (130.9)	140.6 (130.9)
140.7 (131.0)	141.3 (131.6)	141.4 (131.7)	141.5 (131.8)
141.6 (131.9)	142.1 (132.3)	142.2 (132.4)	142.3 (132.5)
142.4 (132.6)	142.9 (133.1)	143.0 (133.2)	143.1 (133.3)
143.2 (133.4)	143.7 (133.8)	143.8 (133.9)	143.9 (134.0)
144.0 (134.1)	144.6 (134.7)	144.7 (134.8)	144.8 (134.9)
144.9 (134.9)	145.4 (135.4)	145.5 (135.5)	145.6 (135.6)
145.7 (135.7)	146.2 (136.2)	146.3 (136.3)	146.4 (136.3)
146.5 (136.4)	147.0 (136.9)	147.1 (137.0)	147.2 (137.1)
147.3 (137.2)	147.4 (137.3)	147.9 (137.7)	148.0 (137.8)
148.1 (137.9)	148.2 (138.0)	148.7 (138.5)	148.8 (138.6)
148.9 (138.7)	149.0 (138.8)	149.5 (139.2)	149.6 (139.3)
149.7 (139.4)	149.8 (139.5)	150.3 (140.0)	150.4 (140.1)
150.5 (140.2)	150.6 (140.3)	150.7 (140.4)	151.2 (140.8)
151.3 (140.9)	151.4 (141.0)	151.5 (141.1)	152.0 (141.6)
152.1 (141.7)	152.2 (141.7)	152.3 (141.8)	152.8 (142.3)
152.9 (142.4)	153.0 (142.5)	153.1 (142.6)	153.6 (143.1)
153.7 (143.1)	153.8 (143.2)	153.9 (143.3)	154.0 (143.4)
154.5 (143.9)	154.6 (144.0)	154.7 (144.1)	154.8 (144.2)
155.3 (144.6)	155.4 (144.7)	155.5 (144.8)	155.6 (144.9)
156.1 (145.4)	156.2 (145.5)	156.3 (145.6)	156.4 (145.7)
156.9 (146.1)	157.0 (146.2)	157.1 (146.3)	157.2 (146.4)
157.3 (146.5)	157.8 (147.0)	157.9 (147.1)	158.0 (147.1)
158.1 (147.2)	158.6 (147.7)	158.7 (147.8)	158.8 (147.9)
158.9 (148.0)	159.4 (148.5)	159.5 (148.5)	159.6 (148.6)

159.7 (148.7)	160.3 (149.3)	160.4 (149.4)	160.5 (149.5)
160.6 (149.6)	161.1 (150.0)	161.2 (150.1)	161.3 (150.2)
161.4 (150.3)	161.9 (150.8)	162.0 (150.9)	162.1 (151.0)
162.2 (151.1)	162.7 (151.5)	162.8 (151.6)	162.9 (151.7)
163.0 (151.8)	163.6 (152.4)	163.7 (152.5)	163.8 (152.6)
163.9 (152.6)	164.4 (153.1)	164.5 (153.2)	164.6 (153.3)
164.7 (153.4)	165.2 (153.9)	165.3 (153.9)	165.4 (154.0)
165.5 (154.1)	166.0 (154.6)	166.1 (154.7)	166.2 (154.8)
166.3 (154.9)	166.9 (155.4)	167.0 (155.5)	167.1 (155.6)
167.2 (155.7)	167.7 (156.2)	167.8 (156.3)	167.9 (156.4)
168.0 (156.5)	168.5 (156.9)	168.6 (157.0)	168.7 (157.1)
168.8 (157.2)	169.3 (157.7)	169.4 (157.8)	169.5 (157.9)
169.6 (158.0)	170.2 (158.5)	170.3 (158.6)	170.4 (158.7)
170.5 (158.8)	171.0 (159.3)	171.1 (159.3)	171.2 (159.4)
171.3 (159.5)	171.8 (160.0)	171.9 (160.1)	172.0 (160.2)
172.1 (160.3)	172.6 (160.7)	172.7 (160.8)	172.8 (160.9)
172.9 (161.0)	173.0 (161.1)	173.5 (161.6)	173.6 (161.7)
173.7 (161.8)	173.8 (161.9)	174.3 (162.3)	174.4 (162.4)
174.5 (162.5)	174.6 (162.6)	175.1 (163.1)	175.2 (163.2)
175.3 (163.3)	175.4 (163.4)	175.9 (163.8)	176.0 (163.9)
176.1 (164.0)	176.2 (164.1)	176.3 (164.2)	176.8 (164.7)
176.9 (164.8)	177.0 (164.8)	177.1 (164.9)	177.6 (165.4)
177.7 (165.5)	177.8 (165.6)	177.9 (165.7)	178.4 (166.1)
178.5 (166.2)	178.6 (166.3)	178.7 (166.4)	179.2 (166.9)
179.3 (167.0)	179.4 (167.1)	179.5 (167.2)	179.6 (167.3)
180.1 (167.7)	180.2 (167.8)	180.3 (167.9)	180.4 (168.0)
180.9 (168.5)	181.0 (168.6)	181.1 (168.7)	181.2 (168.8)
181.7 (169.2)	181.8 (169.3)	181.9 (169.4)	182.0 (169.5)
182.5 (170.0)	182.6 (170.1)	182.7 (170.2)	182.8 (170.2)
182.9 (170.3)	183.4 (170.8)	183.5 (170.9)	183.6 (171.0)
183.7 (171.1)	184.2 (171.5)	184.3 (171.6)	184.4 (171.7)
184.5 (171.8)	185.0 (172.3)	185.1 (172.4)	185.2 (172.5)
185.3 (172.6)	185.9 (173.1)	186.0 (173.2)	186.1 (173.3)
186.2 (173.4)	186.7 (173.9)	186.8 (174.0)	186.9 (174.1)
187.0 (174.2)	187.5 (174.6)	187.6 (174.7)	187.7 (174.8)
187.8 (174.9)	188.3 (175.4)	188.4 (175.5)	188.5 (175.6)
188.6 (175.6)	189.2 (176.2)	189.3 (176.3)	189.4 (176.4)
189.5 (176.5)	190.0 (177.0)	190.1 (177.0)	190.2 (177.1)
190.3 (177.2)	190.8 (177.7)	190.9 (177.8)	191.0 (177.9)
191.1 (178.0)	191.6 (178.4)	191.7 (178.5)	191.8 (178.6)
191.9 (178.7)	192.5 (179.3)	192.6 (179.4)	192.7 (179.5)
192.8 (179.6)	193.3 (180.0)	193.4 (180.1)	193.5 (180.2)
193.6 (180.3)	194.1 (180.8)	194.2 (180.9)	194.3 (181.0)
194.4 (181.0)	194.9 (181.5)	195.0 (181.6)	195.1 (181.7)
195.2 (181.8)	195.8 (182.4)	195.9 (182.4)	196.0 (182.5)
196.1 (182.6)	196.6 (183.1)	196.7 (183.2)	196.8 (183.3)
196.9 (183.4)	197.4 (183.8)	197.5 (183.9)	197.6 (184.0)
197.7 (184.1)	198.2 (184.6)	198.3 (184.7)	198.4 (184.8)
198.5 (184.9)	198.6 (185.0)	199.1 (185.4)	199.2 (185.5)
199.3 (185.6)	199.4 (185.7)	199.9 (186.2)	200.0 (186.3)
200.1 (186.4)	200.2 (186.5)	200.7 (186.9)	200.8 (187.0)
200.9 (187.1)	201.0 (187.2)	201.5 (187.7)	201.6 (187.8)
201.7 (187.8)	201.8 (187.9)	201.9 (188.0)	202.4 (188.5)
202.5 (188.6)	202.6 (188.7)	202.7 (188.8)	203.2 (189.2)
203.3 (189.3)	203.4 (189.4)	203.5 (189.5)	204.0 (190.0)
204.1 (190.1)	204.2 (190.2)	204.3 (190.3)	204.8 (190.7)
204.9 (190.8)	205.0 (190.9)	205.1 (191.0)	205.2 (191.1)
205.7 (191.6)	205.8 (191.7)	205.9 (191.8)	206.0 (191.9)
206.5 (192.3)	206.6 (192.4)	206.7 (192.5)	206.8 (192.6)
207.3 (193.1)	207.4 (193.2)	207.5 (193.2)	207.6 (193.3)
208.1 (193.8)	208.2 (193.9)	208.3 (194.0)	208.4 (194.1)
208.5 (194.2)	209.0 (194.6)	209.1 (194.7)	209.2 (194.8)
209.3 (194.9)	209.8 (195.4)	209.9 (195.5)	210.0 (195.6)
210.1 (195.7)	210.6 (196.1)	210.7 (196.2)	210.8 (196.3)
210.9 (196.4)	211.5 (197.0)	211.6 (197.1)	211.7 (197.2)
211.8 (197.3)	212.3 (197.7)	212.4 (197.8)	212.5 (197.9)
212.6 (198.0)	213.1 (198.5)	213.2 (198.6)	213.3 (198.7)



213.4 (198.7)	213.9 (199.2)	214.0 (199.3)	214.1 (199.4)
214.2 (199.5)	214.8 (200.0)	214.9 (200.1)	215.0 (200.2)
215.1 (200.3)	215.6 (200.8)	215.7 (200.9)	215.8 (201.0)
215.9 (201.1)	216.4 (201.5)	216.5 (201.6)	216.6 (201.7)
216.7 (201.8)	217.2 (202.3)	217.3 (202.4)	217.4 (202.5)
217.5 (202.6)	218.1 (203.1)	218.2 (203.2)	218.3 (203.3)
218.4 (203.4)	218.9 (203.9)	219.0 (204.0)	219.1 (204.1)
219.2 (204.1)	219.7 (204.6)	219.8 (204.7)	219.9 (204.8)
220.0 (204.9)	220.5 (205.4)	220.6 (205.4)	220.7 (205.5)
220.8 (205.6)	221.4 (206.2)	221.5 (206.3)	221.6 (206.4)
221.7 (206.5)	222.2 (206.9)	222.3 (207.0)	222.4 (207.1)
222.5 (207.2)	223.0 (207.7)	223.1 (207.8)	223.2 (207.9)
223.3 (208.0)	223.8 (208.4)	223.9 (208.5)	224.0 (208.6)
224.1 (208.7)	224.2 (208.8)	224.7 (209.3)	224.8 (209.4)
224.9 (209.5)	225.0 (209.5)	225.5 (210.0)	225.6 (210.1)
225.7 (210.2)	225.8 (210.3)	226.3 (210.8)	226.4 (210.9)
226.5 (210.9)	226.6 (211.0)	227.1 (211.5)	227.2 (211.6)
227.3 (211.7)	227.4 (211.8)	227.5 (211.9)	228.0 (212.3)
228.1 (212.4)	228.2 (212.5)	228.3 (212.6)	228.8 (213.1)
228.9 (213.2)	229.0 (213.3)	229.1 (213.4)	229.6 (213.8)
229.7 (213.9)	229.8 (214.0)	229.9 (214.1)	230.4 (214.6)
230.5 (214.7)	230.6 (214.8)	230.7 (214.9)	230.8 (214.9)
231.3 (215.4)	231.4 (215.5)	231.5 (215.6)	231.6 (215.7)
232.1 (216.2)	232.2 (216.3)	232.3 (216.3)	232.4 (216.4)
232.9 (216.9)	233.0 (217.0)	233.1 (217.1)	233.2 (217.2)
233.7 (217.7)	233.8 (217.7)	233.9 (217.8)	234.0 (217.9)
234.1 (218.0)	234.6 (218.5)	234.7 (218.6)	234.8 (218.7)
234.9 (218.8)	235.4 (219.2)	235.5 (219.3)	235.6 (219.4)
235.7 (219.5)	236.2 (220.0)	236.3 (220.1)	236.4 (220.2)
236.5 (220.3)	237.1 (220.8)	237.2 (220.9)	237.3 (221.0)
237.4 (221.1)	237.9 (221.6)	238.0 (221.7)	238.1 (221.7)
238.2 (221.8)	238.7 (222.3)	238.8 (222.4)	238.9 (222.5)
239.0 (222.6)	239.5 (223.1)	239.6 (223.1)	239.7 (223.2)
239.8 (223.3)	240.4 (223.9)	240.5 (224.0)	240.6 (224.1)
240.7 (224.2)	241.2 (224.6)	241.3 (224.7)	241.4 (224.8)
241.5 (224.9)	242.0 (225.4)	242.1 (225.5)	242.2 (225.6)
242.3 (225.7)	242.8 (226.1)	242.9 (226.2)	243.0 (226.3)
243.1 (226.4)	243.7 (227.0)	243.8 (227.1)	243.9 (227.1)
244.0 (227.2)	244.5 (227.7)	244.6 (227.8)	244.7 (227.9)
244.8 (228.0)	245.3 (228.5)	245.4 (228.5)	245.5 (228.6)
245.6 (228.7)	246.1 (229.2)	246.2 (229.3)	246.3 (229.4)
246.4 (229.5)	247.0 (230.0)	247.1 (230.1)	247.2 (230.2)
247.3 (230.3)	247.8 (230.8)	247.9 (230.9)	248.0 (231.0)
248.1 (231.1)	248.6 (231.5)	248.7 (231.6)	248.8 (231.7)
248.9 (231.8)	249.4 (232.3)	249.5 (232.4)	249.6 (232.5)
249.7 (232.6)	249.8 (232.6)	250.3 (233.1)	250.4 (233.2)
250.5 (233.3)	250.6 (233.4)	251.1 (233.9)	251.2 (233.9)
251.3 (234.0)	251.4 (234.1)	251.9 (234.6)	252.0 (234.7)
252.1 (234.8)	252.2 (234.9)	252.7 (235.3)	252.8 (235.4)
252.9 (235.5)	253.0 (235.6)	253.1 (235.7)	253.6 (236.2)
253.7 (236.3)	253.8 (236.4)	253.9 (236.5)	254.4 (236.9)
254.5 (237.0)	254.6 (237.1)	254.7 (237.2)	255.2 (237.7)
255.3 (237.8)	255.4 (237.9)	255.5 (238.0)	256.0 (238.4)
256.1 (238.5)	256.2 (238.6)	256.3 (238.7)	256.4 (238.8)
256.9 (239.3)	257.0 (239.3)	257.1 (239.4)	257.2 (239.5)
257.7 (240.0)	257.8 (240.1)	257.9 (240.2)	258.0 (240.3)
258.5 (240.7)	258.6 (240.8)	258.7 (240.9)	258.8 (241.0)
259.3 (241.5)	259.4 (241.6)	259.5 (241.7)	259.6 (241.8)
259.7 (241.9)	260.2 (242.3)	260.3 (242.4)	260.4 (242.5)
260.5 (242.6)	261.0 (243.1)	261.1 (243.2)	261.2 (243.3)
261.3 (243.4)	261.8 (243.8)	261.9 (243.9)	262.0 (244.0)
262.1 (244.1)	262.7 (244.7)	262.8 (244.8)	262.9 (244.8)
263.0 (244.9)	263.5 (245.4)	263.6 (245.5)	263.7 (245.6)
263.8 (245.7)	264.3 (246.1)	264.4 (246.2)	264.5 (246.3)
264.6 (246.4)	265.1 (246.9)	265.2 (247.0)	265.3 (247.1)
265.4 (247.2)	266.0 (247.7)	266.1 (247.8)	266.2 (247.9)
266.3 (248.0)	266.8 (248.5)	266.9 (248.6)	267.0 (248.7)



267.1 (248.8)	267.6 (249.2)	267.7 (249.3)	267.8 (249.4)
267.9 (249.5)	268.4 (250.0)	268.5 (250.1)	268.6 (250.2)
268.7 (250.2)	269.3 (250.8)	269.4 (250.9)	269.5 (251.0)
269.6 (251.1)	270.1 (251.6)	270.2 (251.6)	270.3 (251.7)
270.4 (251.8)	270.9 (252.3)	271.0 (252.4)	271.1 (252.5)
271.2 (252.6)	271.7 (253.0)	271.8 (253.1)	271.9 (253.2)
272.0 (253.3)	272.6 (253.9)	272.7 (254.0)	272.8 (254.1)
272.9 (254.2)	273.4 (254.6)	273.5 (254.7)	273.6 (254.8)
273.7 (254.9)	274.2 (255.4)	274.3 (255.5)	274.4 (255.6)
274.5 (255.6)	275.0 (256.1)	275.1 (256.2)	275.2 (256.3)
275.3 (256.4)	275.4 (256.5)	275.9 (257.0)	276.0 (257.0)
276.1 (257.1)	276.2 (257.2)	276.7 (257.7)	276.8 (257.8)
276.9 (257.9)	277.0 (258.0)	277.5 (258.4)	277.6 (258.5)
277.7 (258.6)	277.8 (258.7)	278.3 (259.2)	278.4 (259.3)
278.5 (259.4)	278.6 (259.5)	278.7 (259.6)	279.2 (260.0)
279.3 (260.1)	279.4 (260.2)	279.5 (260.3)	280.0 (260.8)
280.1 (260.9)	280.2 (261.0)	280.3 (261.0)	280.8 (261.5)
280.9 (261.6)	281.0 (261.7)	281.1 (261.8)	281.6 (262.3)
281.7 (262.4)	281.8 (262.4)	281.9 (262.5)	282.0 (262.6)
282.5 (263.1)	282.6 (263.2)	282.7 (263.3)	282.8 (263.4)
283.3 (263.8)	283.4 (263.9)	283.5 (264.0)	283.6 (264.1)
284.1 (264.6)	284.2 (264.7)	284.3 (264.8)	284.4 (264.9)
284.9 (265.3)	285.0 (265.4)	285.1 (265.5)	285.2 (265.6)
285.3 (265.7)	285.8 (266.2)	285.9 (266.3)	286.0 (266.4)
286.1 (266.5)	286.6 (266.9)	286.7 (267.0)	286.8 (267.1)
286.9 (267.2)	287.4 (267.7)	287.5 (267.8)	287.6 (267.8)
287.7 (267.9)	288.3 (268.5)	288.4 (268.6)	288.5 (268.7)
288.6 (268.8)	289.1 (269.2)	289.2 (269.3)	289.3 (269.4)
289.4 (269.5)	289.9 (270.0)	290.0 (270.1)	290.1 (270.2)
290.2 (270.3)	290.7 (270.7)	290.8 (270.8)	290.9 (270.9)
291.0 (271.0)	291.6 (271.6)	291.7 (271.7)	291.8 (271.8)
291.9 (271.9)	292.4 (272.3)	292.5 (272.4)	292.6 (272.5)
292.7 (272.6)	293.2 (273.1)	293.3 (273.2)	293.4 (273.3)
293.5 (273.3)	294.0 (273.8)	294.1 (273.9)	294.2 (274.0)
294.3 (274.1)	294.9 (274.6)	295.0 (274.7)	295.1 (274.8)
295.2 (274.9)	295.7 (275.4)	295.8 (275.5)	295.9 (275.6)
296.0 (275.7)	296.5 (276.1)	296.6 (276.2)	296.7 (276.3)
296.8 (276.4)	297.3 (276.9)	297.4 (277.0)	297.5 (277.1)
297.6 (277.2)	298.2 (277.7)	298.3 (277.8)	298.4 (277.9)
298.5 (278.0)	299.0 (278.5)	299.1 (278.6)	299.2 (278.7)
299.3 (278.7)	299.8 (279.2)	299.9 (279.3)	300.0 (279.4)
300.1 (279.5)	300.6 (280.0)	300.7 (280.0)	300.8 (280.1)
300.9 (280.2)	301.0 (280.3)	301.5 (280.8)	301.6 (280.9)
301.7 (281.0)	301.8 (281.1)	302.3 (281.5)	302.4 (281.6)
302.5 (281.7)	302.6 (281.8)	303.1 (282.3)	303.2 (282.4)
303.3 (282.5)	303.4 (282.6)	303.9 (283.0)	304.0 (283.1)
304.1 (283.2)	304.2 (283.3)	304.3 (283.4)	304.8 (283.9)
304.9 (284.0)	305.0 (284.1)	305.1 (284.1)	305.6 (284.6)
305.7 (284.7)	305.8 (284.8)	305.9 (284.9)	306.4 (285.4)
306.5 (285.5)	306.6 (285.5)	306.7 (285.6)	307.2 (286.1)
307.3 (286.2)	307.4 (286.3)	307.5 (286.4)	307.6 (286.5)
308.1 (286.9)	308.2 (287.0)	308.3 (287.1)	308.4 (287.2)
308.9 (287.7)	309.0 (287.8)	309.1 (287.9)	309.2 (288.0)
309.7 (288.4)	309.8 (288.5)	309.9 (288.6)	310.0 (288.7)
310.5 (289.2)	310.6 (289.3)	310.7 (289.4)	310.8 (289.5)
310.9 (289.5)	311.4 (290.0)	311.5 (290.1)	311.6 (290.2)
311.7 (290.3)	312.2 (290.8)	312.3 (290.9)	312.4 (290.9)
312.5 (291.0)	313.0 (291.5)	313.1 (291.6)	313.2 (291.7)
313.3 (291.8)	313.9 (292.3)	314.0 (292.4)	314.1 (292.5)
314.2 (292.6)	314.7 (293.1)	314.8 (293.2)	314.9 (293.3)
315.0 (293.4)	315.5 (293.8)	315.6 (293.9)	315.7 (294.0)
315.8 (294.1)	316.3 (294.6)	316.4 (294.7)	316.5 (294.8)
316.6 (294.9)	317.2 (295.4)	317.3 (295.5)	317.4 (295.6)
317.5 (295.7)	318.0 (296.2)	318.1 (296.3)	318.2 (296.3)
318.3 (296.4)	318.8 (296.9)	318.9 (297.0)	319.0 (297.1)
319.1 (297.2)	319.6 (297.7)	319.7 (297.7)	319.8 (297.8)
319.9 (297.9)	320.5 (298.5)	320.6 (298.6)	320.7 (298.7)

320.8 (298.8)	321.3 (299.2)	321.4 (299.3)	321.5 (299.4)
321.6 (299.5)	322.1 (300.0)	322.2 (300.1)	322.3 (300.2)
322.4 (300.3)	322.9 (300.7)	323.0 (300.8)	323.1 (300.9)
323.2 (301.0)	323.8 (301.6)	323.9 (301.7)	324.0 (301.7)
324.1 (301.8)	324.6 (302.3)	324.7 (302.4)	324.8 (302.5)
324.9 (302.6)	325.4 (303.1)	325.5 (303.1)	325.6 (303.2)
325.7 (303.3)	326.2 (303.8)	326.3 (303.9)	326.4 (304.0)
326.5 (304.1)	326.6 (304.2)	327.1 (304.6)	327.2 (304.7)
327.3 (304.8)	327.4 (304.9)	327.9 (305.4)	328.0 (305.5)
328.1 (305.6)	328.2 (305.7)	328.7 (306.1)	328.8 (306.2)
328.9 (306.3)	329.0 (306.4)	329.5 (306.9)	329.6 (307.0)
329.7 (307.1)	329.8 (307.2)	329.9 (307.2)	330.4 (307.7)
330.5 (307.8)	330.6 (307.9)	330.7 (308.0)	331.2 (308.5)
331.3 (308.5)	331.4 (308.6)	331.5 (308.7)	332.0 (309.2)
332.1 (309.3)	332.2 (309.4)	332.3 (309.5)	332.8 (309.9)
332.9 (310.0)	333.0 (310.1)	333.1 (310.2)	333.2 (310.3)
333.7 (310.8)	333.8 (310.9)	333.9 (311.0)	334.0 (311.1)
334.5 (311.5)	334.6 (311.6)	334.7 (311.7)	334.8 (311.8)
335.3 (312.3)	335.4 (312.4)	335.5 (312.5)	335.6 (312.6)
336.1 (313.0)	336.2 (313.1)	336.3 (313.2)	336.4 (313.3)
336.5 (313.4)	337.0 (313.9)	337.1 (313.9)	337.2 (314.0)
337.3 (314.1)	337.8 (314.6)	337.9 (314.7)	338.0 (314.8)
338.1 (314.9)	338.6 (315.3)	338.7 (315.4)	338.8 (315.5)
338.9 (315.6)	339.5 (316.2)	339.6 (316.3)	339.7 (316.4)
339.8 (316.5)	340.3 (316.9)	340.4 (317.0)	340.5 (317.1)
340.6 (317.2)	341.1 (317.7)	341.2 (317.8)	341.3 (317.9)
341.4 (318.0)	341.9 (318.4)	342.0 (318.5)	342.1 (318.6)
342.2 (318.7)	342.8 (319.3)	342.9 (319.4)	343.0 (319.4)
343.1 (319.5)	343.6 (320.0)	343.7 (320.1)	343.8 (320.2)
343.9 (320.3)	344.4 (320.7)	344.5 (320.8)	344.6 (320.9)
344.7 (321.0)	345.2 (321.5)	345.3 (321.6)	345.4 (321.7)
345.5 (321.8)	346.1 (322.3)	346.2 (322.4)	346.3 (322.5)
346.4 (322.6)	346.9 (323.1)	347.0 (323.2)	347.1 (323.3)
347.2 (323.4)	347.7 (323.8)	347.8 (323.9)	347.9 (324.0)
348.0 (324.1)	348.5 (324.6)	348.6 (324.7)	348.7 (324.8)
348.8 (324.8)	349.4 (325.4)	349.5 (325.5)	349.6 (325.6)
349.7 (325.7)	350.2 (326.1)	350.3 (326.2)	350.4 (326.3)
350.5 (326.4)	351.0 (326.9)	351.1 (327.0)	351.2 (327.1)
351.3 (327.2)	351.8 (327.6)	351.9 (327.7)	352.0 (327.8)
352.1 (327.9)	352.2 (328.0)	352.7 (328.5)	352.8 (328.6)
352.9 (328.7)	353.0 (328.8)	353.5 (329.2)	353.6 (329.3)
353.7 (329.4)	353.8 (329.5)	354.3 (330.0)	354.4 (330.1)
354.5 (330.2)	354.6 (330.2)	355.1 (330.7)	355.2 (330.8)
355.3 (330.9)	355.4 (331.0)	355.5 (331.1)	356.0 (331.6)
356.1 (331.6)	356.2 (331.7)	356.3 (331.8)	356.8 (332.3)
356.9 (332.4)	357.0 (332.5)	357.1 (332.6)	357.6 (333.0)
357.7 (333.1)	357.8 (333.2)	357.9 (333.3)	358.4 (333.8)
358.5 (333.9)	358.6 (334.0)	358.7 (334.1)	358.8 (334.2)
359.3 (334.6)	359.4 (334.7)	359.5 (334.8)	359.6 (334.9)
360.1 (335.4)	360.2 (335.5)	360.3 (335.6)	360.4 (335.6)
360.9 (336.1)	361.0 (336.2)	361.1 (336.3)	361.2 (336.4)
361.7 (336.9)	361.8 (337.0)	361.9 (337.0)	362.0 (337.1)
362.1 (337.2)	362.6 (337.7)	362.7 (337.8)	362.8 (337.9)
362.9 (338.0)	363.4 (338.4)	363.5 (338.5)	363.6 (338.6)
363.7 (338.7)	364.2 (339.2)	364.3 (339.3)	364.4 (339.4)
364.5 (339.5)	365.1 (340.0)	365.2 (340.1)	365.3 (340.2)
365.4 (340.3)	365.9 (340.8)	366.0 (340.9)	366.1 (341.0)
366.2 (341.1)	366.7 (341.5)	366.8 (341.6)	366.9 (341.7)
367.0 (341.8)	367.5 (342.3)	367.6 (342.4)	367.7 (342.4)
367.8 (342.5)	368.4 (343.1)	368.5 (343.2)	368.6 (343.3)
368.7 (343.4)	369.2 (343.8)	369.3 (343.9)	369.4 (344.0)
369.5 (344.1)	370.0 (344.6)	370.1 (344.7)	370.2 (344.8)
370.3 (344.9)	370.8 (345.3)	370.9 (345.4)	371.0 (345.5)
371.1 (345.6)	371.7 (346.2)	371.8 (346.3)	371.9 (346.4)
372.0 (346.5)	372.5 (346.9)	372.6 (347.0)	372.7 (347.1)
372.8 (347.2)	373.3 (347.7)	373.4 (347.8)	373.5 (347.8)
373.6 (347.9)	374.1 (348.4)	374.2 (348.5)	374.3 (348.6)

374.4 (348.7)	375.0 (349.2)	375.1 (349.3)	375.2 (349.4)
375.3 (349.5)	375.8 (350.0)	375.9 (350.1)	376.0 (350.2)
376.1 (350.3)	376.6 (350.7)	376.7 (350.8)	376.8 (350.9)
376.9 (351.0)	377.4 (351.5)	377.5 (351.6)	377.6 (351.7)
377.7 (351.8)	377.8 (351.9)	378.3 (352.3)	378.4 (352.4)
378.5 (352.5)	378.6 (352.6)	379.1 (353.1)	379.2 (353.2)
379.3 (353.3)	379.4 (353.3)	379.9 (353.8)	380.0 (353.9)
380.1 (354.0)	380.2 (354.1)	380.7 (354.6)	380.8 (354.6)
380.9 (354.7)	381.0 (354.8)	381.1 (354.9)	381.6 (355.4)
381.7 (355.5)	381.8 (355.6)	381.9 (355.7)	382.4 (356.1)
382.5 (356.2)	382.6 (356.3)	382.7 (356.4)	383.2 (356.9)
383.3 (357.0)	383.4 (357.1)	383.5 (357.2)	384.0 (357.6)
384.1 (357.7)	384.2 (357.8)	384.3 (357.9)	384.4 (358.0)
384.9 (358.5)	385.0 (358.6)	385.1 (358.7)	385.2 (358.7)
385.7 (359.2)	385.8 (359.3)	385.9 (359.4)	386.0 (359.5)
386.5 (360.0)	386.6 (360.0)	386.7 (360.1)	386.8 (360.2)
387.3 (360.7)	387.4 (360.8)	387.5 (360.9)	387.6 (361.0)
387.7 (361.1)	388.2 (361.5)	388.3 (361.6)	388.4 (361.7)
388.5 (361.8)	389.0 (362.3)	389.1 (362.4)	389.2 (362.5)
389.3 (362.6)	389.8 (363.0)	389.9 (363.1)	390.0 (363.2)
390.1 (363.3)	390.7 (363.9)	390.8 (364.0)	390.9 (364.1)
391.0 (364.1)	391.5 (364.6)	391.6 (364.7)	391.7 (364.8)
391.8 (364.9)	392.3 (365.4)	392.4 (365.5)	392.5 (365.5)
392.6 (365.6)	393.1 (366.1)	393.2 (366.2)	393.3 (366.3)
393.4 (366.4)	394.0 (366.9)	394.1 (367.0)	394.2 (367.1)
394.3 (367.2)	394.8 (367.7)	394.9 (367.8)	395.0 (367.9)
395.1 (368.0)	395.6 (368.4)	395.7 (368.5)	395.8 (368.6)
395.9 (368.7)	396.4 (369.2)	396.5 (369.3)	396.6 (369.4)
396.7 (369.5)	397.3 (370.0)	397.4 (370.1)	397.5 (370.2)
397.6 (370.3)	398.1 (370.8)	398.2 (370.9)	398.3 (370.9)
398.4 (371.0)	398.9 (371.5)	399.0 (371.6)	399.1 (371.7)
399.2 (371.8)	399.7 (372.2)	399.8 (372.3)	399.9 (372.4)
400.0 (372.5)	400.6 (373.1)	400.7 (373.2)	400.8 (373.3)
400.9 (373.4)	401.4 (373.8)	401.5 (373.9)	401.6 (374.0)
401.7 (374.1)	402.2 (374.6)	402.3 (374.7)	402.4 (374.8)
402.5 (374.9)	403.0 (375.3)	403.1 (375.4)	403.2 (375.5)
403.3 (375.6)	403.4 (375.7)	403.9 (376.2)	404.0 (376.3)
404.1 (376.3)	404.2 (376.4)	404.7 (376.9)	404.8 (377.0)
404.9 (377.1)	405.0 (377.2)	405.5 (377.7)	405.6 (377.7)
405.7 (377.8)	405.8 (377.9)	406.3 (378.4)	406.4 (378.5)
406.5 (378.6)	406.6 (378.7)	406.7 (378.8)	407.2 (379.2)
407.3 (379.3)	407.4 (379.4)	407.5 (379.5)	408.0 (380.0)
408.1 (380.1)	408.2 (380.2)	408.3 (380.3)	408.8 (380.7)
408.9 (380.8)	409.0 (380.9)	409.1 (381.0)	409.6 (381.5)
409.7 (381.6)	409.8 (381.7)	409.9 (381.7)	410.0 (381.8)
410.5 (382.3)	410.6 (382.4)	410.7 (382.5)	410.8 (382.6)
411.3 (383.1)	411.4 (383.1)	411.5 (383.2)	411.6 (383.3)
412.1 (383.8)	412.2 (383.9)	412.3 (384.0)	412.4 (384.1)
412.9 (384.5)	413.0 (384.6)	413.1 (384.7)	413.2 (384.8)
413.3 (384.9)	413.8 (385.4)	413.9 (385.5)	414.0 (385.6)
414.1 (385.7)	414.6 (386.1)	414.7 (386.2)	414.8 (386.3)
414.9 (386.4)	415.4 (386.9)	415.5 (387.0)	415.6 (387.1)
415.7 (387.2)	416.3 (387.7)	416.4 (387.8)	416.5 (387.9)
416.6 (388.0)	417.1 (388.5)	417.2 (388.5)	417.3 (388.6)
417.4 (388.7)	417.9 (389.2)	418.0 (389.3)	418.1 (389.4)
418.2 (389.5)	418.7 (389.9)	418.8 (390.0)	418.9 (390.1)
419.0 (390.2)	419.6 (390.8)	419.7 (390.9)	419.8 (391.0)
419.9 (391.1)	420.4 (391.5)	420.5 (391.6)	420.6 (391.7)
420.7 (391.8)	421.2 (392.3)	421.3 (392.4)	421.4 (392.5)
421.5 (392.6)	422.0 (393.0)	422.1 (393.1)	422.2 (393.2)
422.3 (393.3)	422.9 (393.9)	423.0 (393.9)	423.1 (394.0)
423.2 (394.1)	423.7 (394.6)	423.8 (394.7)	423.9 (394.8)
424.0 (394.9)	424.5 (395.3)	424.6 (395.4)	424.7 (395.5)
424.8 (395.6)	425.3 (396.1)	425.4 (396.2)	425.5 (396.3)
425.6 (396.4)	426.2 (396.9)	426.3 (397.0)	426.4 (397.1)
426.5 (397.2)	427.0 (397.7)	427.1 (397.8)	427.2 (397.9)
427.3 (398.0)	427.8 (398.4)	427.9 (398.5)	428.0 (398.6)

428.1 (398.7)	428.6 (399.2)	428.7 (399.3)	428.8 (399.4)
428.9 (399.4)	429.0 (399.5)	429.5 (400.0)	429.6 (400.1)
429.7 (400.2)	429.8 (400.3)	430.3 (400.7)	430.4 (400.8)
430.5 (400.9)	430.6 (401.0)	431.1 (401.5)	431.2 (401.6)
431.3 (401.7)	431.4 (401.8)	431.9 (402.2)	432.0 (402.3)
432.1 (402.4)	432.2 (402.5)	432.3 (402.6)	432.8 (403.1)
432.9 (403.2)	433.0 (403.3)	433.1 (403.4)	433.6 (403.8)
433.7 (403.9)	433.8 (404.0)	433.9 (404.1)	434.4 (404.6)
434.5 (404.7)	434.6 (404.8)	434.7 (404.8)	435.2 (405.3)
435.3 (405.4)	435.4 (405.5)	435.5 (405.6)	435.6 (405.7)
436.1 (406.1)	436.2 (406.2)	436.3 (406.3)	436.4 (406.4)
436.9 (406.9)	437.0 (407.0)	437.1 (407.1)	437.2 (407.2)
437.7 (407.6)	437.8 (407.7)	437.9 (407.8)	438.0 (407.9)
438.5 (408.4)	438.6 (408.5)	438.7 (408.6)	438.8 (408.7)
438.9 (408.8)	439.4 (409.2)	439.5 (409.3)	439.6 (409.4)
439.7 (409.5)	440.2 (410.0)	440.3 (410.1)	440.4 (410.2)
440.5 (410.2)	441.0 (410.7)	441.1 (410.8)	441.2 (410.9)
441.3 (411.0)	441.9 (411.6)	442.0 (411.6)	442.1 (411.7)
442.2 (411.8)	442.7 (412.3)	442.8 (412.4)	442.9 (412.5)
443.0 (412.6)	443.5 (413.0)	443.6 (413.1)	443.7 (413.2)
443.8 (413.3)	444.3 (413.8)	444.4 (413.9)	444.5 (414.0)
444.6 (414.1)	445.2 (414.6)	445.3 (414.7)	445.4 (414.8)
445.5 (414.9)	446.0 (415.4)	446.1 (415.5)	446.2 (415.6)
446.3 (415.6)	446.8 (416.1)	446.9 (416.2)	447.0 (416.3)
447.1 (416.4)	447.6 (416.9)	447.7 (417.0)	447.8 (417.0)
447.9 (417.1)	448.5 (417.7)	448.6 (417.8)	448.7 (417.9)
448.8 (418.0)	449.3 (418.4)	449.4 (418.5)	449.5 (418.6)
449.6 (418.7)	450.1 (419.2)	450.2 (419.3)	450.3 (419.4)
450.4 (419.5)	450.9 (419.9)	451.0 (420.0)	451.1 (420.1)
451.2 (420.2)	451.8 (420.8)	451.9 (420.9)	452.0 (421.0)
452.1 (421.1)	452.6 (421.5)	452.7 (421.6)	452.8 (421.7)
452.9 (421.8)	453.4 (422.3)	453.5 (422.4)	453.6 (422.4)
453.7 (422.5)	454.2 (423.0)	454.3 (423.1)	454.4 (423.2)
454.5 (423.3)	454.6 (423.4)	455.1 (423.8)	455.2 (423.9)
455.3 (424.0)	455.4 (424.1)	455.9 (424.6)	456.0 (424.7)
456.1 (424.8)	456.2 (424.9)	456.7 (425.3)	456.8 (425.4)
456.9 (425.5)	457.0 (425.6)	457.5 (426.1)	457.6 (426.2)
457.7 (426.3)	457.8 (426.4)	457.9 (426.5)	458.4 (426.9)
458.5 (427.0)	458.6 (427.1)	458.7 (427.2)	459.2 (427.7)
459.3 (427.8)	459.4 (427.8)	459.5 (427.9)	460.0 (428.4)
460.1 (428.5)	460.2 (428.6)	460.3 (428.7)	460.8 (429.2)
460.9 (429.2)	461.0 (429.3)	461.1 (429.4)	461.2 (429.5)
461.7 (430.0)	461.8 (430.1)	461.9 (430.2)	462.0 (430.3)
462.5 (430.7)	462.6 (430.8)	462.7 (430.9)	462.8 (431.0)
463.3 (431.5)	463.4 (431.6)	463.5 (431.7)	463.6 (431.8)
464.1 (432.2)	464.2 (432.3)	464.3 (432.4)	464.4 (432.5)
464.5 (432.6)	465.0 (433.1)	465.1 (433.2)	465.2 (433.3)
465.3 (433.3)	465.8 (433.8)	465.9 (433.9)	466.0 (434.0)
466.1 (434.1)	466.6 (434.6)	466.7 (434.6)	466.8 (434.7)
466.9 (434.8)	467.5 (435.4)	467.6 (435.5)	467.7 (435.6)
467.8 (435.7)	468.3 (436.1)	468.4 (436.2)	468.5 (436.3)
468.6 (436.4)	469.1 (436.9)	469.2 (437.0)	469.3 (437.1)
469.4 (437.2)	469.9 (437.6)	470.0 (437.7)	470.1 (437.8)
470.2 (437.9)	470.8 (438.5)	470.9 (438.6)	471.0 (438.7)
471.1 (438.7)	471.6 (439.2)	471.7 (439.3)	471.8 (439.4)
471.9 (439.5)	472.4 (440.0)	472.5 (440.0)	472.6 (440.1)
472.7 (440.2)	473.2 (440.7)	473.3 (440.8)	473.4 (440.9)
473.5 (441.0)	474.1 (441.5)	474.2 (441.6)	474.3 (441.7)
474.4 (441.8)	474.9 (442.3)	475.0 (442.4)	475.1 (442.5)
475.2 (442.6)	475.7 (443.0)	475.8 (443.1)	475.9 (443.2)
476.0 (443.3)	476.5 (443.8)	476.6 (443.9)	476.7 (444.0)
476.8 (444.1)	477.4 (444.6)	477.5 (444.7)	477.6 (444.8)
477.7 (444.9)	478.2 (445.4)	478.3 (445.5)	478.4 (445.5)
478.5 (445.6)	479.0 (446.1)	479.1 (446.2)	479.2 (446.3)
479.3 (446.4)	479.8 (446.8)	479.9 (446.9)	480.0 (447.0)
480.1 (447.1)	480.2 (447.2)	480.7 (447.7)	480.8 (447.8)
480.9 (447.9)	481.0 (448.0)	481.5 (448.4)	481.6 (448.5)

481.7 (448.6)	481.8 (448.7)	482.3 (449.2)	482.4 (449.3)
482.5 (449.4)	482.6 (449.5)	483.1 (449.9)	483.2 (450.0)
483.3 (450.1)	483.4 (450.2)	483.5 (450.3)	484.0 (450.8)
484.1 (450.9)	484.2 (450.9)	484.3 (451.0)	484.8 (451.5)
484.9 (451.6)	485.0 (451.7)	485.1 (451.8)	485.6 (452.3)
485.7 (452.3)	485.8 (452.4)	485.9 (452.5)	486.4 (453.0)
486.5 (453.1)	486.6 (453.2)	486.7 (453.3)	486.8 (453.4)
487.3 (453.8)	487.4 (453.9)	487.5 (454.0)	487.6 (454.1)
488.1 (454.6)	488.2 (454.7)	488.3 (454.8)	488.4 (454.9)
488.9 (455.3)	489.0 (455.4)	489.1 (455.5)	489.2 (455.6)
489.7 (456.1)	489.8 (456.2)	489.9 (456.3)	490.0 (456.3)
490.1 (456.4)	490.6 (456.9)	490.7 (457.0)	490.8 (457.1)
490.9 (457.2)	491.4 (457.7)	491.5 (457.7)	491.6 (457.8)
491.7 (457.9)	492.2 (458.4)	492.3 (458.5)	492.4 (458.6)
492.5 (458.7)	493.1 (459.2)	493.2 (459.3)	493.3 (459.4)
493.4 (459.5)	493.9 (460.0)	494.0 (460.1)	494.1 (460.2)
494.2 (460.3)	494.7 (460.7)	494.8 (460.8)	494.9 (460.9)
495.0 (461.0)	495.5 (461.5)	495.6 (461.6)	495.7 (461.7)
495.8 (461.7)	496.4 (462.3)	496.5 (462.4)	496.6 (462.5)
496.7 (462.6)	497.2 (463.1)	497.3 (463.1)	497.4 (463.2)
497.5 (463.3)	498.0 (463.8)	498.1 (463.9)	498.2 (464.0)
498.3 (464.1)	498.8 (464.5)	498.9 (464.6)	499.0 (464.7)
499.1 (464.8)	499.7 (465.4)	499.8 (465.5)	499.9 (465.6)
500.0 (465.7)	500.5 (466.1)	500.6 (466.2)	500.7 (466.3)
500.8 (466.4)	501.3 (466.9)	501.4 (467.0)	501.5 (467.1)
501.6 (467.2)	502.1 (467.6)	502.2 (467.7)	502.3 (467.8)
502.4 (467.9)	503.0 (468.5)	503.1 (468.5)	503.2 (468.6)
503.3 (468.7)	503.8 (469.2)	503.9 (469.3)	504.0 (469.4)
504.1 (469.5)	504.6 (469.9)	504.7 (470.0)	504.8 (470.1)
504.9 (470.2)	505.4 (470.7)	505.5 (470.8)	505.6 (470.9)
505.7 (471.0)	505.8 (471.1)	506.3 (471.5)	506.4 (471.6)
506.5 (471.7)	506.6 (471.8)	507.1 (472.3)	507.2 (472.4)
507.3 (472.5)	507.4 (472.6)	507.9 (473.0)	508.0 (473.1)
508.1 (473.2)	508.2 (473.3)	508.7 (473.8)	508.8 (473.9)
508.9 (474.0)	509.0 (474.0)	509.1 (474.1)	509.6 (474.6)
509.7 (474.7)	509.8 (474.8)	509.9 (474.9)	510.4 (475.3)
510.5 (475.4)	510.6 (475.5)	510.7 (475.6)	511.2 (476.1)
511.3 (476.2)	511.4 (476.3)	511.5 (476.4)	512.0 (476.8)
512.1 (476.9)	512.2 (477.0)	512.3 (477.1)	512.4 (477.2)
512.9 (477.7)	513.0 (477.8)	513.1 (477.9)	513.2 (478.0)
513.7 (478.4)	513.8 (478.5)	513.9 (478.6)	514.0 (478.7)
514.5 (479.2)	514.6 (479.3)	514.7 (479.4)	514.8 (479.4)
515.3 (479.9)	515.4 (480.0)	515.5 (480.1)	515.6 (480.2)
515.7 (480.3)	516.2 (480.7)	516.3 (480.8)	516.4 (480.9)
516.5 (481.0)	517.0 (481.5)	517.1 (481.6)	517.2 (481.7)
517.3 (481.8)	517.8 (482.2)	517.9 (482.3)	518.0 (482.4)
518.1 (482.5)	518.7 (483.1)	518.8 (483.2)	518.9 (483.3)
519.0 (483.4)	519.5 (483.8)	519.6 (483.9)	519.7 (484.0)
519.8 (484.1)	520.3 (484.6)	520.4 (484.7)	520.5 (484.8)
520.6 (484.8)	521.1 (485.3)	521.2 (485.4)	521.3 (485.5)
521.4 (485.6)	522.0 (486.2)	522.1 (486.2)	522.2 (486.3)
522.3 (486.4)	522.8 (486.9)	522.9 (487.0)	523.0 (487.1)
523.1 (487.2)	523.6 (487.6)	523.7 (487.7)	523.8 (487.8)
523.9 (487.9)	524.4 (488.4)	524.5 (488.5)	524.6 (488.6)
524.7 (488.7)	525.3 (489.2)	525.4 (489.3)	525.5 (489.4)
525.6 (489.5)	526.1 (490.0)	526.2 (490.1)	526.3 (490.2)
526.4 (490.2)	526.9 (490.7)	527.0 (490.8)	527.1 (490.9)
527.2 (491.0)	527.7 (491.5)	527.8 (491.6)	527.9 (491.6)
528.0 (491.7)	528.6 (492.3)	528.7 (492.4)	528.8 (492.5)
528.9 (492.6)	529.4 (493.0)	529.5 (493.1)	529.6 (493.2)
529.7 (493.3)	530.2 (493.8)	530.3 (493.9)	530.4 (494.0)
530.5 (494.1)	531.0 (494.5)	531.1 (494.6)	531.2 (494.7)
531.3 (494.8)	531.4 (494.9)	531.9 (495.4)	532.0 (495.5)
532.1 (495.6)	532.2 (495.6)	532.7 (496.1)	532.8 (496.2)
532.9 (496.3)	533.0 (496.4)	533.5 (496.9)	533.6 (497.0)
533.7 (497.0)	533.8 (497.1)	534.3 (497.6)	534.4 (497.7)
534.5 (497.8)	534.6 (497.9)	534.7 (498.0)	535.2 (498.4)

535.3 (498.5)	535.4 (498.6)	535.5 (498.7)	536.0 (499.2)
536.1 (499.3)	536.2 (499.4)	536.3 (499.5)	536.8 (499.9)
536.9 (500.0)	537.0 (500.1)	537.1 (500.2)	537.6 (500.7)
537.7 (500.8)	537.8 (500.9)	537.9 (501.0)	538.0 (501.1)
538.5 (501.5)	538.6 (501.6)	538.7 (501.7)	538.8 (501.8)
539.3 (502.3)	539.4 (502.4)	539.5 (502.4)	539.6 (502.5)
540.1 (503.0)	540.2 (503.1)	540.3 (503.2)	540.4 (503.3)
540.9 (503.8)	541.0 (503.8)	541.1 (503.9)	541.2 (504.0)
541.3 (504.1)	541.8 (504.6)	541.9 (504.7)	542.0 (504.8)
542.1 (504.9)	542.6 (505.3)	542.7 (505.4)	542.8 (505.5)
542.9 (505.6)	543.4 (506.1)	543.5 (506.2)	543.6 (506.3)
543.7 (506.4)	544.3 (506.9)	544.4 (507.0)	544.5 (507.1)
544.6 (507.2)	545.1 (507.7)	545.2 (507.8)	545.3 (507.9)
545.4 (507.9)	545.9 (508.4)	546.0 (508.5)	546.1 (508.6)
546.2 (508.7)	546.7 (509.2)	546.8 (509.2)	546.9 (509.3)
547.0 (509.4)	547.6 (510.0)	547.7 (510.1)	547.8 (510.2)
547.9 (510.3)	548.4 (510.7)	548.5 (510.8)	548.6 (510.9)
548.7 (511.0)	549.2 (511.5)	549.3 (511.6)	549.4 (511.7)
549.5 (511.8)	550.0 (512.2)	550.1 (512.3)	550.2 (512.4)
550.3 (512.5)	550.9 (513.1)	551.0 (513.2)	551.1 (513.3)
551.2 (513.3)	551.7 (513.8)	551.8 (513.9)	551.9 (514.0)
552.0 (514.1)	552.5 (514.6)	552.6 (514.6)	552.7 (514.7)
552.8 (514.8)	553.3 (515.3)	553.4 (515.4)	553.5 (515.5)
553.6 (515.6)	554.2 (516.1)	554.3 (516.2)	554.4 (516.3)
554.5 (516.4)	555.0 (516.9)	555.1 (517.0)	555.2 (517.1)
555.3 (517.2)	555.8 (517.6)	555.9 (517.7)	556.0 (517.8)
556.1 (517.9)	556.6 (518.4)	556.7 (518.5)	556.8 (518.6)
556.9 (518.7)	557.0 (518.7)	557.5 (519.2)	557.6 (519.3)
557.7 (519.4)	557.8 (519.5)	558.3 (520.0)	558.4 (520.1)
558.5 (520.1)	558.6 (520.2)	559.1 (520.7)	559.2 (520.8)
559.3 (520.9)	559.4 (521.0)	559.9 (521.4)	560.0 (521.5)
560.1 (521.6)	560.2 (521.7)	560.3 (521.8)	560.8 (522.3)
560.9 (522.4)	561.0 (522.5)	561.1 (522.6)	561.6 (523.0)
561.7 (523.1)	561.8 (523.2)	561.9 (523.3)	562.4 (523.8)
562.5 (523.9)	562.6 (524.0)	562.7 (524.1)	563.2 (524.5)
563.3 (524.6)	563.4 (524.7)	563.5 (524.8)	563.6 (524.9)
564.1 (525.4)	564.2 (525.5)	564.3 (525.5)	564.4 (525.6)
564.9 (526.1)	565.0 (526.2)	565.1 (526.3)	565.2 (526.4)
565.7 (526.8)	565.8 (526.9)	565.9 (527.0)	566.0 (527.1)
566.5 (527.6)	566.6 (527.7)	566.7 (527.8)	566.8 (527.9)
566.9 (528.0)	567.4 (528.4)	567.5 (528.5)	567.6 (528.6)
567.7 (528.7)	568.2 (529.2)	568.3 (529.3)	568.4 (529.4)
568.5 (529.5)	569.0 (529.9)	569.1 (530.0)	569.2 (530.1)
569.3 (530.2)	569.9 (530.8)	570.0 (530.9)	570.1 (530.9)
570.2 (531.0)	570.7 (531.5)	570.8 (531.6)	570.9 (531.7)
571.0 (531.8)	571.5 (532.3)	571.6 (532.3)	571.7 (532.4)
571.8 (532.5)	572.3 (533.0)	572.4 (533.1)	572.5 (533.2)
572.6 (533.3)	573.2 (533.8)	573.3 (533.9)	573.4 (534.0)
573.5 (534.1)	574.0 (534.6)	574.1 (534.7)	574.2 (534.8)
574.3 (534.9)	574.8 (535.3)	574.9 (535.4)	575.0 (535.5)
575.1 (535.6)	575.6 (536.1)	575.7 (536.2)	575.8 (536.3)
575.9 (536.3)	576.5 (536.9)	576.6 (537.0)	576.7 (537.1)
576.8 (537.2)	577.3 (537.7)	577.4 (537.7)	577.5 (537.8)
577.6 (537.9)	578.1 (538.4)	578.2 (538.5)	578.3 (538.6)
578.4 (538.7)	578.9 (539.1)	579.0 (539.2)	579.1 (539.3)
579.2 (539.4)	579.8 (540.0)	579.9 (540.1)	580.0 (540.2)
580.1 (540.3)	580.6 (540.7)	580.7 (540.8)	580.8 (540.9)
580.9 (541.0)	581.4 (541.5)	581.5 (541.6)	581.6 (541.7)
581.7 (541.8)	582.2 (542.2)	582.3 (542.3)	582.4 (542.4)
582.5 (542.5)	582.6 (542.6)	583.1 (543.1)	583.2 (543.1)
583.3 (543.2)	583.4 (543.3)	583.9 (543.8)	584.0 (543.9)
584.1 (544.0)	584.2 (544.1)	584.7 (544.5)	584.8 (544.6)
584.9 (544.7)	585.0 (544.8)	585.5 (545.3)	585.6 (545.4)
585.7 (545.5)	585.8 (545.6)	585.9 (545.7)	586.4 (546.1)
586.5 (546.2)	586.6 (546.3)	586.7 (546.4)	587.2 (546.9)
587.3 (547.0)	587.4 (547.1)	587.5 (547.2)	588.0 (547.6)
588.1 (547.7)	588.2 (547.8)	588.3 (547.9)	588.8 (548.4)



588.9 (548.5)	589.0 (548.5)	589.1 (548.6)	589.2 (548.7)
589.7 (549.2)	589.8 (549.3)	589.9 (549.4)	590.0 (549.5)
590.5 (549.9)	590.6 (550.0)	590.7 (550.1)	590.8 (550.2)
591.3 (550.7)	591.4 (550.8)	591.5 (550.9)	591.6 (551.0)
592.1 (551.4)	592.2 (551.5)	592.3 (551.6)	592.4 (551.7)
592.5 (551.8)	593.0 (552.3)	593.1 (552.4)	593.2 (552.5)
593.3 (552.6)	593.8 (553.0)	593.9 (553.1)	594.0 (553.2)
594.1 (553.3)	594.6 (553.8)	594.7 (553.9)	594.8 (554.0)
594.9 (554.0)	595.5 (554.6)	595.6 (554.7)	595.7 (554.8)
595.8 (554.9)	596.3 (555.3)	596.4 (555.4)	596.5 (555.5)
596.6 (555.6)	597.1 (556.1)	597.2 (556.2)	597.3 (556.3)
597.4 (556.4)	597.9 (556.8)	598.0 (556.9)	598.1 (557.0)
598.2 (557.1)	598.8 (557.7)	598.9 (557.8)	599.0 (557.9)
599.1 (558.0)	599.6 (558.4)	599.7 (558.5)	599.8 (558.6)
599.9 (558.7)	600.4 (559.2)	600.5 (559.3)	600.6 (559.4)
600.7 (559.4)	601.2 (559.9)	601.3 (560.0)	601.4 (560.1)
601.5 (560.2)	602.1 (560.7)	602.2 (560.8)	602.3 (560.9)
602.4 (561.0)	602.9 (561.5)	603.0 (561.6)	603.1 (561.7)
603.2 (561.8)	603.7 (562.2)	603.8 (562.3)	603.9 (562.4)
604.0 (562.5)	604.5 (563.0)	604.6 (563.1)	604.7 (563.2)
604.8 (563.3)	605.4 (563.8)	605.5 (563.9)	605.6 (564.0)
605.7 (564.1)	606.2 (564.6)	606.3 (564.7)	606.4 (564.8)
606.5 (564.8)	607.0 (565.3)	607.1 (565.4)	607.2 (565.5)
607.3 (565.6)	607.8 (566.1)	607.9 (566.2)	608.0 (566.2)
608.1 (566.3)	608.2 (566.4)	608.7 (566.9)	608.8 (567.0)
608.9 (567.1)	609.0 (567.2)	609.5 (567.6)	609.6 (567.7)
609.7 (567.8)	609.8 (567.9)	610.3 (568.4)	610.4 (568.5)
610.5 (568.6)	610.6 (568.7)	611.1 (569.1)	611.2 (569.2)
611.3 (569.3)	611.4 (569.4)	611.5 (569.5)	612.0 (570.0)
612.1 (570.1)	612.2 (570.2)	612.3 (570.2)	612.8 (570.7)
612.9 (570.8)	613.0 (570.9)	613.1 (571.0)	613.6 (571.5)
613.7 (571.6)	613.8 (571.6)	613.9 (571.7)	614.4 (572.2)
614.5 (572.3)	614.6 (572.4)	614.7 (572.5)	614.8 (572.6)
615.3 (573.0)	615.4 (573.1)	615.5 (573.2)	615.6 (573.3)
616.1 (573.8)	616.2 (573.9)	616.3 (574.0)	616.4 (574.1)
616.9 (574.5)	617.0 (574.6)	617.1 (574.7)	617.2 (574.8)
617.7 (575.3)	617.8 (575.4)	617.9 (575.5)	618.0 (575.6)
618.1 (575.7)	618.6 (576.1)	618.7 (576.2)	618.8 (576.3)
618.9 (576.4)	619.4 (576.9)	619.5 (577.0)	619.6 (577.0)
619.7 (577.1)	620.2 (577.6)	620.3 (577.7)	620.4 (577.8)
620.5 (577.9)	621.1 (578.4)	621.2 (578.5)	621.3 (578.6)
621.4 (578.7)	621.9 (579.2)	622.0 (579.3)	622.1 (579.4)
622.2 (579.5)	622.7 (579.9)	622.8 (580.0)	622.9 (580.1)
623.0 (580.2)	623.5 (580.7)	623.6 (580.8)	623.7 (580.9)
623.8 (581.0)	624.4 (581.5)	624.5 (581.6)	624.6 (581.7)
624.7 (581.8)	625.2 (582.3)	625.3 (582.4)	625.4 (582.4)
625.5 (582.5)	626.0 (583.0)	626.1 (583.1)	626.2 (583.2)
626.3 (583.3)	626.8 (583.8)	626.9 (583.8)	627.0 (583.9)
627.1 (584.0)	627.7 (584.6)	627.8 (584.7)	627.9 (584.8)
628.0 (584.9)	628.5 (585.3)	628.6 (585.4)	628.7 (585.5)
628.8 (585.6)	629.3 (586.1)	629.4 (586.2)	629.5 (586.3)
629.6 (586.4)	630.1 (586.8)	630.2 (586.9)	630.3 (587.0)
630.4 (587.1)	631.0 (587.7)	631.1 (587.8)	631.2 (587.9)
631.3 (587.9)	631.8 (588.4)	631.9 (588.5)	632.0 (588.6)
632.1 (588.7)	632.6 (589.2)	632.7 (589.2)	632.8 (589.3)
632.9 (589.4)	633.4 (589.9)	633.5 (590.0)	633.6 (590.1)
633.7 (590.2)	633.8 (590.3)	634.3 (590.7)	634.4 (590.8)
634.5 (590.9)	634.6 (591.0)	635.1 (591.5)	635.2 (591.6)
635.3 (591.7)	635.4 (591.8)	635.9 (592.2)	636.0 (592.3)
636.1 (592.4)	636.2 (592.5)	636.7 (593.0)	636.8 (593.1)
636.9 (593.2)	637.0 (593.3)	637.1 (593.3)	637.6 (593.8)
637.7 (593.9)	637.8 (594.0)	637.9 (594.1)	638.4 (594.6)
638.5 (594.6)	638.6 (594.7)	638.7 (594.8)	639.2 (595.3)
639.3 (595.4)	639.4 (595.5)	639.5 (595.6)	640.0 (596.0)
640.1 (596.1)	640.2 (596.2)	640.3 (596.3)	640.4 (596.4)
640.9 (596.9)	641.0 (597.0)	641.1 (597.1)	641.2 (597.2)
641.7 (597.6)	641.8 (597.7)	641.9 (597.8)	642.0 (597.9)

642.5 (598.4)	642.6 (598.5)	642.7 (598.6)	642.8 (598.7)
643.3 (599.1)	643.4 (599.2)	643.5 (599.3)	643.6 (599.4)
643.7 (599.5)	644.2 (600.0)	644.3 (600.1)	644.4 (600.1)
644.5 (600.2)	645.0 (600.7)	645.1 (600.8)	645.2 (600.9)
645.3 (601.0)	645.8 (601.4)	645.9 (601.5)	646.0 (601.6)
646.1 (601.7)	646.7 (602.3)	646.8 (602.4)	646.9 (602.5)
647.0 (602.6)	647.5 (603.0)	647.6 (603.1)	647.7 (603.2)
647.8 (603.3)	648.3 (603.8)	648.4 (603.9)	648.5 (604.0)
648.6 (604.1)	649.1 (604.5)	649.2 (604.6)	649.3 (604.7)
649.4 (604.8)	650.0 (605.4)	650.1 (605.5)	650.2 (605.5)
650.3 (605.6)	650.8 (606.1)	650.9 (606.2)	651.0 (606.3)
651.1 (606.4)	651.6 (606.8)	651.7 (606.9)	651.8 (607.0)
651.9 (607.1)	652.4 (607.6)	652.5 (607.7)	652.6 (607.8)
652.7 (607.9)	653.3 (608.4)	653.4 (608.5)	653.5 (608.6)
653.6 (608.7)	654.1 (609.2)	654.2 (609.3)	654.3 (609.4)
654.4 (609.5)	654.9 (609.9)	655.0 (610.0)	655.1 (610.1)
655.2 (610.2)	655.7 (610.7)	655.8 (610.8)	655.9 (610.9)
656.0 (610.9)	656.6 (611.5)	656.7 (611.6)	656.8 (611.7)
656.9 (611.8)	657.4 (612.3)	657.5 (612.3)	657.6 (612.4)
657.7 (612.5)	658.2 (613.0)	658.3 (613.1)	658.4 (613.2)
658.5 (613.3)	659.0 (613.7)	659.1 (613.8)	659.2 (613.9)
659.3 (614.0)	659.4 (614.1)	659.9 (614.6)	660.0 (614.7)
660.1 (614.8)	660.2 (614.9)	660.7 (615.3)	660.8 (615.4)
660.9 (615.5)	661.0 (615.6)	661.5 (616.1)	661.6 (616.2)
661.7 (616.3)	661.8 (616.3)	662.3 (616.8)	662.4 (616.9)
662.5 (617.0)	662.6 (617.1)	662.7 (617.2)	663.2 (617.7)
663.3 (617.7)	663.4 (617.8)	663.5 (617.9)	664.0 (618.4)
664.1 (618.5)	664.2 (618.6)	664.3 (618.7)	664.8 (619.1)
664.9 (619.2)	665.0 (619.3)	665.1 (619.4)	665.6 (619.9)
665.7 (620.0)	665.8 (620.1)	665.9 (620.2)	666.0 (620.3)
666.5 (620.7)	666.6 (620.8)	666.7 (620.9)	666.8 (621.0)
667.3 (621.5)	667.4 (621.6)	667.5 (621.7)	667.6 (621.8)
668.1 (622.2)	668.2 (622.3)	668.3 (622.4)	668.4 (622.5)
668.9 (623.0)	669.0 (623.1)	669.1 (623.1)	669.2 (623.2)
669.3 (623.3)	669.8 (623.8)	669.9 (623.9)	670.0 (624.0)
670.1 (624.1)	670.6 (624.5)	670.7 (624.6)	670.8 (624.7)
670.9 (624.8)	671.4 (625.3)	671.5 (625.4)	671.6 (625.5)
671.7 (625.6)	672.3 (626.1)	672.4 (626.2)	672.5 (626.3)
672.6 (626.4)	673.1 (626.9)	673.2 (627.0)	673.3 (627.1)
673.4 (627.2)	673.9 (627.6)	674.0 (627.7)	674.1 (627.8)
674.2 (627.9)	674.7 (628.4)	674.8 (628.5)	674.9 (628.5)
675.0 (628.6)	675.6 (629.2)	675.7 (629.3)	675.8 (629.4)
675.9 (629.5)	676.4 (629.9)	676.5 (630.0)	676.6 (630.1)
676.7 (630.2)	677.2 (630.7)	677.3 (630.8)	677.4 (630.9)
677.5 (631.0)	678.0 (631.4)	678.1 (631.5)	678.2 (631.6)
678.3 (631.7)	678.9 (632.3)	679.0 (632.4)	679.1 (632.5)
679.2 (632.6)	679.7 (633.0)	679.8 (633.1)	679.9 (633.2)
680.0 (633.3)	680.5 (633.8)	680.6 (633.9)	680.7 (634.0)
680.8 (634.0)	681.3 (634.5)	681.4 (634.6)	681.5 (634.7)
681.6 (634.8)	682.2 (635.3)	682.3 (635.4)	682.4 (635.5)
682.5 (635.6)	683.0 (636.1)	683.1 (636.2)	683.2 (636.3)
683.3 (636.4)	683.8 (636.8)	683.9 (636.9)	684.0 (637.0)
684.1 (637.1)	684.6 (637.6)	684.7 (637.7)	684.8 (637.8)
684.9 (637.9)	685.0 (638.0)	685.5 (638.4)	685.6 (638.5)
685.7 (638.6)	685.8 (638.7)	686.3 (639.2)	686.4 (639.3)
686.5 (639.4)	686.6 (639.4)	687.1 (639.9)	687.2 (640.0)
687.3 (640.1)	687.4 (640.2)	687.9 (640.7)	688.0 (640.7)
688.1 (640.8)	688.2 (640.9)	688.3 (641.0)	688.8 (641.5)
688.9 (641.6)	689.0 (641.7)	689.1 (641.8)	689.6 (642.2)
689.7 (642.3)	689.8 (642.4)	689.9 (642.5)	690.4 (643.0)
690.5 (643.1)	690.6 (643.2)	690.7 (643.3)	691.2 (643.7)
691.3 (643.8)	691.4 (643.9)	691.5 (644.0)	691.6 (644.1)
692.1 (644.6)	692.2 (644.7)	692.3 (644.8)	692.4 (644.8)
692.9 (645.3)	693.0 (645.4)	693.1 (645.5)	693.2 (645.6)
693.7 (646.1)	693.8 (646.2)	693.9 (646.2)	694.0 (646.3)
694.5 (646.8)	694.6 (646.9)	694.7 (647.0)	694.8 (647.1)
694.9 (647.2)	695.4 (647.6)	695.5 (647.7)	695.6 (647.8)



695.7 (647.9)	696.2 (648.4)	696.3 (648.5)	696.4 (648.6)
696.5 (648.7)	697.0 (649.1)	697.1 (649.2)	697.2 (649.3)
697.3 (649.4)	697.9 (650.0)	698.0 (650.1)	698.1 (650.2)
698.2 (650.2)	698.7 (650.7)	698.8 (650.8)	698.9 (650.9)
699.0 (651.0)	699.5 (651.5)	699.6 (651.6)	699.7 (651.6)
699.8 (651.7)	700.3 (652.2)	700.4 (652.3)	700.5 (652.4)
700.6 (652.5)	701.2 (653.0)	701.3 (653.1)	701.4 (653.2)
701.5 (653.3)	702.0 (653.8)	702.1 (653.9)	702.2 (654.0)
702.3 (654.1)	702.8 (654.5)	702.9 (654.6)	703.0 (654.7)
703.1 (654.8)	703.6 (655.3)	703.7 (655.4)	703.8 (655.5)
703.9 (655.6)	704.5 (656.1)	704.6 (656.2)	704.7 (656.3)
704.8 (656.4)	705.3 (656.9)	705.4 (657.0)	705.5 (657.0)
705.6 (657.1)	706.1 (657.6)	706.2 (657.7)	706.3 (657.8)
706.4 (657.9)	706.9 (658.4)	707.0 (658.4)	707.1 (658.5)
707.2 (658.6)	707.8 (659.2)	707.9 (659.3)	708.0 (659.4)
708.1 (659.5)	708.6 (659.9)	708.7 (660.0)	708.8 (660.1)
708.9 (660.2)	709.4 (660.7)	709.5 (660.8)	709.6 (660.9)
709.7 (661.0)	710.2 (661.4)	710.3 (661.5)	710.4 (661.6)
710.5 (661.7)	710.6 (661.8)	711.1 (662.3)	711.2 (662.4)
711.3 (662.4)	711.4 (662.5)	711.9 (663.0)	712.0 (663.1)
712.1 (663.2)	712.2 (663.3)	712.7 (663.8)	712.8 (663.8)
712.9 (663.9)	713.0 (664.0)	713.5 (664.5)	713.6 (664.6)
713.7 (664.7)	713.8 (664.8)	713.9 (664.9)	714.4 (665.3)
714.5 (665.4)	714.6 (665.5)	714.7 (665.6)	715.2 (666.1)
715.3 (666.2)	715.4 (666.3)	715.5 (666.4)	716.0 (666.8)
716.1 (666.9)	716.2 (667.0)	716.3 (667.1)	716.8 (667.6)
716.9 (667.7)	717.0 (667.8)	717.1 (667.9)	717.2 (667.9)
717.7 (668.4)	717.8 (668.5)	717.9 (668.6)	718.0 (668.7)
718.5 (669.2)	718.6 (669.2)	718.7 (669.3)	718.8 (669.4)
719.3 (669.9)	719.4 (670.0)	719.5 (670.1)	719.6 (670.2)
720.1 (670.6)	720.2 (670.7)	720.3 (670.8)	720.4 (670.9)
720.5 (671.0)	721.0 (671.5)	721.1 (671.6)	721.2 (671.7)
721.3 (671.8)	721.8 (672.2)	721.9 (672.3)	722.0 (672.4)
722.1 (672.5)	722.6 (673.0)	722.7 (673.1)	722.8 (673.2)
722.9 (673.3)	723.5 (673.8)	723.6 (673.9)	723.7 (674.0)
723.8 (674.1)	724.3 (674.6)	724.4 (674.7)	724.5 (674.7)
724.6 (674.8)	725.1 (675.3)	725.2 (675.4)	725.3 (675.5)
725.4 (675.6)	725.9 (676.0)	726.0 (676.1)	726.1 (676.2)
726.2 (676.3)	726.8 (676.9)	726.9 (677.0)	727.0 (677.1)
727.1 (677.2)	727.6 (677.6)	727.7 (677.7)	727.8 (677.8)
727.9 (677.9)	728.4 (678.4)	728.5 (678.5)	728.6 (678.6)
728.7 (678.7)	729.2 (679.1)	729.3 (679.2)	729.4 (679.3)
729.5 (679.4)	730.1 (680.0)	730.2 (680.1)	730.3 (680.1)
730.4 (680.2)	730.9 (680.7)	731.0 (680.8)	731.1 (680.9)
731.2 (681.0)	731.7 (681.4)	731.8 (681.5)	731.9 (681.6)
732.0 (681.7)	732.5 (682.2)	732.6 (682.3)	732.7 (682.4)
732.8 (682.5)	733.4 (683.0)	733.5 (683.1)	733.6 (683.2)
733.7 (683.3)	734.2 (683.8)	734.3 (683.9)	734.4 (684.0)
734.5 (684.1)	735.0 (684.5)	735.1 (684.6)	735.2 (684.7)
735.3 (684.8)	735.8 (685.3)	735.9 (685.4)	736.0 (685.5)
736.1 (685.5)	736.2 (685.6)	736.7 (686.1)	736.8 (686.2)
736.9 (686.3)	737.0 (686.4)	737.5 (686.9)	737.6 (686.9)
737.7 (687.0)	737.8 (687.1)	738.3 (687.6)	738.4 (687.7)
738.5 (687.8)	738.6 (687.9)	739.1 (688.3)	739.2 (688.4)
739.3 (688.5)	739.4 (688.6)	739.5 (688.7)	740.0 (689.2)
740.1 (689.3)	740.2 (689.4)	740.3 (689.5)	740.8 (689.9)
740.9 (690.0)	741.0 (690.1)	741.1 (690.2)	741.6 (690.7)
741.7 (690.8)	741.8 (690.9)	741.9 (690.9)	742.4 (691.4)
742.5 (691.5)	742.6 (691.6)	742.7 (691.7)	742.8 (691.8)
743.3 (692.3)	743.4 (692.3)	743.5 (692.4)	743.6 (692.5)
744.1 (693.0)	744.2 (693.1)	744.3 (693.2)	744.4 (693.3)
744.9 (693.7)	745.0 (693.8)	745.1 (693.9)	745.2 (694.0)
745.7 (694.5)	745.8 (694.6)	745.9 (694.7)	746.0 (694.8)
746.1 (694.9)	746.6 (695.3)	746.7 (695.4)	746.8 (695.5)
746.9 (695.6)	747.4 (696.1)	747.5 (696.2)	747.6 (696.3)
747.7 (696.3)	748.2 (696.8)	748.3 (696.9)	748.4 (697.0)
748.5 (697.1)	749.1 (697.7)	749.2 (697.7)	749.3 (697.8)

749.4 (697.9)	749.9 (698.4)	750.0 (698.5)	750.1 (698.6)
750.2 (698.7)	750.7 (699.1)	750.8 (699.2)	750.9 (699.3)
751.0 (699.4)	751.5 (699.9)	751.6 (700.0)	751.7 (700.1)
751.8 (700.2)	752.4 (700.7)	752.5 (700.8)	752.6 (700.9)
752.7 (701.0)	753.2 (701.5)	753.3 (701.6)	753.4 (701.7)
753.5 (701.8)	754.0 (702.2)	754.1 (702.3)	754.2 (702.4)
754.3 (702.5)	754.8 (703.0)	754.9 (703.1)	755.0 (703.1)
755.1 (703.2)	755.7 (703.8)	755.8 (703.9)	755.9 (704.0)
756.0 (704.1)	756.5 (704.5)	756.6 (704.6)	756.7 (704.7)
756.8 (704.8)	757.3 (705.3)	757.4 (705.4)	757.5 (705.5)
757.6 (705.6)	758.1 (706.0)	758.2 (706.1)	758.3 (706.2)
758.4 (706.3)	759.0 (706.9)	759.1 (707.0)	759.2 (707.1)
759.3 (707.2)	759.8 (707.6)	759.9 (707.7)	760.0 (707.8)
760.1 (707.9)	760.6 (708.4)	760.7 (708.5)	760.8 (708.6)
760.9 (708.6)	761.4 (709.1)	761.5 (709.2)	761.6 (709.3)
761.7 (709.4)	761.8 (709.5)	762.3 (709.9)	762.4 (710.0)
762.5 (710.1)	762.6 (710.2)	763.1 (710.7)	763.2 (710.8)
763.3 (710.9)	763.4 (711.0)	763.9 (711.4)	764.0 (711.5)
764.1 (711.6)	764.2 (711.7)	764.7 (712.2)	764.8 (712.3)
764.9 (712.4)	765.0 (712.5)	765.1 (712.6)	765.6 (713.0)
765.7 (713.1)	765.8 (713.2)	765.9 (713.3)	766.4 (713.8)
766.5 (713.9)	766.6 (714.0)	766.7 (714.0)	767.2 (714.5)
767.3 (714.6)	767.4 (714.7)	767.5 (714.8)	768.0 (715.3)
768.1 (715.3)	768.2 (715.4)	768.3 (715.5)	768.4 (715.6)
768.9 (716.1)	769.0 (716.2)	769.1 (716.3)	769.2 (716.4)
769.7 (716.8)	769.8 (716.9)	769.9 (717.0)	770.0 (717.1)
770.5 (717.6)	770.6 (717.7)	770.7 (717.8)	770.8 (717.9)
771.3 (718.3)	771.4 (718.4)	771.5 (718.5)	771.6 (718.6)
771.7 (718.7)	772.2 (719.2)	772.3 (719.3)	772.4 (719.4)
772.5 (719.4)	773.0 (719.9)	773.1 (720.0)	773.2 (720.1)
773.3 (720.2)	773.8 (720.7)	773.9 (720.8)	774.0 (720.8)
774.1 (720.9)	774.7 (721.5)	774.8 (721.6)	774.9 (721.7)
775.0 (721.8)	775.5 (722.2)	775.6 (722.3)	775.7 (722.4)
775.8 (722.5)	776.3 (723.0)	776.4 (723.1)	776.5 (723.2)
776.6 (723.3)	777.1 (723.7)	777.2 (723.8)	777.3 (723.9)
777.4 (724.0)	778.0 (724.6)	778.1 (724.7)	778.2 (724.8)
778.3 (724.8)	778.8 (725.3)	778.9 (725.4)	779.0 (725.5)
779.1 (725.6)	779.6 (726.1)	779.7 (726.2)	779.8 (726.2)
779.9 (726.3)	780.4 (726.8)	780.5 (726.9)	780.6 (727.0)
780.7 (727.1)	781.3 (727.6)	781.4 (727.7)	781.5 (727.8)
781.6 (727.9)	782.1 (728.4)	782.2 (728.5)	782.3 (728.6)
782.4 (728.7)	782.9 (729.1)	783.0 (729.2)	783.1 (729.3)
783.2 (729.4)	783.7 (729.9)	783.8 (730.0)	783.9 (730.1)
784.0 (730.2)	784.6 (730.7)	784.7 (730.8)	784.8 (730.9)
784.9 (731.0)	785.4 (731.5)	785.5 (731.6)	785.6 (731.6)
785.7 (731.7)	786.2 (732.2)	786.3 (732.3)	786.4 (732.4)
786.5 (732.5)	787.0 (733.0)	787.1 (733.0)	787.2 (733.1)
787.3 (733.2)	787.4 (733.3)	787.9 (733.8)	788.0 (733.9)
788.1 (734.0)	788.2 (734.1)	788.7 (734.5)	788.8 (734.6)
788.9 (734.7)	789.0 (734.8)	789.5 (735.3)	789.6 (735.4)
789.7 (735.5)	789.8 (735.6)	790.3 (736.0)	790.4 (736.1)
790.5 (736.2)	790.6 (736.3)	790.7 (736.4)	791.2 (736.9)
791.3 (737.0)	791.4 (737.0)	791.5 (737.1)	792.0 (737.6)
792.1 (737.7)	792.2 (737.8)	792.3 (737.9)	792.8 (738.4)
792.9 (738.4)	793.0 (738.5)	793.1 (738.6)	793.6 (739.1)
793.7 (739.2)	793.8 (739.3)	793.9 (739.4)	794.0 (739.5)
794.5 (739.9)	794.6 (740.0)	794.7 (740.1)	794.8 (740.2)
795.3 (740.7)	795.4 (740.8)	795.5 (740.9)	795.6 (741.0)
796.1 (741.4)	796.2 (741.5)	796.3 (741.6)	796.4 (741.7)
796.9 (742.2)	797.0 (742.3)	797.1 (742.4)	797.2 (742.5)
797.3 (742.5)	797.8 (743.0)	797.9 (743.1)	798.0 (743.2)
798.1 (743.3)	798.6 (743.8)	798.7 (743.8)	798.8 (743.9)
798.9 (744.0)	799.4 (744.5)	799.5 (744.6)	799.6 (744.7)
799.7 (744.8)	800.3 (745.3)	800.4 (745.4)	800.5 (745.5)
800.6 (745.6)	801.1 (746.1)	801.2 (746.2)	801.3 (746.3)
801.4 (746.4)	801.9 (746.8)	802.0 (746.9)	802.1 (747.0)
802.2 (747.1)	802.7 (747.6)	802.8 (747.7)	802.9 (747.8)

803.0 (747.9)	803.6 (748.4)	803.7 (748.5)	803.8 (748.6)
803.9 (748.7)	804.4 (749.2)	804.5 (749.2)	804.6 (749.3)
804.7 (749.4)	805.2 (749.9)	805.3 (750.0)	805.4 (750.1)
805.5 (750.2)	806.0 (750.6)	806.1 (750.7)	806.2 (750.8)
806.3 (750.9)	806.9 (751.5)	807.0 (751.6)	807.1 (751.7)
807.2 (751.8)	807.7 (752.2)	807.8 (752.3)	807.9 (752.4)
808.0 (752.5)	808.5 (753.0)	808.6 (753.1)	808.7 (753.2)
808.8 (753.3)	809.3 (753.7)	809.4 (753.8)	809.5 (753.9)
809.6 (754.0)	810.2 (754.6)	810.3 (754.7)	810.4 (754.7)
810.5 (754.8)	811.0 (755.3)	811.1 (755.4)	811.2 (755.5)
811.3 (755.6)	811.8 (756.0)	811.9 (756.1)	812.0 (756.2)
812.1 (756.3)	812.6 (756.8)	812.7 (756.9)	812.8 (757.0)
812.9 (757.1)	813.0 (757.2)	813.5 (757.6)	813.6 (757.7)
813.7 (757.8)	813.8 (757.9)	814.3 (758.4)	814.4 (758.5)
814.5 (758.6)	814.6 (758.7)	815.1 (759.1)	815.2 (759.2)
815.3 (759.3)	815.4 (759.4)	815.9 (759.9)	816.0 (760.0)
816.1 (760.1)	816.2 (760.1)	816.3 (760.2)	816.8 (760.7)
816.9 (760.8)	817.0 (760.9)	817.1 (761.0)	817.6 (761.4)
817.7 (761.5)	817.8 (761.6)	817.9 (761.7)	818.4 (762.2)
818.5 (762.3)	818.6 (762.4)	818.7 (762.5)	819.2 (762.9)
819.3 (763.0)	819.4 (763.1)	819.5 (763.2)	819.6 (763.3)
820.1 (763.8)	820.2 (763.9)	820.3 (764.0)	820.4 (764.1)
820.9 (764.5)	821.0 (764.6)	821.1 (764.7)	821.2 (764.8)
821.7 (765.3)	821.8 (765.4)	821.9 (765.5)	822.0 (765.5)
822.5 (766.0)	822.6 (766.1)	822.7 (766.2)	822.8 (766.3)
822.9 (766.4)	823.4 (766.9)	823.5 (766.9)	823.6 (767.0)
823.7 (767.1)	824.2 (767.6)	824.3 (767.7)	824.4 (767.8)
824.5 (767.9)	825.0 (768.3)	825.1 (768.4)	825.2 (768.5)
825.3 (768.6)	825.9 (769.2)	826.0 (769.3)	826.1 (769.4)
826.2 (769.5)	826.7 (769.9)	826.8 (770.0)	826.9 (770.1)
827.0 (770.2)	827.5 (770.7)	827.6 (770.8)	827.7 (770.9)
827.8 (770.9)	828.3 (771.4)	828.4 (771.5)	828.5 (771.6)
828.6 (771.7)	829.2 (772.3)	829.3 (772.3)	829.4 (772.4)
829.5 (772.5)	830.0 (773.0)	830.1 (773.1)	830.2 (773.2)
830.3 (773.3)	830.8 (773.7)	830.9 (773.8)	831.0 (773.9)
831.1 (774.0)	831.6 (774.5)	831.7 (774.6)	831.8 (774.7)
831.9 (774.8)	832.5 (775.3)	832.6 (775.4)	832.7 (775.5)
832.8 (775.6)	833.3 (776.1)	833.4 (776.2)	833.5 (776.3)
833.6 (776.4)	834.1 (776.8)	834.2 (776.9)	834.3 (777.0)
834.4 (777.1)	834.9 (777.6)	835.0 (777.7)	835.1 (777.7)
835.2 (777.8)	835.8 (778.4)	835.9 (778.5)	836.0 (778.6)
836.1 (778.7)	836.6 (779.1)	836.7 (779.2)	836.8 (779.3)
836.9 (779.4)	837.4 (779.9)	837.5 (780.0)	837.6 (780.1)
837.7 (780.2)	838.2 (780.6)	838.3 (780.7)	838.4 (780.8)
838.5 (780.9)	838.6 (781.0)	839.1 (781.5)	839.2 (781.6)
839.3 (781.7)	839.4 (781.8)	839.9 (782.2)	840.0 (782.3)
840.1 (782.4)	840.2 (782.5)	840.7 (783.0)	840.8 (783.1)
840.9 (783.1)	841.0 (783.2)	841.5 (783.7)	841.6 (783.8)
841.7 (783.9)	841.8 (784.0)	841.9 (784.1)	842.4 (784.5)
842.5 (784.6)	842.6 (784.7)	842.7 (784.8)	843.2 (785.3)
843.3 (785.4)	843.4 (785.5)	843.5 (785.6)	844.0 (786.0)
844.1 (786.1)	844.2 (786.2)	844.3 (786.3)	844.8 (786.8)
844.9 (786.9)	845.0 (787.0)	845.1 (787.1)	845.2 (787.2)
845.7 (787.6)	845.8 (787.7)	845.9 (787.8)	846.0 (787.9)
846.5 (788.4)	846.6 (788.5)	846.7 (788.6)	846.8 (788.6)
847.3 (789.1)	847.4 (789.2)	847.5 (789.3)	847.6 (789.4)
848.1 (789.9)	848.2 (789.9)	848.3 (790.0)	848.4 (790.1)
848.5 (790.2)	849.0 (790.7)	849.1 (790.8)	849.2 (790.9)
849.3 (791.0)	849.8 (791.4)	849.9 (791.5)	850.0 (791.6)
850.1 (791.7)	850.6 (792.2)	850.7 (792.3)	850.8 (792.4)
850.9 (792.5)	851.5 (793.0)	851.6 (793.1)	851.7 (793.2)
851.8 (793.3)	852.3 (793.8)	852.4 (793.9)	852.5 (794.0)
852.6 (794.0)	853.1 (794.5)	853.2 (794.6)	853.3 (794.7)
853.4 (794.8)	853.9 (795.3)	854.0 (795.3)	854.1 (795.4)
854.2 (795.5)	854.8 (796.1)	854.9 (796.2)	855.0 (796.3)
855.1 (796.4)	855.6 (796.8)	855.7 (796.9)	855.8 (797.0)
855.9 (797.1)	856.4 (797.6)	856.5 (797.7)	856.6 (797.8)

856.7 (797.9)	857.2 (798.3)	857.3 (798.4)	857.4 (798.5)
857.5 (798.6)	858.1 (799.2)	858.2 (799.3)	858.3 (799.4)
858.4 (799.4)	858.9 (799.9)	859.0 (800.0)	859.1 (800.1)
859.2 (800.2)	859.7 (800.7)	859.8 (800.8)	859.9 (800.8)
860.0 (800.9)	860.5 (801.4)	860.6 (801.5)	860.7 (801.6)
860.8 (801.7)	861.4 (802.2)	861.5 (802.3)	861.6 (802.4)
861.7 (802.5)	862.2 (803.0)	862.3 (803.1)	862.4 (803.2)
862.5 (803.3)	863.0 (803.7)	863.1 (803.8)	863.2 (803.9)
863.3 (804.0)	863.8 (804.5)	863.9 (804.6)	864.0 (804.7)
864.1 (804.8)	864.2 (804.8)	864.7 (805.3)	864.8 (805.4)
864.9 (805.5)	865.0 (805.6)	865.5 (806.1)	865.6 (806.2)
865.7 (806.2)	865.8 (806.3)	866.3 (806.8)	866.4 (806.9)
866.5 (807.0)	866.6 (807.1)	867.1 (807.5)	867.2 (807.6)
867.3 (807.7)	867.4 (807.8)	867.5 (807.9)	868.0 (808.4)
868.1 (808.5)	868.2 (808.6)	868.3 (808.7)	868.8 (809.1)
868.9 (809.2)	869.0 (809.3)	869.1 (809.4)	869.6 (809.9)
869.7 (810.0)	869.8 (810.1)	869.9 (810.2)	870.4 (810.6)
870.5 (810.7)	870.6 (810.8)	870.7 (810.9)	870.8 (811.0)
871.3 (811.5)	871.4 (811.6)	871.5 (811.6)	871.6 (811.7)
872.1 (812.2)	872.2 (812.3)	872.3 (812.4)	872.4 (812.5)
872.9 (813.0)	873.0 (813.0)	873.1 (813.1)	873.2 (813.2)
873.7 (813.7)	873.8 (813.8)	873.9 (813.9)	874.0 (814.0)
874.1 (814.1)	874.6 (814.5)	874.7 (814.6)	874.8 (814.7)
874.9 (814.8)	875.4 (815.3)	875.5 (815.4)	875.6 (815.5)
875.7 (815.6)	876.2 (816.0)	876.3 (816.1)	876.4 (816.2)
876.5 (816.3)	877.1 (816.9)	877.2 (817.0)	877.3 (817.0)
877.4 (817.1)	877.9 (817.6)	878.0 (817.7)	878.1 (817.8)
878.2 (817.9)	878.7 (818.4)	878.8 (818.4)	878.9 (818.5)
879.0 (818.6)	879.5 (819.1)	879.6 (819.2)	879.7 (819.3)
879.8 (819.4)	880.4 (819.9)	880.5 (820.0)	880.6 (820.1)
880.7 (820.2)	881.2 (820.7)	881.3 (820.8)	881.4 (820.9)
881.5 (821.0)	882.0 (821.4)	882.1 (821.5)	882.2 (821.6)
882.3 (821.7)	882.8 (822.2)	882.9 (822.3)	883.0 (822.4)
883.1 (822.5)	883.7 (823.0)	883.8 (823.1)	883.9 (823.2)
884.0 (823.3)	884.5 (823.8)	884.6 (823.8)	884.7 (823.9)
884.8 (824.0)	885.3 (824.5)	885.4 (824.6)	885.5 (824.7)
885.6 (824.8)	886.1 (825.2)	886.2 (825.3)	886.3 (825.4)
886.4 (825.5)	887.0 (826.1)	887.1 (826.2)	887.2 (826.3)
887.3 (826.4)	887.8 (826.8)	887.9 (826.9)	888.0 (827.0)
888.1 (827.1)	888.6 (827.6)	888.7 (827.7)	888.8 (827.8)
888.9 (827.9)	889.4 (828.3)	889.5 (828.4)	889.6 (828.5)
889.7 (828.6)	889.8 (828.7)	890.3 (829.2)	890.4 (829.2)
890.5 (829.3)	890.6 (829.4)	891.1 (829.9)	891.2 (830.0)
891.3 (830.1)	891.4 (830.2)	891.9 (830.6)	892.0 (830.7)
892.1 (830.8)	892.2 (830.9)	892.7 (831.4)	892.8 (831.5)
892.9 (831.6)	893.0 (831.7)	893.1 (831.8)	893.6 (832.2)
893.7 (832.3)	893.8 (832.4)	893.9 (832.5)	894.4 (833.0)
894.5 (833.1)	894.6 (833.2)	894.7 (833.3)	895.2 (833.7)
895.3 (833.8)	895.4 (833.9)	895.5 (834.0)	896.0 (834.5)
896.1 (834.6)	896.2 (834.7)	896.3 (834.7)	896.4 (834.8)
896.9 (835.3)	897.0 (835.4)	897.1 (835.5)	897.2 (835.6)
897.7 (836.0)	897.8 (836.1)	897.9 (836.2)	898.0 (836.3)
898.5 (836.8)	898.6 (836.9)	898.7 (837.0)	898.8 (837.1)
899.3 (837.5)	899.4 (837.6)	899.5 (837.7)	899.6 (837.8)
899.7 (837.9)	900.2 (838.4)	900.3 (838.5)	900.4 (838.6)
900.5 (838.7)	901.0 (839.1)	901.1 (839.2)	901.2 (839.3)
901.3 (839.4)	901.8 (839.9)	901.9 (840.0)	902.0 (840.1)
902.1 (840.1)	902.7 (840.7)	902.8 (840.8)	902.9 (840.9)
903.0 (841.0)	903.5 (841.4)	903.6 (841.5)	903.7 (841.6)
903.8 (841.7)	904.3 (842.2)	904.4 (842.3)	904.5 (842.4)
904.6 (842.5)	905.1 (842.9)	905.2 (843.0)	905.3 (843.1)
905.4 (843.2)	906.0 (843.8)	906.1 (843.9)	906.2 (844.0)
906.3 (844.1)	906.8 (844.5)	906.9 (844.6)	907.0 (844.7)
907.1 (844.8)	907.6 (845.3)	907.7 (845.4)	907.8 (845.5)
907.9 (845.5)	908.4 (846.0)	908.5 (846.1)	908.6 (846.2)
908.7 (846.3)	909.3 (846.9)	909.4 (846.9)	909.5 (847.0)
909.6 (847.1)	910.1 (847.6)	910.2 (847.7)	910.3 (847.8)

910.4 (847.9)	910.9 (848.3)	911.0 (848.4)	911.1 (848.5)
911.2 (848.6)	911.7 (849.1)	911.8 (849.2)	911.9 (849.3)
912.0 (849.4)	912.6 (849.9)	912.7 (850.0)	912.8 (850.1)
912.9 (850.2)	913.4 (850.7)	913.5 (850.8)	913.6 (850.9)
913.7 (850.9)	914.2 (851.4)	914.3 (851.5)	914.4 (851.6)
914.5 (851.7)	915.0 (852.2)	915.1 (852.3)	915.2 (852.3)
915.3 (852.4)	915.4 (852.5)	915.9 (853.0)	916.0 (853.1)
916.1 (853.2)	916.2 (853.3)	916.7 (853.7)	916.8 (853.8)
916.9 (853.9)	917.0 (854.0)	917.5 (854.5)	917.6 (854.6)
917.7 (854.7)	917.8 (854.8)	918.3 (855.2)	918.4 (855.3)
918.5 (855.4)	918.6 (855.5)	918.7 (855.6)	919.2 (856.1)
919.3 (856.2)	919.4 (856.3)	919.5 (856.4)	920.0 (856.8)
920.1 (856.9)	920.2 (857.0)	920.3 (857.1)	920.8 (857.6)
920.9 (857.7)	921.0 (857.7)	921.1 (857.8)	921.6 (858.3)
921.7 (858.4)	921.8 (858.5)	921.9 (858.6)	922.0 (858.7)
922.5 (859.1)	922.6 (859.2)	922.7 (859.3)	922.8 (859.4)
923.3 (859.9)	923.4 (860.0)	923.5 (860.1)	923.6 (860.2)
924.1 (860.6)	924.2 (860.7)	924.3 (860.8)	924.4 (860.9)
924.9 (861.4)	925.0 (861.5)	925.1 (861.6)	925.2 (861.7)
925.3 (861.8)	925.8 (862.2)	925.9 (862.3)	926.0 (862.4)
926.1 (862.5)	926.6 (863.0)	926.7 (863.1)	926.8 (863.1)
926.9 (863.2)	927.4 (863.7)	927.5 (863.8)	927.6 (863.9)
927.7 (864.0)	928.3 (864.5)	928.4 (864.6)	928.5 (864.7)
928.6 (864.8)	929.1 (865.3)	929.2 (865.4)	929.3 (865.5)
929.4 (865.6)	929.9 (866.0)	930.0 (866.1)	930.1 (866.2)
930.2 (866.3)	930.7 (866.8)	930.8 (866.9)	930.9 (867.0)
931.0 (867.1)	931.6 (867.6)	931.7 (867.7)	931.8 (867.8)
931.9 (867.9)	932.4 (868.4)	932.5 (868.5)	932.6 (868.6)
932.7 (868.6)	933.2 (869.1)	933.3 (869.2)	933.4 (869.3)
933.5 (869.4)	934.0 (869.9)	934.1 (869.9)	934.2 (870.0)
934.3 (870.1)	934.9 (870.7)	935.0 (870.8)	935.1 (870.9)
935.2 (871.0)	935.7 (871.4)	935.8 (871.5)	935.9 (871.6)
936.0 (871.7)	936.5 (872.2)	936.6 (872.3)	936.7 (872.4)
936.8 (872.5)	937.3 (872.9)	937.4 (873.0)	937.5 (873.1)
937.6 (873.2)	938.2 (873.8)	938.3 (873.9)	938.4 (874.0)
938.5 (874.0)	939.0 (874.5)	939.1 (874.6)	939.2 (874.7)
939.3 (874.8)	939.8 (875.3)	939.9 (875.4)	940.0 (875.4)
940.1 (875.5)	940.6 (876.0)	940.7 (876.1)	940.8 (876.2)
940.9 (876.3)	941.0 (876.4)	941.5 (876.8)	941.6 (876.9)
941.7 (877.0)	941.8 (877.1)	942.3 (877.6)	942.4 (877.7)
942.5 (877.8)	942.6 (877.9)	943.1 (878.3)	943.2 (878.4)
943.3 (878.5)	943.4 (878.6)	943.9 (879.1)	944.0 (879.2)
944.1 (879.3)	944.2 (879.4)	944.3 (879.4)	944.8 (879.9)
944.9 (880.0)	945.0 (880.1)	945.1 (880.2)	945.6 (880.7)
945.7 (880.8)	945.8 (880.8)	945.9 (880.9)	946.4 (881.4)
946.5 (881.5)	946.6 (881.6)	946.7 (881.7)	947.2 (882.1)
947.3 (882.2)	947.4 (882.3)	947.5 (882.4)	947.6 (882.5)
948.1 (883.0)	948.2 (883.1)	948.3 (883.2)	948.4 (883.3)
948.9 (883.7)	949.0 (883.8)	949.1 (883.9)	949.2 (884.0)
949.7 (884.5)	949.8 (884.6)	949.9 (884.7)	950.0 (884.8)
950.5 (885.2)	950.6 (885.3)	950.7 (885.4)	950.8 (885.5)
950.9 (885.6)	951.4 (886.1)	951.5 (886.2)	951.6 (886.2)
951.7 (886.3)	952.2 (886.8)	952.3 (886.9)	952.4 (887.0)
952.5 (887.1)	953.0 (887.6)	953.1 (887.6)	953.2 (887.7)
953.3 (887.8)	953.9 (888.4)	954.0 (888.5)	954.1 (888.6)
954.2 (888.7)	954.7 (889.1)	954.8 (889.2)	954.9 (889.3)
955.0 (889.4)	955.5 (889.9)	955.6 (890.0)	955.7 (890.1)
955.8 (890.2)	956.3 (890.6)	956.4 (890.7)	956.5 (890.8)
956.6 (890.9)	957.2 (891.5)	957.3 (891.6)	957.4 (891.6)
957.5 (891.7)	958.0 (892.2)	958.1 (892.3)	958.2 (892.4)
958.3 (892.5)	958.8 (893.0)	958.9 (893.0)	959.0 (893.1)
959.1 (893.2)	959.6 (893.7)	959.7 (893.8)	959.8 (893.9)
959.9 (894.0)	960.5 (894.5)	960.6 (894.6)	960.7 (894.7)
960.8 (894.8)	961.3 (895.3)	961.4 (895.4)	961.5 (895.5)
961.6 (895.6)	962.1 (896.0)	962.2 (896.1)	962.3 (896.2)
962.4 (896.3)	962.9 (896.8)	963.0 (896.9)	963.1 (897.0)
963.2 (897.0)	963.8 (897.6)	963.9 (897.7)	964.0 (897.8)

964.1 (897.9)	964.6 (898.4)	964.7 (898.4)	964.8 (898.5)
964.9 (898.6)	965.4 (899.1)	965.5 (899.2)	965.6 (899.3)
965.7 (899.4)	966.2 (899.8)	966.3 (899.9)	966.4 (900.0)
966.5 (900.1)	966.6 (900.2)	967.1 (900.7)	967.2 (900.8)
967.3 (900.9)	967.4 (901.0)	967.9 (901.4)	968.0 (901.5)
968.1 (901.6)	968.2 (901.7)	968.7 (902.2)	968.8 (902.3)
968.9 (902.4)	969.0 (902.5)	969.5 (902.9)	969.6 (903.0)
969.7 (903.1)	969.8 (903.2)	969.9 (903.3)	970.4 (903.8)
970.5 (903.8)	970.6 (903.9)	970.7 (904.0)	971.2 (904.5)
971.3 (904.6)	971.4 (904.7)	971.5 (904.8)	972.0 (905.2)
972.1 (905.3)	972.2 (905.4)	972.3 (905.5)	972.8 (906.0)
972.9 (906.1)	973.0 (906.2)	973.1 (906.3)	973.2 (906.4)
973.7 (906.8)	973.8 (906.9)	973.9 (907.0)	974.0 (907.1)
974.5 (907.6)	974.6 (907.7)	974.7 (907.8)	974.8 (907.9)
975.3 (908.3)	975.4 (908.4)	975.5 (908.5)	975.6 (908.6)
976.1 (909.1)	976.2 (909.2)	976.3 (909.3)	976.4 (909.3)
976.5 (909.4)	977.0 (909.9)	977.1 (910.0)	977.2 (910.1)
977.3 (910.2)	977.8 (910.6)	977.9 (910.7)	978.0 (910.8)
978.1 (910.9)	978.6 (911.4)	978.7 (911.5)	978.8 (911.6)
978.9 (911.7)	979.5 (912.2)	979.6 (912.3)	979.7 (912.4)
979.8 (912.5)	980.3 (913.0)	980.4 (913.1)	980.5 (913.2)
980.6 (913.3)	981.1 (913.7)	981.2 (913.8)	981.3 (913.9)
981.4 (914.0)	981.9 (914.5)	982.0 (914.6)	982.1 (914.7)
982.2 (914.7)			

### Action

Specify a valid volume size and then resubmit the task.

---

## CMUG00125E The local storage complex cannot be removed from this configuration.

### Explanation

This configuration is maintained on the local storage complex. If you remove the local storage complex, no more configuration changes can be recorded.

### Action

Select a different storage complex to remove, or close the form.

---

## CMUG00126I The specified volume size will be rounded up to the next valid binary value: *VALUE\_0* GB.

### Explanation

Because volume sizes can be specified in either binary or decimal notation, all algorithms round volume sizes up to ensure that the volumes do not overlap. The specified volume size will be rounded up to the next valid binary volume size.

### Action

None.



---

**CMUG00127E No volume groups exist. You must create a volume group before you can continue.**

**Explanation**

You must create at least one volume group before you can add a volume to a volume group.

**Action**

Create at least one volume group, and then resubmit the task.

---

**CMUG00128E These storage images are already logically configured: *VALUE\_0*. Reconfiguring a configured storage image is not supported.**

**Explanation**

One or more configured storage images are specified. Reconfiguring a storage image that is already configured is not supported.

**Action**

Either specify storage images that are not already configured, or use the **Real-time Manager** to remove the logical configuration of the storage images and then resubmit the **Apply Configuration** task.

---

**CMUG00129E The management console server is not available.**

**Explanation**

Either the DS Storage Manager is unable to connect to the storage management console, or the storage management console is unable to connect to a storage unit. Either condition might be the result of one of the following reasons:

- The storage management console IP address is incorrect.
- A network path is not available.
- The storage management console is not online.
- The storage unit is not online.

**Action**

Ensure that the storage management console IP address is correct, that the network is functioning, that the storage management console is available, and that the storage unit is online.

---

**CMUG00130W Host information cannot be retrieved from storage complex *NICKNAME*.**

**Explanation**

The information that is displayed might be incomplete because host information cannot be retrieved from the specified storage complex.

### Action

Ensure that the storage complex is online and that a network connection is available. Then resubmit the task.

---

**CMUG00131E The specified location for adapter *ADAPTER* is already in use.**

### Explanation

The location that you specified for the adapter is already in use.

### Action

Specify an unused adapter location and then resubmit the task.

---

**CMUG00132E You must select from each combo box to fully specify the location of adapter *ADAPTER*.**

### Explanation

You must select image, rack, enclosure, and position to fully specify the location of the adapter.

### Action

Fully specify the location of the adapter and then resubmit the task.

---

**CMUG00133E The specified IP address already is assigned to a defined storage complex.**

### Explanation

Storage complex IP addresses must be unique. The specified IP address is already in use.

### Action

Specify a unique IP address or change the IP address already in use, and then resubmit the task.

---

**CMUG00134E Select only volumes that have aliases and are in the same relationship.**

### Explanation

Aliases cannot be removed because one or more of the selected volumes is not part of the same relationship or it does not have an alias.

### Action

Select only volumes that have aliases and are in the same relationship, and then resubmit the task.



---

**CMUG00135E The selected storage unit is not available.****Explanation**

The configuration cannot be applied to the selected storage unit because the storage unit is not online in a normal state.

**Action**

Ensure that the storage unit is available and then resubmit the task, or select a different storage unit.

---

**CMUG00136E The selected storage image is not available.****Explanation**

The configuration cannot be applied to the selected storage image because the storage image is not online in a normal state.

**Action**

Ensure that the storage image is available and then resubmit the task, or select a different storage image.

---

**CMUG00137E A volume group cannot contain more than 256 volumes when you specify the map 256 addressing method. Reduce the number of selected volumes.****Explanation**

You cannot select more than 256 volumes if you selected map 256 addressing as your volume group addressing method.

**Action**

Select 256 or fewer volumes, or return to the **Define volume group properties** step and select an addressing method other than **Map 256 Addressing**.

---

**CMUG00138E The specified configuration file is not the correct format. Configuration files have a .cfr file name extension.****Explanation**

To import storage units from a configuration file, configuration files must have a file name extension of .cfr (for example, conf.cfr).

**Action**

Select a .cfr file to import a storage unit configuration. If you do not have a valid configuration file (\*.cfr) contact IBM technical support for assistance.

---

**CMUG00139E** The number of base volumes in each selected logical control unit must be a whole number multiple of the number of base volumes you enter. Fractional ratios are not permitted.

**Explanation**

The number of base volumes in one or more logical control units is not a whole number multiple of the specified number of base volumes.

**Action**

Enter a number that ensures a whole number ratio and then resubmit the task.

---

**CMUG00140E** No more volumes can be created from this extent pool. No more volume addresses are available in the rank group.

**Explanation**

No more volume addresses are available in the rank group (server 0 or 1). You must select or create a different extent pool on the alternate rank group (server).

**Action**

Select or create a different extent pool on the alternate rank group (server), and then resubmit the task.

---

## Chapter 4. DS Storage Manager Copy Services messages

Copy Services related messages

These messages are issued by the DS Storage Manager.

---

**CMUS0000W This operation deletes the selected FlashCopy relationships. Click OK to delete the FlashCopy relationships. Click Cancel to cancel the operation.**

### Explanation

You are being asked to confirm that you want to delete the selected FlashCopy relationships.

### Action

Click **OK** to delete the FlashCopy relationships. Click **Cancel** to cancel the operation.

---

**CMUS0001W This operation deletes Remote Mirror and Copy relationships. Click OK to delete the Remote Mirror and Copy relationships. Click Cancel to cancel the operation.**

### Explanation

You are being asked to confirm that you want to delete the selected Remote Mirror and Copy relationships.

### Action

Click **OK** to delete the Remote Mirror and Copy relationships. Click **Cancel** to cancel the operation.

---

**CMUS0002E You must select at least one source volume to create relationships.**

### Explanation

You must select a source volume to create a relationship,

### Action

Select a source volume from the table.

---

**CMUS0003E You must select the same number of target volumes as source volumes.**

### Explanation

To create Remote Mirror and Copy relationships, each source volume must have a target volume. Fewer target volumes are selected than source volumes.

### **Action**

Select the same number of target volumes as source volumes.

---

## **CMUS00004E You must select at least one source volume to create relationships.**

### **Explanation**

To create a FlashCopy relationship, you must select a source volume.

### **Action**

Select a source volume from the table.

---

## **CMUS00005E You must select the same number of target volumes as source volumes.**

### **Explanation**

You have selected the **single source with single target** radio button from the first panel of the wizard. To create a FlashCopy relationship with this button, you must select the same number of target volumes as source volumes.

### **Action**

Select the same number of target volumes as source volumes or deselect the **single source with single target** radio button.

---

## **CMUS00006E You must select at least one target volume.**

### **Explanation**

To create a relationship, you must select at least one target volume.

### **Action**

Select at least one target volume.

---

## **CMUS00007E The target volume refresh fails.**

### **Explanation**

You are attempting to refresh the target volume of a FlashCopy relationship. The refresh fails.

### **Action**

Contact IBM technical support for assistance.

---

**CMUS00008E The FlashCopy reverse fails.****Explanation**

You are attempting to reverse the source and target volumes of a FlashCopy relationship. The reverse fails.

**Action**

Contact IBM technical support for assistance.

---

**CMUS00009E You must select a source logical subsystem.****Explanation**

To create a path, you must select a source logical subsystem.

**Action**

Select a logical subsystem from the table.

---

**CMUS00010E You must select a target logical subsystem.****Explanation**

To create a path, you must select a target logical subsystem.

**Action**

Select a logical subsystem from the table.

---

**CMUS00011E You must select the source I/O ports.****Explanation**

To create a path, you must select source storage image I/O ports.

**Action**

Select one or more I/O ports.

---

**CMUS00012E You must select the target I/O ports.****Explanation**

To create a path, you must select target storage image I/O ports.

**Action**

Select one or more I/O ports.

---

**CMUS00013W** This operation deletes paths that might be used by Remote Mirror and Copy pairs. If you continue, data transfer bandwidth might be lowered. Click **Continue** to delete the paths. Click **Cancel** to cancel the operation.

**Explanation**

You are being asked to confirm that you want to delete the selected paths.

**Action**

Click **Continue** to delete the paths. Click **Cancel** to cancel the operation.

---

**CMUS00014E** You must select a master logical subsystem for the Global Mirror relationship.

**Explanation**

To create an Global Mirror relationship, a master logical subsystem must be selected.

**Action**

Select a master logical subsystem.

---

**CMUS00015W** This operation resumes the selected Global Mirror relationships. Click **OK** to resume the Global Mirror relationships. Click **Cancel** to cancel the operation.

**Explanation**

You are being asked to confirm that you want to resume the selected Global Mirror relationships.

**Action**

Click **OK** to resume the Global Mirror relationships. Click **Cancel** to cancel the operation.

---

**CMUS00016W** This operation pauses the selected Global Mirror relationships. Click **OK** to pause the Global Mirror relationships. Click **Cancel** to cancel the operation.

**Explanation**

You are being asked to confirm that you want to pause the selected Global Mirror relationships.

**Action**

Click **OK** to pause the Global Mirror relationships. Click **Cancel** to cancel the operation.

---

**CMUS00017E Unable to start Global Mirror session.****Explanation**

The graphical user interface reports an unknown error returned from the management console server. The Global Mirror session does not start.

**Action**

Contact IBM technical support for assistance.

---

**CMUS00018E Invalid session number.****Explanation**

A session number must be a two-character hexadecimal number in the range (00 - FF).

**Action**

Enter a valid two-character hexadecimal number.

---

**CMUS00019E The management console server rejects the options you selected.****Explanation**

You have selected options that should be valid, but the management console server does not accept all of the options. This might be because of one of the following reasons:

- The management console server software is not the latest version.
- The storage unit microcode is not the latest version.
- An unknown internal error has occurred.

**Action**

Ensure that the latest version of all software and microcode is installed. If the problem persists, contact IBM technical support for assistance.

---

**CMUS00020E Inhibit writes to target volume option: no valid value selected****Explanation**

No valid value is selected for the **Inhibit writes to target volume** option. You must select either **Enable all** or **Disable all**.

**Action**

Select either **Enable all** or **Disable all**, and then resubmit the task.

---

**CMUS00021E Enable change recording option: no valid value selected****Explanation**

No valid value is selected for the **Enable change recording** option. You must select either **Enable all** or **Disable all**.

**Action**

Select either **Enable all** or **Disable all**, and then resubmit the task.

---

**CMUS00022E Permit FlashCopy to occur if target volume is online for host access: no valid value selected****Explanation**

No valid value is selected for the **Permit FlashCopy to occur if target volume is online for host access** option. You must select either **Enable all** or **Disable all**.

**Action**

Select either **Enable all** or **Disable all**, and then resubmit the task.

---

**CMUS00023E Fast reverse: no valid value selected****Explanation**

No valid value is selected for the **Fast reverse** option. You must select either **Enable all** or **Disable all**.

**Action**

Select either **Enable all** or **Disable all**, and then resubmit the task.

---

**CMUS00024W This operation deletes the selected Global Mirror relationships. Click OK to delete the Global Mirror relationships. Click Cancel to cancel the operation.****Explanation**

You are being asked to confirm that you want to delete the selected Global Mirror relationships.

**Action**

Click **OK** to delete the Global Mirror relationships. Click **Cancel** to cancel the operation.



---

**CMUS00025E The relationship properties cannot be displayed. The relationship no longer exists.**

**Explanation**

The specified relationship has been removed by another user, or it was removed automatically when a background copy completed.

**Action**

Close the properties page. The relationship will disappear from the main panel. Select a different relationship, and then resubmit the task.

---

**CMUS00026E Relationships *VALUE\_0* specify volumes with incompatible sizes. These relationships will not be created.**

**Explanation**

The specified relationships will not be created because the volume sizes are not compatible. For example, the target volume might be smaller than the source volume.

**Action**

Return to the previous panel to select compatible volumes, click the **Cancel** button to cancel the operation, or click the **Finish** button to create the remaining relationships.

---

**CMUS00027W The paths you are attempting to remove are used by existing Remote Mirror and Copy pairs. All paths cannot be removed from target LSSs *VALUE\_0* while pairs exist. The Remote Mirror and Copy pairs must be removed before all paths can be removed.**

**Explanation**

You must remove any Remote Mirror and Copy pairs that use the only remaining path before you can remove the path.

**Action**

Remove any Remote Mirror and Copy pairs that use the paths, and then resubmit the task.

---

**CMUS00028E You must select at least one FlashCopy relationship.**

**Explanation**

You must select a relationship before you can initiate a background copy or commit or discard changes. No relationship is selected.

**Action**

Select a FlashCopy relationship, and then resubmit the task.

---

**CMUS00029E No source LSS is available in the selected storage image.**

**Explanation**

No source logical subsystem is available in the selected storage image. A path cannot be created without a source LSS.

**Action**

Select a storage image that has an available source logical subsystem, and then resubmit the task.

---

**CMUS00030W The selected storage unit or image is not a master (primary) for Global Mirror sessions.**

**Explanation**

You have selected a storage unit or storage image that is a subordinate (not a master) for Global Mirror sessions. This is only a warning. You can make this storage unit or storage image a master.

**Action**

You can continue, but you must make the storage unit or storage image a master.

---

**CMUS00031E Invalid logical subsystem: No paths to the subordinates exist.**

**Explanation**

A path must exist between the master and subordinate logical subsystems. No path exists.

**Action**

Select a logical subsystem with paths to the subordinates or create paths, and then resubmit the task.

---

**CMUS00032E No target LSS is available for the selected source LSS.**

**Explanation**

No target logical subsystem is available for the selected source logical subsystem. A path cannot be created without a target LSS. To create a target LSS, a port must be cabled, and the port topology must be configured using the DS command-line interface.

**Action**

Select a different source logical subsystem, or contact IBM technical support for assistance.

---

**CMUS00033E Select at least one volume.****Explanation**

At least one volume must be selected before you can create a Global Mirror relationship. No volume has been selected.

**Action**

Select at least one volume, and then resubmit the task.

---

**CMUS00034E No session numbers are available for the selected volumes.****Explanation**

No available sessions exist because all 256 possible session numbers have been used already.

**Action**

To make session numbers available, remove one or more of the storage images in the configuration by deselecting all of the volumes in that storage image.



---

## Chapter 5. DS Storage Manager console messages

Console messages

These messages are issued by the DS Storage Manager.

---

### **CMUL00000E GUI console operation error: page exception**

#### **Explanation**

The graphical user interface console reports an internal error.

#### **Action**

Ensure that the correct version of the interface software is installed. If the error persists, contact IBM technical support.

---

### **CMUL00001E GUI console operation error: renderer exception**

#### **Explanation**

The graphical user interface console reports an internal error.

#### **Action**

Ensure that the correct version of the interface software is installed. If the error persists, contact IBM technical support.

---

### **CMUL00002E GUI console operation error: trigger exception**

#### **Explanation**

The graphical user interface console reports an internal error.

#### **Action**

Ensure that the correct version of the interface software is installed. If the error persists, contact IBM technical support.

---

### **CMUL00003E GUI console operation error: request not handled**

#### **Explanation**

The graphical user interface console reports an internal error.

#### **Action**

Ensure that the correct version of the interface software is installed. If the error persists, contact IBM technical support.

---

**CMUL00004E GUI console operation error: Java runtime exception****Explanation**

The graphical user interface console reports an internal error.

**Action**

Ensure that the correct versions of the interface software and the Java runtime environment are installed. If the error persists, contact IBM technical support.

---

**CMUL00005E GUI console operation error: GUI not initialized****Explanation**

The graphical user interface console reports an internal error.

**Action**

Ensure that the correct versions of the interface software and the Java runtime environment are installed. If the error persists, contact IBM technical support.

---

**CMUL00006E GUI console operation error: GUI panel definition****Explanation**

The graphical user interface console reports an internal error.

**Action**

Ensure that the correct versions of the interface software and the Java runtime environment are installed. If the error persists, contact IBM technical support.

---

**CMUL00007E GUI console operation error: GUI panel definition****Explanation**

The graphical user interface console reports an internal error.

**Action**

Ensure that the correct versions of the interface software and the Java runtime environment are installed. If the error persists, contact IBM technical support.

---

**CMUL00008E GUI console operation error: fatal error****Explanation**

The graphical user interface console reports an internal error.

**Action**

Ensure that the correct versions of the interface software and the Java runtime environment are installed. Resubmit the task. It might be necessary to restart the application. If the error persists, contact IBM technical support.

---

**CMUL00009E Invalid value: *VALUE\_0*. Only integer values are allowed.**

**Explanation**

The specification contains a non integer value. Only integer values are allowed.

**Action**

Enter an integer value, and then resubmit the task.

---

**CMUL00010E *VALUE\_0*: All components of the IP field are required.**

**Explanation**

You must enter a complete IP address. At least one part is incomplete. Example: 127.123.456.789

**Action**

Enter a complete IP address, and then resubmit the task.

---

**CMUL00011E *VALUE\_0*: Only numbers between 0-255 are valid.**

**Explanation**

Each component of the IP address must be a number between 0 and 255. One of the values does not fall within this range.

**Action**

Enter a number between 0 and 255 in each field, and then resubmit the task.

---

**CMUL00012E *VALUE\_0* is required.**

**Explanation**

The field must contain an entry before you can continue.

**Action**

Enter a value in the field, and then resubmit the task.

---

**CMUL00013W This command has irreversible consequences. Select OK to execute the command. Select Cancel to cancel the operation.**

**Explanation**

The application is requesting confirmation that you want to run the command you issued.

**Action**

Select **OK** to run the command. Select **Cancel** to cancel the operation.

---

**CMUL00014E Supply values for all the required fields.****Explanation**

Not all of the required fields contain information.

**Action**

Enter values in all the required fields, and then resubmit the task.

---

**CMUL00015E Value too small: *VALUE\_0*. The value that you enter must be an integer greater than or equal to *VALUE\_1*.****Explanation**

The value is smaller than the minimum integer value that is permitted.

**Action**

Enter an integer value greater than or equal to the value that is displayed in the message.

---

**CMUL00016E Value too large: *VALUE\_0*. The value that you enter must be an integer smaller than or equal to *VALUE\_1*.****Explanation**

The value is larger than the maximum integer value that is permitted.

**Action**

Enter an integer value less than or equal to the value that is displayed in the message.

---

**CMUL00017E Entry too long: *VALUE\_0*. The string that you enter must be less than or equal to *VALUE\_1* characters in length.****Explanation**

The character string is longer than the maximum length that is permitted.

**Action**

Enter a character string shorter than or equal to the maximum length displayed in the message.

---

**CMUL00018E *VALUE\_0* must be between *VALUE\_1* and *VALUE\_2*.****Explanation**

The value does not fall within the allowed range.



**Action**

Enter a value within the specified range.

---

**CMUL00019E Invalid value: *VALUE\_0*****Explanation**

An integer or decimal number is required. Non numeric characters are invalid.

**Action**

Enter a numeric value, and then resubmit the task.

---

**CMUL00020E Invalid activation code format: *VALUE\_0* The code must be *VALUE\_1* groups of four-digit hexadecimal numbers, separated by hyphens.****Explanation**

The format of the specified activation code is invalid.

**Action**

Enter a correctly formatted activation code, and then resubmit the task.

---

**CMUL00021E Invalid value: *VALUE\_0*. A session number must be a hexadecimal number.****Explanation**

A session number must be a two-character hexadecimal number in the range (00 - FF).

**Action**

Enter a valid two-character hexadecimal number.

---

**CMUL00022E Invalid value: *VALUE\_0*. This number must be *VALUE\_1* digits long.****Explanation**

The entered hexadecimal number is not the correct length. For example, a session number must be a two-character hexadecimal number in the range (00 - FF). A valid session number is 01, not 1.

**Action**

Enter a valid hexadecimal number of the correct length.

---

**CMUL00023E Value too small: *VALUE\_0*. The value you enter must be greater than *VALUE\_1*.**

**Explanation**

The entered hexadecimal number is too small.

**Action**

Enter a valid hexadecimal number larger than the provided value.

---

**CMUL00024E Value too large: *VALUE\_0*. The value you enter must be smaller than *VALUE\_1*.**

**Explanation**

The entered hexadecimal number is too large.

**Action**

Enter a valid hexadecimal number smaller than the provided value.

---

**CMUL00025E Invalid value: *VALUE\_0* Only alphabetical text is permitted.**

**Explanation**

The value contains non alphabetical characters. All characters must be alphabetical (a - z, A - Z).

**Action**

Enter alphabetical text only, and then resubmit the task.

---

**CMUL00026E Unable to add storage complex. The storage complex is not online.**

**Explanation**

The storage complex must be online before it can be added to the configuration.

**Action**

Place the storage complex online, and then resubmit the task.

---

**CMUL00027E The selected storage complexes cannot be deleted.**

**Explanation**

The delete operation fails for an unknown reason.

**Action**

Resubmit the task. If the error persists, contact IBM technical support.

---

**CMUL00028E Invalid value: *VALUE\_0*. This number must be a percentage, entered as an integer between *VALUE\_1* and *VALUE\_2*.**

**Explanation**

The value must be an integer percentage. The specified value is not an integer percentage.

**Action**

Enter an integer between the provided limits, and then resubmit the task.

---

**CMUL00029E Unauthorized user**

**Explanation**

Your user account has been created, but your system administrator has not granted you access privileges.

**Action**

Contact your system administrator.



---

## Chapter 6. DS Storage Manager service messages

Service messages

These messages are issued by the DS Storage Manager.

---

**CMUR00000W** You are about to generate a test problem. A SNMP message will be triggered and a test problem will be sent to IBM via Call Home. Click Continue to create the test problem. Click Cancel to cancel the operation.

**Explanation**

You are being asked to confirm that you want to create a test problem. This problem will send an SNMP message and a Call Home message if these services have been configured.

**Action**

Click **Continue** to create the test problem. Click **Cancel** to cancel the operation.

---

**CMUR00001W** The selected hardware resource will be taken offline. Click Continue to take the hardware resource offline. Click Cancel to cancel the operation.

**Explanation**

You are being asked to confirm that you want to take the selected hardware resource offline.

**Action**

Click **Continue** to take the selected hardware resource offline. Click **Cancel** to cancel the operation.

---

**CMUR00002W** The selected hardware resource will be brought online. Click Continue to bring the hardware resource online. Click Cancel to cancel the operation.

**Explanation**

You are being asked to confirm that you want to bring the selected hardware resource online.

**Action**

Click **Continue** to bring the selected hardware resource online. Click **Cancel** to cancel the operation.

---

**CMUR00003W** You are about to close the selected log entry. This will have no effect on the associated hardware resource. Once closed, the log entry cannot be reopened. All light path indicators associated with this log entry will be extinguished. Click **Continue** to close the log entry. Click **Cancel** to cancel the operation.

**Explanation**

You are being asked to confirm that you want to manually close the log entry.

**Action**

Click **Continue** to close the log entry. Click **Cancel** to cancel the operation.

---

**CMUR00004E Invalid date entry**

**Explanation**

The date value is invalid.

- The **From** date and time cannot be greater than the **To** date and time.
- The **To** date and time cannot be less than the **From** date and time.
- The **From** and **To** dates and times cannot be greater than the current date and time.

To avoid errors, select the date and time instead of typing in values.

**Action**

Provide a valid date, and then resubmit the task.

---

**CMUR00005E Invalid time entry**

**Explanation**

The time value is invalid.

- The **From** date and time cannot be greater than the **To** date and time.
- The **To** date and time cannot be less than the **From** date and time.
- The **From** and **To** dates and times cannot be greater than the current date and time.

To avoid errors, select the date and time instead of typing in values.

**Action**

Provide a valid time, and then resubmit the task.

---

**CMUR00006W This operation ends the long running task. Click OK to end the long running task. Click Cancel to cancel the operation.**

**Explanation**

A long running task is taking place or is in an error state. If you click **OK** the task will be ended before it completes. Some processes will not finish, and you might have to perform other tasks to make affected storage space usable.

**Action**

Click **OK** to end the long running task. Click **Cancel** to cancel the operation.

---

**CMUR00007W This operation ends the selected long running tasks. Click OK to end the long running tasks. Click Cancel to cancel the operation.**

**Explanation**

Long running tasks are taking place or are in an error state. If you click **OK** the selected tasks will be ended before they complete. Some processes will not finish, and you might have to perform other tasks to make affected storage space usable.

**Action**

Click **OK** to end the long running tasks. Click **Cancel** to cancel the operation.

---

**CMUR00008W This operation deletes the selected long running task. Click OK to delete the long running task. Click Cancel to cancel the operation.**

**Explanation**

The selected long running task is in a finished, ended, or error state. If you click **OK** the selected task will be deleted.

**Action**

Click **OK** to end the long running tasks. Click **Cancel** to cancel the operation.

---

**CMUR00009E You must select either an existing storage complex or a storage unit that has not been assigned to a storage complex.**

**Explanation**

An unassigned storage complex is selected. Either an existing storage complex or an unassigned storage unit is required.

**Action**

Select either an existing storage complex or a storage unit that has not been assigned to a storage complex, and then resubmit the task.

---

**CMUR00010E The password and confirmation password do not match.**

**Explanation**

You must enter the same text for password and confirmation password to proceed. The password and confirmation password are not identical.

**Action**

Enter the same text for both the password and confirmation, and then resubmit the task.

---

**CMUR00011W User accounts will be deleted. Click OK to delete the user accounts. Click Cancel to cancel the operation.**

**Explanation**

You have chosen to delete one or more users. This message is a warning that the user accounts will be deleted if you proceed.

**Action**

Click **OK** to delete the user accounts. Click **Cancel** to cancel the operation.

---

**CMUR00012E Service data cannot be collected and sent until you provide customer contact information.**

**Explanation**

Before service data can be collected and sent, you must first provide information in the **Customer contact information** notebook. No customer contact information exists.

**Action**

Select **Customer contact...** from the action drop-down, enter the necessary information, and then resubmit the task.

---

**CMUR00013W This operation takes a long time to complete. If you proceed, you must click the Refresh button on the Status tab in order to see the latest data. Click Continue to bring the resource online. Click Cancel to cancel the operation.**

**Explanation**

You have selected a resource to bring online, but you are being warned that you are about to initiate a long running task. To view progress, you must manually click the Refresh button on the Status tab of the page, which shows the most current information.

**Action**

Click **Continue** to bring the resource online. Click **Cancel** to cancel the operation.



---

**CMUR00014E No storage unit is available. This panel cannot be used unless there is at least one storage unit online. Navigate to the Storage Unit panel to verify the status of the managed storage units before you continue.**

**Explanation**

The panel that you are attempting to use requires that at least one storage unit is online and available to the storage management console. The storage management console cannot connect to a storage unit.

**Action**

Ensure that at least one storage unit is online and that it can be detected by the storage management console. Then resubmit the task.

---

**CMUR00015E The selected resource cannot be brought online.**

**Explanation**

The task completed normally, but the selected resource is not online.

**Action**

Press the **Refresh** button on the **Status** tab to view the current state of the resource. Ensure that the resource is in a state that permits it to be brought online, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUR00016E The attempt to bring the selected resource online does not complete.**

**Explanation**

The task cannot complete because a connection does not exist or because the task times out. One of the following conditions might exist:

- Your connection to the storage management console has been interrupted.
- The storage management console is busy.
- The storage management console is not online.
- The connection from the storage management console to the storage unit has been interrupted.
- The storage unit is busy.
- The storage unit is not online.

**Action**

Return to the **Storage Complex** main page and click the **Refresh** button to determine if the storage management console is available and connected to the storage unit. Return to the **Storage Unit** main page and click the **Refresh** button to determine if the storage unit is online. If the storage management console is connected to an online storage unit, then the task might have timed out because the storage unit was busy when the task was submitted. If the storage complex is not connected or the storage unit is unavailable, return to the **Storage Complex**

main page and issue the **Attempt Connection** task from the **Action** drop-down list. Ensure that connections exist and systems are online and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUR00017E The attempt to take the selected resource offline does not complete.**

### **Explanation**

The task cannot complete because a connection does not exist or because the task times out. One of the following conditions might exist:

- Your connection to the storage management console has been interrupted.
- The storage management console is busy.
- The storage management console is not online.
- The connection from the storage management console to the storage unit has been interrupted.
- The storage unit is busy.
- The storage unit is not online.

### **Action**

Return to the **Storage Complex** main page and click the **Refresh** button to determine if the storage management console is available and connected to the storage unit. Return to the **Storage Unit** main page and click the **Refresh** button to determine if the storage unit is online. If the storage management console is connected to an online storage unit, then the task might have timed out because the storage unit was busy when the task was submitted. If the storage complex is not connected or the storage unit is unavailable, return to the **Storage Complex** main page and issue the **Attempt Connection** task from the **Action** drop-down list. Ensure that connections exist and systems are online and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUR00018I Data is being collected for the selected reports.**

### **Explanation**

Data collection for the selected reports is taking place.

### **Action**

None.

---

## **CMUR00019I Data collection will no longer occur for the unselected reports.**

### **Explanation**

You chose to remove some or all reports from gathering statistical information.

### **Action**

None.

---

**CMUR00020W** This operation takes a long time to complete. If you proceed, you must click the Refresh button on the Status tab in order to see the latest data. Click Continue to take the resource offline. Click Cancel to cancel the operation.

**Explanation**

You have selected a resource to take offline, but you are being warned that you are about to initiate a long running task. To view progress, you must manually click the Refresh button on the Status tab of the page, which shows the most current information.

**Action**

Click **Continue** to take the resource offline. Click **Cancel** to cancel the operation.



---

## Chapter 7. DS storage management console server messages

Server messages

These messages are issued by the DS storage management console server.

---

### **CMUN00000E** *SOURCE* Authentication failure

#### **Explanation**

The storage management console server reports an authentication failure. Authentication information that is provided by the client is invalid.

#### **Action**

Provide the correct user name and password, and then resubmit the task.

---

### **CMUN00001E** *SOURCE* Configuration error

#### **Explanation**

The storage management console server reports an internal error.

#### **Action**

Contact IBM technical support for assistance.

---

### **CMUN00002E** *SOURCE* Internal error

#### **Explanation**

The storage management console server reports an internal error.

#### **Action**

Contact IBM technical support for assistance.

---

### **CMUN00003E** *SOURCE* Configuration connection error

#### **Explanation**

The storage management console server reports an internal error.

#### **Action**

Contact IBM technical support for assistance.

---

### **CMUN00004E** *SOURCE* Configuration connection error

#### **Explanation**

The storage management console server reports an internal error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN00005E** *SOURCE* **Internal error****Explanation**

The storage management console server reports an internal Copy Services failure.

**Action**

Contact IBM technical support for assistance.

---

**CMUN00006E** *SOURCE* **Internal error****Explanation**

The storage management console server reports an internal error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN00007E** *SOURCE* **Mismatched Jar file****Explanation**

The storage management console server or your client software reports that one of the Java resource files is not the correct version. The client and server cannot operate correctly if their respective files are not the same version.

**Action**

Install the appropriate versions of the management console server software and client software. If the problem persists, contact IBM technical support for assistance.

---

**CMUN00008E** *SOURCE* **Invalid configuration parameter****Explanation**

The storage management console server detects an invalid or nonexistent configuration parameter. Examples include:

- A null value
- An invalid extent type
- An invalid volume type
- An invalid device type
- An incorrect storage image
- An out of range subsystem identifier

**Action**

Correctly specify all parameters, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN00009E** *SOURCE* Invalid parameter**Explanation**

The storage management console server detects an invalid or nonexistent parameter. Examples include:

- An invalid volume
- An invalid logical subsystem
- An invalid storage image

**Action**

Correctly specify all parameters, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN00010E** *SOURCE* Invalid parameter.**Explanation**

The storage management console server detects an invalid parameter. Examples include:

- A null value
- An invalid type

**Action**

Correctly specify all parameters, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN00011E** *SOURCE* Configuration query error**Explanation**

The storage management console server detects an internal error that occurs during a resource query.

**Action**

Contact IBM technical support for assistance.

---

**CMUN00012E** *SOURCE* Configuration query error**Explanation**

The storage management console server detects an internal error that occurs during a resource query.

**Action**

Contact IBM technical support for assistance.

---

**CMUN00013E** *SOURCE* **Resource not found****Explanation**

The storage management console server reports that it cannot find a resource. This might be because the resource is not configured on the console, or because it does not exist in the storage complex.

**Action**

Check the available resources and specify the correct parameters. If the problem persists, contact IBM technical support for assistance.

---

**CMUN00014E** *SOURCE* **Server error****Explanation**

The storage management console server reports an internal error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN00015E** *SOURCE* **Command execution timeout****Explanation**

The storage management console server reports that an internal timeout has occurred before the task can complete.

**Action**

Check for intermediate task results. Remove intermediate results or modify the task as necessary. Resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN00016E** *SOURCE* **Unauthorized access****Explanation**

The storage management console server reports that you are not authorized to perform this operation.

**Action**

Verify your user name and privileges. Contact your system administrator.

---

**CMUN00017E** *SOURCE* **Unauthorized****Explanation**

The storage management console server reports that you are not authorized to perform this operation.



### **Action**

Verify your user name and privileges. If your password has expired, renew your password. Contact your system administrator.

---

## **CMUN00018E** *SOURCE* **Unable to connect to the storage management console server**

### **Explanation**

Your client software cannot connect to the storage management console server. This might be because the server is not enabled, a network problem exists, or the server is refusing connections because the maximum number of clients are connected already.

### **Action**

Ensure that the storage management console is online. Ensure that you specify the storage management console IP addresses correctly. Ensure that other connections do not already exist.

---

## **CMUN00019E** *SOURCE* **Unknown configuration error**

### **Explanation**

The storage management console server detects an unknown internal error that occurs during resource configuration.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN00020E** *SOURCE* **Unknown error**

### **Explanation**

The storage management console server detects an unknown internal error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN00021E** *SOURCE* **Unknown management console server internal error**

### **Explanation**

The storage management console server reports an unknown internal error.

### **Action**

Contact IBM technical support for assistance.

---

**CMUN00022E** *SOURCE* **The specified operation is unsupported.****Explanation**

The storage management console server reports that the command that it received is unsupported. This might be because the command is invalid, because the client issuing the command is at a different software version level than the server, or because the operation is not licensed.

**Action**

Verify that you are issuing the correct command. Verify that you have installed the same versions of the storage management console server software and the client. Verify that you have installed licensed machine code that supports the operation.

---

**CMUN01000E** *SOURCE* **Operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN01001E** *SOURCE* **Operation failure: retrieving rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN01002E** *SOURCE* **Operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02000E** *SOURCE* **Query failure: This action is supported only for CKD volumes.****Explanation**

This action is supported only for count-key-data volumes.

### **Action**

Specify count-key-data volumes in a CKD logical subsystem, and then resubmit the task.

---

**CMUN02001E** *SOURCE* **Error: The logical volume has been created, but it is not assigned to an address group.**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

**CMUN02002E** *SOURCE* **Error: The logical volume has been created but it is not assigned to a logical subsystem.**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

**CMUN02003E** *SOURCE* **Error: The logical volume has been created, but it is not assigned to a volume group.**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

**CMUN02004E** *SOURCE* **Error: The logical volume has been created, but it is not assigned to an extent pool.**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

**CMUN02005E** *SOURCE* **Operation failure: already assigned****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02006E** *SOURCE* **Unable to query rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02007E** *SOURCE* **Unable to query rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02008E** *SOURCE* **Unable to query logical volume****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02009E** *SOURCE* **Unable to create array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02010E** *SOURCE* **Unable to create array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02011E** *SOURCE* **Unable to create array: internal interface communication error****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02012E** *SOURCE* **Unable to create array: The array site is not unassigned.****Explanation**

An array site is not in the **unassigned** state. The task requires a unassigned array site.

**Action**

Check the status of the specified array site. Specify an unassigned array site, and then resubmit the task. If the problem persists, contact IBM technical support for assistance

---

**CMUN02013E** *SOURCE* **Unable to create array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02014E** *SOURCE* **Cannot delete array. The array is flagged to be serviced.**

**Explanation**

The array is flagged for service. An array in this state cannot be deleted until the service intent flag is removed.

**Action**

Wait until service is completed on the array, and then resubmit the task.

---

**CMUN02015E** *SOURCE* **Unable to delete rank: The rank is still assigned.**

**Explanation**

A rank cannot be deleted while it is still in the **assigned** state.

**Action**

Unassign the rank, and then resubmit the task.

---

**CMUN02016E** *SOURCE* **Unable to delete logical subsystem: Logical volumes are assigned.**

**Explanation**

Logical volumes are assigned to the logical subsystem. The logical subsystem cannot be deleted until these volumes are deleted.

**Action**

Delete the logical volumes, and then resubmit the task.

---

**CMUN02017E** *SOURCE* **Unable to delete rank: Extents are in use.**

**Explanation**

The rank cannot be deleted because extents are still allocated from the rank.

**Action**

Unallocate all storage from the rank, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02018E** *SOURCE* **Unable to create or delete array: local server offline**

**Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02019E SOURCE Cannot exceed maximum volume group count****Explanation**

The maximum volume group count has been reached. A new volume group cannot be created.

**Action**

Remove unused volume groups, and then resubmit the task.

---

**CMUN02020E SOURCE Unable to create logical subsystem: ID already in use.****Explanation**

The logical subsystem cannot be created because the specified ID is already in use.

**Action**

Specify a different logical subsystem ID, and then resubmit the task.

---

**CMUN02021E SOURCE Unable to create logical volume: the volume number already exists.****Explanation**

The specified logical volume exists already.

**Action**

Specify a different volume number, and then resubmit the task.

---

**CMUN02022E SOURCE Unable to create array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02023E** *SOURCE* **Unable to modify logical subsystem: cannot set session timeout**

**Explanation**

The specified session timeout value is negative. Only positive values are valid.

**Action**

Specify a valid timeout value, and then resubmit the task.

---

**CMUN02024E** *SOURCE* **Unable to modify logical subsystem: invalid critical mode enabled**

**Explanation**

The specification contains an invalid value for the **critical mode enabled** parameter.

**Action**

Specify a valid value, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02025E** *SOURCE* **Unable to modify logical subsystem: invalid extended long busy enabled**

**Explanation**

The specification contains an invalid value for the **extended long busy enabled** parameter.

**Action**

Specify a valid value, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02026E** *SOURCE* **Unable to modify logical subsystem: invalid extended long busy time**

**Explanation**

The specified **extended long busy** time value is negative. Only positive values are valid.

**Action**

Specify a valid value, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.



---

**CMUN02027E** *SOURCE* **Unable to modify logical subsystem: cannot set session timeout**

**Explanation**

The specified session timeout value is negative. Only positive values are valid.

**Action**

Specify a valid timeout value, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02028E** *SOURCE* **Cannot use array sites. These sites are flagged to be serviced.**

**Explanation**

The array sites are flagged for service. An array cannot be created using these sites.

**Action**

Wait until service is completed on the array sites, and then resubmit the task.

---

**CMUN02029E** *SOURCE* **Internal error**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02030E** *SOURCE* **Unable to repair array**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02031E** *SOURCE* **Operation failure: changes are pending**

**Explanation**

The storage management console server reports a storage unit microcode-level error. The operation cannot be completed because previously stipulated changes have not yet been applied.

### **Action**

Ensure that any other tasks that you have initiated have been completed. Wait, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02032E SOURCE Unable to create logical volume**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02033E SOURCE Error: The logical volume has been deleted, but the logical subsystem deletion fails.**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02034E SOURCE Unable to repair array**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02035E SOURCE Unable to delete logical volume**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

**CMUN02036E** *SOURCE* **Unable to delete array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02037E** *SOURCE* **Unable to delete array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02038E** *SOURCE* **Unable to delete array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02039E** *SOURCE* **Unable to delete array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02040E** *SOURCE* **Unable to delete array. The array is still assigned.****Explanation**

The array is still assigned. An assigned array cannot be deleted. Either ranks exist on the array, or a format operation is taking place.

### Action

Delete the ranks on the array or wait until the format completes, and then resubmit the task.

---

## **CMUN02041E** *SOURCE* **Unable to create logical subsystem: device type must be CKD**

### Explanation

The specified device type must be count-key-data.

### Action

Specify a CKD device type, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02042E** *SOURCE* **Operation failure: configuration already exists**

### Explanation

You are attempting to create a configuration that already exists.

### Action

Specify a unique configuration, and then resubmit the task.

---

## **CMUN02043E** *SOURCE* **Operation failure: internal database not open**

### Explanation

The storage management console server reports a storage unit microcode-level error.

### Action

Contact IBM technical support for assistance.

---

## **CMUN02044E** *SOURCE* **Operation failure: unable to allocate memory**

### Explanation

The storage management console server reports a storage unit microcode-level error.

### Action

Contact IBM technical support for assistance.

---

## **CMUN02045E** *SOURCE* **Operation failure: unable to allocate memory**

### Explanation

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02046E** *SOURCE* **Operation failure: unable to allocate memory****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02047E** *SOURCE* **Operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02048E** *SOURCE* **Operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02049E** *SOURCE* **Rank reconfiguration failure: memory allocation error****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02050E** *SOURCE* **Unable to repair array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02051E** *SOURCE* **Unable to repair array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02052E** *SOURCE* **Storage unit unavailable****Explanation**

An invalid or unknown storage unit is specified.

**Action**

Specify a valid and known storage unit.

---

**CMUN02053E** *SOURCE* **Unable to create extent pool: maximum number of extent pools reached****Explanation**

The maximum allowed number of extent pools in the storage image has been reached already.

**Action**

Delete unused extent pools, and then resubmit the task.

---

**CMUN02054E** *SOURCE* **Unable to repair array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02055E** *SOURCE* **Operation failure: unable to allocate memory****Explanation**

The storage management console server reports a storage unit microcode-level error. The storage unit is unable to allocate memory. This might be a temporary problem that occurs during heavy usage.

**Action**

Resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02056E SOURCE Operation failure: unable to allocate memory****Explanation**

The storage management console server reports a storage unit microcode-level error. The storage unit is unable to allocate memory. This might be a temporary problem that occurs during heavy usage.

**Action**

Resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02057E SOURCE Unable to assign rank to extent pool: The rank is already assigned.****Explanation**

The rank is already assigned, so it cannot be assigned to another extent pool.

**Action**

Unassign the rank or specify an unassigned rank, and then resubmit the task.

---

**CMUN02058E SOURCE Unable to assign rank to extent pool****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02059E SOURCE Unable to assign rank to extent pool****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02060E** *SOURCE* **Unable to create extent pool****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02061E** *SOURCE* **Create logical subsystem failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02062E** *SOURCE* **Unable to modify SCSI host port: invalid host type****Explanation**

The host type is longer than the 16-character maximum length.

**Action**

Specify a valid host type, and then resubmit the task.

---

**CMUN02063E** *SOURCE* **Unable to create SCSI host port: invalid WWPN****Explanation**

The worldwide port name is invalid. A WWPN must be a 16-character hexadecimal string.

**Action**

Specify a valid worldwide port name, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02064E** *SOURCE* **Unable to create SCSI host port: non-unique WWPN****Explanation**

The worldwide port name is not unique.

**Action**

Specify a unique worldwide port name, and then resubmit the task.



---

**CMUN02065E** *SOURCE* **Operation failure: device adapter cannot query data**

**Explanation**

The storage management console server reports a storage unit microcode-level error. This might be a temporary problem due to heavy traffic, or it might indicate a hardware failure.

**Action**

Check for device adapter and storage device hardware errors, and follow the recommended service procedure. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02066E** *SOURCE* **Operation failure: database creation error**

**Explanation**

The storage management console server reports a storage unit microcode-level error. An internal database cannot be created.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02067E** *SOURCE* **Unable to create SCSI host port**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02068E** *SOURCE* **Unable to create SCSI host port: invalid volume group identifier**

**Explanation**

The specification contains an invalid volume group identifier.

**Action**

Specify a valid volume group identifier, and then resubmit the task.

---

**CMUN02069E** *SOURCE* **Unable to create SCSI host port: invalid profile**

**Explanation**

The port profile length cannot be more than 16 characters.

**Action**

Correct the port specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02070E** *SOURCE* **Unable to create SCSI host port: invalid WWPN****Explanation**

The worldwide port name is invalid. A WWPN must be a 16-character hexadecimal string.

**Action**

Provide a valid worldwide port name, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02071E** *SOURCE* **Unable to create SCSI host port: invalid WWPN****Explanation**

The worldwide port name is invalid. A WWPN must be a 16-character hexadecimal string.

**Action**

Provide a valid worldwide port name, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02072E** *SOURCE* **Unable to create SCSI host port: invalid override default priority****Explanation**

The attribute value that indicates whether default priority for I/O operations can be overridden is invalid.

**Action**

Correct the port specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02073E** *SOURCE* **Unable to create volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02074E** *SOURCE* **Unable to create volume group: invalid user name****Explanation**

The specified user name is longer than the 16-character maximum length.

**Action**

Specify a valid user name, and then resubmit the task.

---

**CMUN02075E** *SOURCE* **Unable to delete extent pool****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02076E** *SOURCE* **Rank creation cannot complete.****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02077E** *SOURCE* **Operation failure: addition****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02078E** *SOURCE* **Failed to initialize LPAR****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02079E** *SOURCE* **Operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02080E** *SOURCE* **Unable to create array: The maximum number of arrays have been created.****Explanation**

The array cannot be created because the maximum allowed number of arrays have been created already.

**Action**

Add additional storage or delete one or more existing arrays, and then resubmit the task.

---

**CMUN02081E** *SOURCE* **Unable to create rank: The maximum number of ranks have been created.****Explanation**

The rank cannot be created because the maximum allowed number of ranks have already been created.

**Action**

Add additional storage or delete one or more existing ranks, and then resubmit the task.

---

**CMUN02082E** *SOURCE* **Unable to repair array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02083E** *SOURCE* **Extent pool operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02084E SOURCE Unable to delete extent pool****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02085E SOURCE Unable to delete extent pool****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02086E SOURCE Unable to delete logical volume****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02087E SOURCE Unable to query rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02088E SOURCE Unable to query rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02089E** *SOURCE* **Failed to initialize LPAR****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02090E** *SOURCE* **LPAR startup error****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02091E** *SOURCE* **Failed to initialize LPAR****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02092E** *SOURCE* **Rank creation cannot complete****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02093E** *SOURCE* **Unable to create logical volume****Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02094E** *SOURCE* **Failed to initialize LPAR**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02095E** *SOURCE* **Unable to create logical volume**

### **Explanation**

The specification contains an invalid combination of **requested capacity**, **volume type**, and **data type**.

### **Action**

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02096E** *SOURCE* **Unable to create logical volume**

### **Explanation**

The specification contains an invalid combination of **requested capacity**, **volume type**, and **data type**.

### **Action**

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02097E** *SOURCE* **Unable to query rank**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02098E** *SOURCE* **Unable to create logical volume**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02099E** *SOURCE* **Unable to create volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02100E** *SOURCE* **Volume group operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02101E** *SOURCE* **Unable to query volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02102E** *SOURCE* **Unable to delete logical volume****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02103E** *SOURCE* **Unable to assign volumes to volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.



**Action**

Contact IBM technical support for assistance.

---

**CMUN02104E** *SOURCE* **Unable to assign volume to volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02105E** *SOURCE* **Unable to retrieve volumes assigned to volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02106E** *SOURCE* **Unable to retrieve volumes assigned to volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02107E** *SOURCE* **Unable to delete volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02108E** *SOURCE* **Unable to modify volume group****Explanation**

This volume group is internally reserved and cannot be modified.

### **Action**

Specify a different volume group, and then resubmit the task.

---

## **CMUN02109E** *SOURCE* **Unable to modify SCSI host port**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02110E** *SOURCE* **Unable to modify SCSI host port: invalid address discovery method**

### **Explanation**

You must specify how the port discovers the LUNs that are accessible by the host port. The host port can use one of two methods:

- The **Report LUNs** command
- LUN polling

### **Action**

Specify a valid address discovery method, and then resubmit the task.

---

## **CMUN02111E** *SOURCE* **Unable to modify SCSI host port: invalid volume group type**

### **Explanation**

The volume group being assigned to the SCSI host port has an invalid type.

### **Action**

Specify a volume group with a valid type, and then resubmit the task.

---

## **CMUN02112E** *SOURCE* **Unable to modify SCSI host port: invalid volume group ID**

### **Explanation**

The specification contains an invalid volume group identifier.

### **Action**

Specify a valid volume group identifier, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02113E** *SOURCE* **Unable to modify SCSI host port: logical block size and volume group type mismatch**

**Explanation**

A 520-byte block size requires a SCSI520-All or SCSI520-Mask volume group type.

**Action**

Specify a valid volume group type, and then resubmit the task.

---

**CMUN02114E** *SOURCE* **Unable to modify SCSI host port: invalid logical block size**

**Explanation**

The logical block size of the devices that the port accesses must be either 512-bytes or 520-bytes.

**Action**

Specify a valid logical block size, and then resubmit the task.

---

**CMUN02115E** *SOURCE* **Unable to modify SCSI host port: logical block size and volume group type mismatch**

**Explanation**

A 512-byte block size requires a SCSI-All, SCSI-Mask, or SCSI-Map 256 volume group type.

**Action**

Specify compatible logical block size and volume group type, and then resubmit the task.

---

**CMUN02116E** *SOURCE* **Unable to modify SCSI host port: invalid port mask**

**Explanation**

The storage management console server reports a storage unit microcode-level error. A mask that controls N-port logins contains an invalid value.

**Action**

Correct the port specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02117E** *SOURCE* **Unable to modify SCSI host port: invalid override default priority value**

**Explanation**

The attribute that indicates whether the default priority for I/O operations is to be overridden is invalid. The value must be either **true** or **false**.

**Action**

Correct the port specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02118E** *SOURCE* **Unable to modify SCSI host port: invalid port profile**

**Explanation**

The port profile length cannot be more than 16 characters.

**Action**

Correct the port specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02119E** *SOURCE* **Unable to modify SCSI host port: invalid port topology**

**Explanation**

The attaching port topology must be one of the following:

- Unknown
- Fibre Channel Point to Point or Switched (FCP)
- Fibre Channel Arbitrated Loop (FC-AL)

**Action**

Specify a valid attaching port topology, and then resubmit the task.

---

**CMUN02120E** *SOURCE* **Unable to modify SCSI host port: address discovery method and volume group type mismatch**

**Explanation**

The **Report LUNs** address discovery method requires a SCSI-Mask, SCSI-Map 256, or SCSI520-Mask volume group type.

**Action**

Specify compatible address discovery method and volume group types, and then resubmit the task.

---

**CMUN02121E** *SOURCE* **Unable to modify SCSI host port: address discovery method and volume group type mismatch**

**Explanation**

The **LUN Polling** address discovery method requires a SCSI-All, SCSI-Map 256, SCSI520-All, or Copy Services volume group type.

**Action**

Specify compatible address discovery method and volume group types, and then resubmit the task.

---

**CMUN02122E** *SOURCE* **Unable to modify SCSI host port: invalid value**

**Explanation**

The storage management console server reports a storage unit microcode-level error. A mask that controls N-port logins contains an invalid value.

**Action**

Correct the port specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02123E** *SOURCE* **Unable to modify SCSI host port: nonexistent volume group**

**Explanation**

The specified volume group does not exist.

**Action**

Specify a valid volume group, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02124E** *SOURCE* **Unable to modify SCSI host port**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02125E** *SOURCE* **Unable to start or end service**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02126E** *SOURCE* **Unable to repair array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02127E** *SOURCE* **Unable to modify volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02128E** *SOURCE* **Unable to open a session to query a logical volume****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02129E** *SOURCE* **Unable to open a session****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02130E** *SOURCE* **Unable to open a session****Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02131E *SOURCE* Internal database overwrite failure: The database exists and overwrite is off.**

### **Explanation**

The storage management console server reports a storage unit microcode-level error. Database overwrite permission is turned off for an existing database. The database cannot be overwritten.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02132E *SOURCE* Rank creation cannot complete.**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02133E *SOURCE* Extent pool operation failure**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Check for device adapter and storage device hardware errors, and follow the recommended service procedure. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02134E *SOURCE* Rank operation failure**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

**CMUN02135E** *SOURCE* **Volume group query failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02136E** *SOURCE* **Unable to query volume groups: invalid volume number****Explanation**

The specification contains an invalid volume identifier. A logical volume identifier must be a 4-character hexadecimal string.

**Action**

Specify a valid volume, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02137E** *SOURCE* **Unable to assign rank to extent pool: type mismatch****Explanation**

The specified rank and extent pool must be the same type.

**Action**

Specify the same type for rank and extent pool, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02138E** *SOURCE* **Unable to create rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02139E** *SOURCE* **Unable to create rank****Explanation**

The storage management console server reports a storage unit microcode-level error.



**Action**

Contact IBM technical support for assistance.

---

**CMUN02140E** *SOURCE* **Unable to create rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02141E** *SOURCE* **Rank creation failure: check device adapter****Explanation**

The storage management console server reports a storage unit microcode-level error. Creation of the rank did not complete. A device adapter might have failed.

**Action**

Check for device adapter hardware errors, and follow the recommended service procedure. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02142E** *SOURCE* **Rank creation did not complete.****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02143E** *SOURCE* **Unable to create rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02144E** *SOURCE* **Unable to create rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02145E** *SOURCE* **Unable to create rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02146E** *SOURCE* **Rank creation failure: server unavailable****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02147E** *SOURCE* **Unable to repair array****Explanation**

The task must be invoked against a rank in the **FAILED** state. The rank is not in the **FAILED** state.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02148E** *SOURCE* **Unable to repair array****Explanation**

The task must be invoked against a rank in the **inaccessible** state. The rank is not in the **inaccessible** state.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02149E** *SOURCE* **Unable to repair array****Explanation**

The task must be invoked against a rank in the **repairing\_formatted** state. The rank is not in the **repairing\_formatted** state.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02150E** *SOURCE* **Unable to delete rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02151E** *SOURCE* **Unable to delete rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02152E** *SOURCE* **Rank operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02153E** *SOURCE* **Rank operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02154E** *SOURCE* **Rank operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02155E** *SOURCE* **Rank operation failure: device adapter error****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Check for device adapter and storage device hardware errors, and follow the recommended service procedure. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02156E** *SOURCE* **Unable to reconfigure rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02157E** *SOURCE* **Unable to reconfigure rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02158E** *SOURCE* **Unable to reconfigure rank: server offline****Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02159E** *SOURCE* Rank reconfiguration failure: The rank is flagged to be serviced.

**Explanation**

The specified rank is flagged for service. A rank cannot be reconfigured while it is flagged for service.

**Action**

Wait until the service is completed, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02160E** *SOURCE* Unable to reconfigure rank

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02161E** *SOURCE* Unable to release rank

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02162E** *SOURCE* Unable to reserve rank

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02163E** *SOURCE* Rank operation failure

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02164E** *SOURCE* **Rank operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02165E** *SOURCE* **Unable to unassign rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02166E** *SOURCE* **Unable to reconfigure rank: The rank remains in the failed state.****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02167E** *SOURCE* **Unable to release rank****Explanation**

The rank is not **reserved**. Only reserved ranks can be released.

**Action**

Reserve the rank or choose a reserved rank, and then resubmit the task.

---

**CMUN02168E** *SOURCE* **Unable to assign volumes to volume group****Explanation**

At least one of the volumes has an invalid data type for the specified volume group.

- A SCSI-Mask volume group requires a 512-byte block data type.

- A SCSI520-Mask volume group requires a 520-byte block protected data type or a 520-byte block unprotected data type.

**Action**

Specify volumes with compatible data types, and then resubmit the task.

---

**CMUN02169E** *SOURCE* **Unable to assign volume to volume group**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02170E** *SOURCE* **Unable to assign volume to volume group**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02171E** *SOURCE* **Unable to assign volumes to volume group**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02172E** *SOURCE* **Unable to assign volume to volume group**

**Explanation**

No rank has been created. At least one rank must exist before a volume can be created and assigned.

**Action**

Create at least one rank and volume, and then resubmit the task.

---

**CMUN02173E** *SOURCE* **Unable to assign volume to volume group: data type mismatch**

**Explanation**

The data type of the volume does not match the data type of the volume group.

- A SCSI-Mask volume group requires a 512-byte block data type.
- A SCSI520-Mask volume group requires a 520-byte block protected data type or a 520-byte block unprotected data type.

**Action**

Specify compatible data types, and then resubmit the task.

---

**CMUN02174E** *SOURCE* **Unable to assign volume to volume group**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02175E** *SOURCE* **Unable to assign volume to volume group**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02176E** *SOURCE* **Unable to assign volume to volume group**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02177E** *SOURCE* **Unable to assign volume to volume group**

**Explanation**

No rank has been created. At least one rank must exist before a volume can be created and assigned.



### Action

Create at least one rank and volume, and then resubmit the task.

---

## **CMUN02178E** *SOURCE* **Unable to reset Copy Services settings on logical subsystems**

### Explanation

The storage management console server reports a storage unit microcode-level error.

### Action

Contact IBM technical support for assistance.

---

## **CMUN02179E** *SOURCE* **Unable to reset Copy Services settings on logical subsystem**

### Explanation

The storage management console server reports a storage unit microcode-level error.

### Action

Contact IBM technical support for assistance.

---

## **CMUN02180E** *SOURCE* **Unable to reserve rank**

### Explanation

The rank is not **assigned**. Only **assigned** ranks can be reserved.

### Action

Assign the rank or choose an assigned rank, and then resubmit the task.

---

## **CMUN02181E** *SOURCE* **Unable to modify SCSI host port**

### Explanation

The storage management console server reports a storage unit microcode-level error.

### Action

Contact IBM technical support for assistance.

---

## **CMUN02182E** *SOURCE* **Unable to modify SCSI host port**

### Explanation

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02183E** *SOURCE* **Unable to modify SCSI host port****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02184E** *SOURCE* **Unable to modify SCSI host port****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02185E** *SOURCE* **Unable to retrieve volumes assigned to the volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02186E** *SOURCE* **Unable to retrieve volumes assigned to volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02187E** *SOURCE* **Unable to retrieve volumes assigned to the volume group: no ranks exist**

**Explanation**

No ranks exist on the storage image. Volume information is not available.

**Action**

Create at least one rank and volume on the storage image, and then resubmit the task.

---

**CMUN02188E** *SOURCE* **Unable to retrieve volumes assigned to volume group.**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02189E** *SOURCE* **Unable to retrieve volumes assigned to volume group**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02190E** *SOURCE* **Unable to assign volume to volume group**

**Explanation**

No rank has been created. At least one rank must exist before a volume can be created and assigned.

**Action**

Create at least one rank and volume, and then resubmit the task.

---

**CMUN02191E** *SOURCE* **Unable to modify volume group**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02192E** *SOURCE* **Unable to query rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02193E** *SOURCE* **Operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02194E** *SOURCE* **Unable to create SCSI host port: invalid port profile****Explanation**

The port profile is not a supported port profile.

**Action**

Specify a valid and supported port profile, and then resubmit the task.

---

**CMUN02195E** *SOURCE* **Operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02196E** *SOURCE* **SCSI host port operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02197E SOURCE Unable to modify SCSI host port: invalid port profile****Explanation**

The port profile is not a supported port profile.

**Action**

Specify a valid and supported port profile, and then resubmit the task.

---

**CMUN02198E SOURCE Unable to create, modify, or delete SCSI host port: local server offline****Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02199E SOURCE Unable to repair array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02200E SOURCE Unable to query volume groups****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02201E** *SOURCE* **Unable to assign volumes to volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02202E** *SOURCE* **Unable to assign volumes to volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02203E** *SOURCE* **Unable to create, modify, or delete volume group: version update****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02204E** *SOURCE* **Volume group query failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02205E** *SOURCE* **Rank operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02206E** *SOURCE* **Unable to unassign rank****Explanation**

Only ranks in the **reserved** state can be unassigned. The rank is not in the **reserved** state.

**Action**

Place the rank in the **reserved** state, or choose a **reserved** rank, and then resubmit the task.

---

**CMUN02207E** *SOURCE* **Unable to unassign rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02208E** *SOURCE* **Unable to unassign rank: Extents are allocated to logical volumes.****Explanation**

Extents from the specified rank are allocated to logical volumes. The rank cannot be deleted while storage is allocated from it. You must remove the volumes to deallocate the extents.

**Action**

Deallocate all extents from the rank by removing any volumes that use the extents, and then resubmit the task.

---

**CMUN02209E** *SOURCE* **Unable to delete SCSI host port****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02210E** *SOURCE* **Unable to delete SCSI host port****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02211E** *SOURCE* **Unable to delete volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02212E** *SOURCE* **Unable to delete volume group: The volume group is still assigned to a SCSI host port.****Explanation**

The volume group cannot be deleted because it is assigned to one or more host ports.

**Action**

Unassign the volume group from the host ports, and then resubmit the task.

---

**CMUN02213E** *SOURCE* **Unable to delete volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02214E** *SOURCE* **Unable to delete volume group****Explanation**

The specified volume group is internally reserved and cannot be deleted.

**Action**

Select another volume group, and resubmit the task.

---

**CMUN02215E** *SOURCE* **Unable to retrieve volume group information****Explanation**

The storage management console server reports a storage unit microcode-level error.



**Action**

Contact IBM technical support for assistance.

---

**CMUN02216E** *SOURCE* **Unable to modify volume group****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02217E** *SOURCE* **Operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02218E** *SOURCE* **Operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02219E** *SOURCE* **Unable to create or delete volume group: local server offline****Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02220E** *SOURCE* **Unable to retrieve or assign volumes assigned to volume group: local server offline**

**Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02221E** *SOURCE* **Unable to retrieve or assign volumes assigned to volume group: local server offline**

**Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02222E** *SOURCE* **Operation failure**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02223E** *SOURCE* **Unable to repair array**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02224E** *SOURCE* **Unable to create volume group: invalid volume group type**

**Explanation**

The specified volume group type is invalid. The following volume group types are valid:

- SCSI-Mask
- SCSI-Map 256
- SCSI520-Mask
- Copy Services

**Action**

Specify a valid volume group type, and then resubmit the task.

---

**CMUN02225E** *SOURCE* **Unable to assign rank to extent pool**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02226E** *SOURCE* **Unable to end service: Management console is not authorized.**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02227E** *SOURCE* **Unable to create logical volume: The data type of the logical volume is incompatible with the extent type of its extent pool.**

**Explanation**

The data type of a logical volume must be compatible with the extent type of its extent pool.

**Action**

Specify compatible types. Either specify a different data type for the logical volume, or specify a different extent pool. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02228E** *SOURCE* Rank creation cannot complete.**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Check for device adapter and storage device hardware errors, and follow the recommended service procedure. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02229E** *SOURCE* Unable to create logical volume: Data type is incompatible with data type of other volumes in address group.**Explanation**

The data type of the logical volume must be the same as the data type of other logical volumes in the address group.

**Action**

Specify the same data type or a different address group, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02230E** *SOURCE* Rank definition failure: extent type mismatch**Explanation**

The extent types that are specified for the rank and its extent pool do not match.

**Action**

Specify the same extent type for the rank and its extent pool, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02231E** *SOURCE* Unable to create logical volume: rank group and logical subsystem group mismatch**Explanation**

A logical volume is created from an extent pool in a rank group. The logical volume is also a member of a logical subsystem group. The rank group identifier and the logical subsystem group identifier must be identical.

**Action**

Specify the same identifier for the rank group and the logical subsystem group. One way to do this is by specifying a different extent pool. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02232E** *SOURCE* **Unable to create logical subsystem: device type mismatch**

**Explanation**

The device type of the new logical subsystem is inconsistent with the device type of existing logical subsystems in the address group.

**Action**

Specify consistent device types, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02233E** *SOURCE* **Logical volume operation failure: inconsistent starting and ending logical volume numbers**

**Explanation**

The starting logical volume and the ending logical volume must belong to the same logical subsystem.

**Action**

Specify the same logical subsystem for the starting and ending logical volumes, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02234E** *SOURCE* **Unable to create logical subsystem: device type format error**

**Explanation**

The device type length must be less than 4 characters.

**Action**

Specify a valid device type, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02235E** *SOURCE* **Unable to create or modify logical subsystem: invalid format**

**Explanation**

A logical subsystem identifier must be 2 hexadecimal characters.

**Action**

Specify a 2-hexadecimal character logical subsystem ID, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02236E** *SOURCE* **Unable to create or modify logical subsystem:  
invalid format**

**Explanation**

A logical subsystem identifier must be 2 hexadecimal characters.

**Action**

Specify a 2 hexadecimal character logical subsystem ID, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02237E** *SOURCE* **Unable to create array: The RAID type is neither  
RAID5 nor RAID10.**

**Explanation**

The RAID type must be either RAID5 or RAID10.

**Action**

Specify a RAID5 or RAID10 type, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02238E** *SOURCE* **Unable to create or modify logical volume:  
invalid number**

**Explanation**

A logical volume number must be a 4-digit hexadecimal number.

**Action**

Specify a 4-digit hexadecimal logical volume number, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02239E** *SOURCE* **Unable to create or modify logical volume:  
invalid volume number**

**Explanation**

A logical volume number must be a 4-digit hexadecimal number.

**Action**

Specify a 4-digit hexadecimal logical volume number, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02240E** *SOURCE* **Unable to create logical volume: invalid volume type**

**Explanation**

The specification contains an invalid volume type.

**Action**

Specify a valid logical volume type, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02241E** *SOURCE* **Service intent is not currently set. Reset ignored.**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02242E** *SOURCE* **Unable to create rank: Array is not unassigned.**

**Explanation**

The specification contains a reference to an assigned array. The rank must be created on an **unassigned** array.

**Action**

Specify an **unassigned** array, and then resubmit the task.

---

**CMUN02243E** *SOURCE* **Unable to create or modify logical subsystem**

**Explanation**

The specification contains an invalid CKD base control unit value.

**Action**

Specify a valid value, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02244E** *SOURCE* **Logical volume operation failure: invalid data type**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

### Action

Contact IBM technical support for assistance.

---

## **CMUN02245E** *SOURCE* **Unable to create extent pool: invalid extent limit enabled value**

### Explanation

The specification contains an invalid parameter value. The value for **extent limit enabled** is neither true nor false.

### Action

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02246E** *SOURCE* **Unable to create extent pool: invalid extent limit**

### Explanation

The specification contains an invalid parameter value. The value for **extent limit** is not between 0 and 100.

### Action

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02247E** *SOURCE* **Unable to create extent pool: invalid extent threshold**

### Explanation

The specification contains an invalid parameter value. The value for **extent threshold** is not between 0 and 100.

### Action

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02248E** *SOURCE* **Unable to modify extent pool: invalid extent threshold**

### Explanation

The specification contains an invalid **extent threshold** value.

### Action

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.



---

**CMUN02249E** *SOURCE* **Unable to create extent pool: invalid extent type**

**Explanation**

The specification contains an invalid extent type.

**Action**

Specify a valid extent type, and then resubmit the task.

---

**CMUN02250E** *SOURCE* **Unable to create or modify extent pool: invalid user name**

**Explanation**

The specification contains a user name that exceeds the 16-character limit.

**Action**

Specify a valid user name, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02251E** *SOURCE* **Unable to modify extent pool: invalid extent limit enabled value**

**Explanation**

The specification contains an invalid **extent limit enabled** value.

**Action**

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02252E** *SOURCE* **Unable to modify extent pool: invalid extent limit**

**Explanation**

The specification contains an invalid **extent limit** value.

**Action**

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02253E** *SOURCE* **Unable to start or end service: invalid storage management console ID**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02254E** *SOURCE* **Unable to create or modify logical volume: invalid user name**

**Explanation**

The specified user name is longer than the 16-character maximum length.

**Action**

Specify a valid user name, and then resubmit the task.

---

**CMUN02255E** *SOURCE* **Unable to create or modify logical subsystem: invalid logical subsystem identifier format**

**Explanation**

The logical subsystem identifier must be a 4-character hexadecimal number.

**Action**

Specify a valid subsystem identifier, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02256E** *SOURCE* **Unable to create or modify logical subsystem: invalid logical subsystem identifier length**

**Explanation**

The subsystem identifier must be 4 characters long.

**Action**

Specify a valid subsystem identifier, and then resubmit the task.

---

**CMUN02257E** *SOURCE* **Logical subsystem query failure: invalid LSS ID**

**Explanation**

A logical subsystem ID is a hexadecimal value of the range (0 - FF).

**Action**

Specify a valid identifier for the logical subsystem, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02258E SOURCE Unable to delete extent pool: ranks are assigned****Explanation**

Ranks are assigned to the extent pool. The extent pool cannot be deleted while ranks are assigned to it.

**Action**

Unassign the ranks, and then resubmit the task.

---

**CMUN02259E SOURCE Unable to start or end service: invalid parameters****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02260E SOURCE Operation failure: invalid RAID type or number of spares****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02261E SOURCE Unable to create extent pool: invalid rank group****Explanation**

The specification contains an invalid rank group.

**Action**

Specify a valid rank group, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02262E** *SOURCE* **Unable to create volumes: invalid volume type****Explanation**

The specification contains an invalid volume type. The following volume types are supported, but you might be limited to a subset of these by other factors in your storage definition:

CKD base:

- 3380 cylinder
- 3390 cylinder

CKD single-CU alias

Fixed block base:

- 512-byte block
- 520-byte block unprotected
- 520-byte block protected

**Action**

Specify a valid volume type, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02263E** *SOURCE* **Unable to create or delete extent pool: local server offline****Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02264E** *SOURCE* **Unable to end service: lock still held by other management console****Explanation**

Service has been initiated by two storage management consoles. The other management console holds a lock.

**Action**

Release the service intent lock from the other management console, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02265E** *SOURCE* **Logical volume operation failure: not supported****Explanation**

The requested operation is not supported. This might be because the specified logical volume is an alias.

**Action**

Specify a base logical volume, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02266E** *SOURCE* **Unable to modify logical subsystem: not a CKD volume****Explanation**

The specification attributes a count-key-data value to a fixed block logical subsystem.

**Action**

Change the specification or select a count-key-data logical subsystem, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02267E** *SOURCE* **Unable to create or modify logical subsystem: identifier already in use****Explanation**

The specification contains a logical subsystem identifier that is already in use.

**Action**

Specify a unique identifier for the the logical subsystem, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02268E** *SOURCE* **Unable to create or modify logical subsystem: identifier must be nonzero****Explanation**

The specification does not contain a logical subsystem identifier, or the identifier is zero. A nonzero identifier is required.

**Action**

Specify a nonzero identifier for the logical subsystem, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02269E** *SOURCE* **Unable to modify logical subsystem: identifier only for CKD**

**Explanation**

The specified subsystem identifier is reserved for count-key-data type logical subsystems. The specified logical subsystem is fixed block and cannot be modified in this manner.

**Action**

Specify a a CKD logical subsystem, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02270E** *SOURCE* **Unable to create a new SCSI host port: maximum count reached**

**Explanation**

The maximum number of SCSI host ports have been created. No more SCSI host ports can be created.

**Action**

Use an existing SCSI host port or delete an existing SCSI host port, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02271E** *SOURCE* **Unable to create SCSI host port**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02272E** *SOURCE* **SCSI host port operation failure**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02273E** *SOURCE* **Unable to modify SCSI host port****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02274E** *SOURCE* **Unable to delete SCSI host port****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02275E** *SOURCE* **Unable to create logical volume: volume type and data type mismatch****Explanation**

The specification contains inconsistent volume type and data type information.

**Action**

Specify consistent volume and data types, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02276E** *SOURCE* **Unable to delete rank****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02277E** *SOURCE* **Alias volume creation failure: no logical subsystem exists****Explanation**

A logical subsystem must exist before multiple alias volumes can be created.

### **Action**

Create a logical subsystem, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02278E** *SOURCE* **Operation failure: name is not unique**

### **Explanation**

The specification contains a name that is already being used.

### **Action**

Specify a unique name, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02279E** *SOURCE* **Operation failure: unknown storage unit**

### **Explanation**

The specification contains a reference to an unknown storage unit.

### **Action**

Specify a valid storage unit, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02280E** *SOURCE* **Unable to assign rank to extent pool: The extent pool does not exist.**

### **Explanation**

The specification contains a reference to an invalid extent pool.

### **Action**

Specify a valid extent pool, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02281E** *SOURCE* **Rank operation failure**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.



---

**CMUN02282E** *SOURCE* Unable to create CKD logical volume: CKD volumes require a CKD logical subsystem.

**Explanation**

You must create a count-key-data type logical subsystem before you can create count-key-data type volumes.

**Action**

Create a CKD logical subsystem, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02283E** *SOURCE* Unable to create CKD alias logical volume: no base volume exists.

**Explanation**

The specification contains a reference to a nonexistent base volume. A count-key-data alias can be created for existing base volumes only.

**Action**

Specify a valid base volume that is contained within the same logical subsystem, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02284E** *SOURCE* Logical subsystem operation failure: logical subsystem does not exist.

**Explanation**

The specification contains a reference to a nonexistent logical subsystem.

**Action**

Specify an existing logical subsystem, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02285E** *SOURCE* Unable to create rank: array does not exist.

**Explanation**

The specification contains a reference to a nonexistent array.

**Action**

Specify an existing array, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02286E** *SOURCE* Rank operation failure: extent pool does not exist.

**Explanation**

The specification contains a reference to a nonexistent extent pool.

**Action**

Specify an existing extent pool, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02287E** *SOURCE* Rank operation failure: rank does not exist.

**Explanation**

The specification contains a reference to a nonexistent rank.

**Action**

Specify an existing rank, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02288E** *SOURCE* Rank operation failure: rank does not exist.

**Explanation**

The specification contains a reference to a nonexistent rank.

**Action**

Specify an existing rank, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02289E** *SOURCE* Rank operation failure: rank does not exist.

**Explanation**

The specification contains a reference to a nonexistent rank.

**Action**

Specify an existing rank, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02290E** *SOURCE* Unable to create logical volume: extent pool does not exist.

**Explanation**

The specification contains a reference to a nonexistent extent pool.

### **Action**

Specify an existing extent pool, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02291E** *SOURCE* **Unable to start service: device adapter pair is configuring.**

### **Explanation**

Service intent cannot be set while a device on the adapter pair is still configuring.

### **Action**

Wait until the device configuration completes, and then resubmit the task.

---

## **CMUN02292E** *SOURCE* **XML parse error**

### **Explanation**

The storage management console server reports a storage unit microcode-level error. An xml file cannot be parsed.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02293E** *SOURCE* **Operation failure**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02294E** *SOURCE* **Unable to delete logical volume**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02295E** *SOURCE* **Unable to delete logical volume.**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02296E SOURCE Unable to delete logical volume**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02297E SOURCE Unable to create logical volume: FB volumes must have a data type.**

### **Explanation**

The specification for a fixed block logical volume does not contain a data type. Fixed block logical volumes must have one of the following data types:

- 512-byte block
- 520-byte block unprotected
- 520-byte block protected

### **Action**

Specify a data type, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02298E SOURCE Unable to create logical volume: FB volumes must have an extent pool.**

### **Explanation**

The logical volume specification does not contain an extent pool. Fixed block logical volumes must have an extent pool from which their extents are allocated.

### **Action**

Specify an extent pool, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02299E SOURCE Unable to create logical volume: FB volumes must have a requested capacity.**

### **Explanation**

The logical volume specification does not contain a requested capacity.

**Action**

Specify a requested capacity, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02300E** *SOURCE* Rank operation failure**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02301E** *SOURCE* Rank operation failure**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02302E** *SOURCE* Rank operation failure**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02303E** *SOURCE* Rank operation failure**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02304E** *SOURCE* Unable to create array: memory allocation error**Explanation**

The storage management console server reports a storage unit microcode-level error.

### Action

Contact IBM technical support for assistance.

---

**CMUN02305E** *SOURCE* **Operation failure: SCSI host port already exists.**

### Explanation

The specified SCSI host port already exists.

### Action

Specify a new SCSI host port, and then resubmit the task.

---

**CMUN02306E** *SOURCE* **Unable to create, modify, or delete logical volume: service intent is set on extent pool.**

### Explanation

The extent pool is flagged to be serviced. No operations can be performed on extent pool objects while it is flagged for service.

### Action

Wait until service is completed on the extent pool, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02307E** *SOURCE* **Unable to create logical volume**

### Explanation

The specification contains an invalid combination of **requested capacity**, **volume type**, and **data type**.

### Action

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02308E** *SOURCE* **Query failure: logical subsystem does not exist.**

### Explanation

The specification contains a reference to a nonexistent logical subsystem.

### Action

Specify an existing logical subsystem, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02309E** *SOURCE* **Unable to modify logical volume: volume type and data type mismatch**

**Explanation**

A fixed block type logical volume must have a fixed block data type. A count-key-data type logical volume must have a count-key-data data type.

**Action**

Specify a valid data type for the logical volume, and then resubmit the task.

---

**CMUN02310E** *SOURCE* **Unable to add logical volume to volume group**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02311E** *SOURCE* **Unable to create logical subsystem**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02312E** *SOURCE* **Unable to delete logical subsystem**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02313E** *SOURCE* **Unable to delete logical subsystem**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02314E** *SOURCE* **Unable to modify logical volume****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02315E** *SOURCE* **Unable to modify logical subsystem****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02316E** *SOURCE* **Logical subsystem query failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02317E** *SOURCE* **Unable to delete CKD base logical volume: alias assigned****Explanation**

At least one alias is assigned to the count-key-data base logical volume. Aliases must be deleted before the count-key-data base logical volume can be deleted.

**Action**

Remove the aliases, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02318E** *SOURCE* **Unable to create rank: Too many arrays are specified.****Explanation**

The storage management console server reports a storage unit microcode-level error. Only one array can be specified.



**Action**

Specify one array, and then resubmit the task.

---

**CMUN02319E** *SOURCE* **Unable to repair array****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02320E** *SOURCE* **Unable to create rank: Service intent is set on the array.****Explanation**

An array required for the operation has been flagged to be serviced. The array cannot be used while the service flag is set.

**Action**

Wait until service is completed on the array, and then resubmit the task.

---

**CMUN02321E** *SOURCE* **Unable to repair array: Service intent is set.****Explanation**

The array has been flagged to be serviced. The array cannot be used while the service flag is set.

**Action**

Wait until service is completed on the array, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02322E** *SOURCE* **Unable to repair array: Service intent is set.****Explanation**

The array has been flagged to be serviced. The array cannot be used while the service flag is set.

**Action**

Wait until service is completed on the array, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02323E** *SOURCE* **Unable to assign rank to extent pool: Service intent is set on the storage complex.**

**Explanation**

The storage complex has been flagged to be serviced. No activities can be performed on objects in the storage complex while the service flag is set.

**Action**

Wait until service is completed on the storage complex, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02324E** *SOURCE* **Unable to assign rank to extent pool: Service intent is set.**

**Explanation**

The rank has been flagged to be serviced. No activities can be performed on the rank while the service flag is set.

**Action**

Wait until service is completed on the rank, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02325E** *SOURCE* **Unable to create rank: not in dual server mode**

**Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02326E** *SOURCE* **Unable to release rank: Service intent is set.**

**Explanation**

The rank has been flagged to be serviced. No activities can be performed on the rank while the service flag is set.

**Action**

Wait until service is completed on the rank, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02327E** *SOURCE* **Unable to reserve rank: Service intent is set.****Explanation**

The rank has been flagged to be serviced. No activities can be performed on the rank while the service flag is set.

**Action**

Wait until service is completed on the rank, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02328E** *SOURCE* **Unable to unassign rank: Service intent is set.****Explanation**

The rank has been flagged to be serviced. No activities can be performed on the rank while the service flag is set.

**Action**

Wait until service is completed on the rank, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02329E** *SOURCE* **Unable to delete rank: not in dual server mode****Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02330E** *SOURCE* **Unable to repair array: Service intent is set.****Explanation**

The array has been flagged to be serviced. No activities can be performed on the array while the service flag is set.

**Action**

Wait until service is completed on the array, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02331E** *SOURCE* **Unable to delete rank****Explanation**

The storage management console server reports a storage unit device adapter error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02332E** *SOURCE* **Unable to delete rank**

### **Explanation**

The storage management console server reports a storage unit device adapter error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02333E** *SOURCE* **Unable to delete rank: Service intent is set.**

### **Explanation**

The rank has been flagged to be serviced. No activities can be performed on the rank while the service flag is set.

### **Action**

Wait until service is completed on the rank, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02334E** *SOURCE* **Unable to unfence volume through rank: Service intent is set.**

### **Explanation**

The rank has been flagged to be serviced. No activities can be performed on the rank or volumes within the rank while the service flag is set.

### **Action**

Wait until service is completed on the rank, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02335E** *SOURCE* **Unable to create volumes: volume type must be specified**

### **Explanation**

No volume type has been specified for the volumes. The following volume types are supported, but you might be limited to a subset of these by other factors in your storage definition:

CKD base:

- 3380 cylinder
- 3390 cylinder

CKD single-CU alias

Fixed block base:

- 512-byte block
- 520-byte block unprotected
- 520-byte block protected

### **Action**

Specify a valid volume type, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN02336E** *SOURCE* **Unable to rebuild array**

### **Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02337E** *SOURCE* **Unable to create or modify logical volume: CKD base logical volume does not exist.**

### **Explanation**

The specified logical volume does not exist or it is not a count-key-data base volume.

### **Action**

Create the base logical volume or specify a different base logical volume, and then resubmit the task.

---

## **CMUN02338E** *SOURCE* **Delete SCSI host port operation stopped. Previous attempt failed.**

### **Explanation**

The storage management console server reports a storage unit microcode-level error. A list of SCSI host ports are specified to be deleted. Because a previous deletion failed, successive deletions in the list have stopped.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02339E** *SOURCE* **Delete volume group operation stopped. Previous attempt failed.**

### **Explanation**

The storage management console server reports a storage unit microcode-level error. A list of volume groups are specified to be deleted. Because a previous

deletion failed, successive deletions in the list have stopped.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02340E** *SOURCE* **Array site operation failure: The array site is used in another array.**

**Explanation**

The specified array site is used in other array.

**Action**

Specify an unused array site, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02341E** *SOURCE* **Logical subsystem configuration error**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02342E** *SOURCE* **Unable to delete last rank. Logical control unit exists.**

**Explanation**

The last rank cannot be deleted because one or more logical control units still exist.

**Action**

Delete all logical control units, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02343E** *SOURCE* **Unable to create logical subsystem: local server offline**

**Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02344E** *SOURCE* **Unable to delete logical subsystem: local server offline**

**Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02345E** *SOURCE* **Unable to create logical volume: local server offline**

**Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02346E** *SOURCE* **Unable to create logical volume: logical subsystem not in correct state**

**Explanation**

The storage management console server reports a storage unit microcode-level error. The logical volume cannot be created because its logical subsystem is not in the correct state.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02347E** *SOURCE* **Unable to delete logical volume: local server offline**

**Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02348E** *SOURCE* **Operation failure: logical subsystem not in correct state**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02349E** *SOURCE* **Unable to modify logical volume: incorrect state**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02350E** *SOURCE* **Logical volume operation failure: incorrect state**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02351E** *SOURCE* **Logical volume operation failure: Base volume is in incorrect state.**

**Explanation**

The logical volume operation fails because its base logical volume is not in the correct state.

**Action**

Change the configuration state of the base logical volume, or wait until its configuration completes, and then resubmit the task.

---

**CMUN02352E** *SOURCE* **Operation failure**

**Explanation**

The storage management console server reports a storage unit microcode-level error.



**Action**

Contact IBM technical support for assistance.

---

**CMUN02353E SOURCE Operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02354E SOURCE Operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02355E SOURCE Unable to delete SCSI host port****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02356E SOURCE Unable to create SCSI host port: invalid user host description****Explanation**

The SCSI host port specification contains an invalid user host description. The SCSI host port cannot be created.

**Action**

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02357E** *SOURCE* **Unable to create SCSI host port: invalid user host name**

**Explanation**

The SCSI host port specification contains an invalid user host name. The SCSI host port cannot be created.

**Action**

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02358E** *SOURCE* **Unable to modify SCSI host port: invalid user host description**

**Explanation**

The SCSI host port specification contains an invalid user host description. The SCSI host port cannot be modified.

**Action**

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02359E** *SOURCE* **Unable to modify SCSI host port: invalid user host name**

**Explanation**

The SCSI host port specification contains an invalid user host name. The SCSI host port cannot be modified.

**Action**

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02360E** *SOURCE* **Unable to add logical volume to volume group: invalid parameter**

**Explanation**

The operation to add the logical volume to the volume group fails because an invalid parameter is detected.

**Action**

Correct the specification, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02361E** *SOURCE* **Unable to modify volume group: invalid user name****Explanation**

The volume group cannot be modified because the user name that is provided is invalid.

**Action**

Use a valid user name with appropriate permissions, and then resubmit the task.

---

**CMUN02362E** *SOURCE* **Unable to query volume groups: incorrect volume configuration****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02363E** *SOURCE* **Unable to query volume groups: invalid parameter****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02364E** *SOURCE* **Unable to query volume groups: volume does not exist****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02365E** *SOURCE* **Unable to remove logical volume from volume group: invalid parameter****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02366E** *SOURCE* **Volume group operation failure: local server offline****Explanation**

The storage management console server reports a storage unit microcode-level error. A local server is not online. Microcode initialization might not have completed, or a failover has occurred and one server has not yet restarted.

**Action**

Monitor system status, and resubmit the task when both servers are online. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02367E** *SOURCE* **Volume group operation failure: incorrect volume configuration****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02368E** *SOURCE* **Volume group operation failure: volume does not exist****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02369E** *SOURCE* **Volume group operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02370E** *SOURCE* **Volume group operation failure: incorrect volume configuration**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02371E** *SOURCE* **Volume group operation failure: invalid parameter**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02372E** *SOURCE* **Volume group operation failure: volume does not exist**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02373E** *SOURCE* **Volume group operation failure: invalid parameter**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02374E** *SOURCE* **Unable to delete volume group**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02375E** *SOURCE* **Volume group operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02376E** *SOURCE* **Unable to modify logical volume: invalid data type****Explanation**

The logical volume cannot be modified because the specification contains an invalid data type.

**Action**

Specify a valid data type, and the resubmit the task.

---

**CMUN02377E** *SOURCE* **Error: inconsistent alias and base logical volume numbers****Explanation**

The first two digits of an alias logical volume number and its base logical volume number must be identical.

**Action**

Specify consistent alias and base logical volume numbers, and then resubmit the task.

---

**CMUN02378E** *SOURCE* **Error: A volume of this type cannot have an alias volume group.****Explanation**

An alias volume group is specified for a volume type that does not support the specification of aliases.

**Action**

Correct the specification, and then resubmit the task.

---

**CMUN02379E** *SOURCE* **Error: A volume of this type cannot have a base logical volume number.**

**Explanation**

A base logical volume number is specified for a volume type that does not support the specification of base logical volumes.

**Action**

Correct the specification, and then resubmit the task.

---

**CMUN02380E** *SOURCE* **Unable to create array. Array sites must be in the same loop.**

**Explanation**

Array creation across loops is not supported. The specified array sites are not in the same loop, and an array cannot be created using these array sites.

**Action**

Specify arrays that are in the same loop, and then resubmit the task.

---

**CMUN02381E** *SOURCE* **Unable to repair array**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02382E** *SOURCE* **Unable to repair array**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02383E** *SOURCE* **Unable to create, delete, or modify logical subsystem resources. Resource manager unavailable on alternate server.**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02384E** *SOURCE* **Operation failure: invalid file type**

### **Explanation**

The storage management console server reports a storage unit microcode-level error. A configuration file is not the correct file type.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02385E** *SOURCE* **Unable to modify network port: The specified IP address is invalid.**

### **Explanation**

The storage management console server reports a storage unit microcode-level error. An invalid IP address is specified.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02386E** *SOURCE* **Unable to modify network port: The specified network is invalid.**

### **Explanation**

The storage management console server reports a storage unit microcode-level error. An invalid network is specified.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN02387E** *SOURCE* **Unable to create array. At least one and no more than two array sites must be specified.**

### **Explanation**

You must specify at least one and no more than two array sites when you create RAID5 or RAID10 arrays.

### **Action**

Specify one or two array sites, and then resubmit the task.



---

## CMUN02388E Invalid logical volume size. See the help text for this message for valid sizes.

### Explanation

The specified volume size is not supported on all platforms. Supported logical volume sizes are microcode level dependent.

For DS microcode levels 5.0.3 and above:

- Supported Enterprise Storage System (ESS) logical volume sizes range from 0.1 to 982.2 decimal gigabytes (1GB = 10<sup>9</sup> bytes). You can calculate the exact number of 512 byte blocks as  $\text{INT}((\text{INT}(\text{GB} \times 10^9 / 512) + 63) / 64) \times 64$ . The size of the volume that is created on the ESS is identical to the size of the volume that is created on the DS.
- Supported DS logical volume sizes range from 1 to 2048 binary gigabytes (1GB = 2<sup>30</sup> bytes). This allocation uses the storage capacity of DS systems most efficiently.
- Supported block logical volume sizes range from 1 to 4 binary gigablocks (1 gigablock = 2<sup>30</sup> 512-byte blocks). If a specified size matches a supported DS or ESS logical volume size, the volume is identified as a DS or ESS logical volume, even though it is created by specifying the **blocks** volume type.
- Supported iSeries logical volume sizes are expressed in decimal gigabytes (1GB = 10<sup>9</sup> bytes):

A0 (8.6 GB protected)	A81 (8.6GB, unprotected)
A02 (17.5 GB protected)	A82 (17.5 GB unprotected)
A04 (70.5 GB protected)	A84 (70.5 GB unprotected)
A05 (35.1 GB protected)	A85 (35.1 GB unprotected)
A06 (141.12 GB protected)	A86 (141.12 GB unprotected)
A07 (282.25 GB protected)	A87 (282.25 GB unprotected)

For DS microcode levels 5.0.1 and 5.0.2, block logical volume sizes must be a multiple of 128, and ESS logical volume sizes must be in the following list:

0.1 (0.1)	0.2 (0.2)	0.3 (0.3)	0.4 (0.4)
0.9 (0.8)	1.0 (0.9)	1.1 (1.0)	1.2 (1.1)
1.7 (1.6)	1.8 (1.7)	1.9 (1.8)	2.0 (1.9)
2.5 (2.3)	2.6 (2.4)	2.7 (2.5)	2.8 (2.6)
3.3 (3.1)	3.4 (3.2)	3.5 (3.3)	3.6 (3.4)
3.7 (3.4)	4.2 (3.9)	4.3 (4.0)	4.4 (4.1)
4.5 (4.2)	5.0 (4.7)	5.1 (4.7)	5.2 (4.8)
5.3 (4.9)	5.8 (5.4)	5.9 (5.5)	6.0 (5.6)
6.1 (5.7)	6.7 (6.2)	6.8 (6.3)	6.9 (6.4)
7.0 (6.5)	7.5 (7.0)	7.6 (7.1)	7.7 (7.2)
7.8 (7.3)	8.3 (7.7)	8.4 (7.8)	8.5 (7.9)
8.6 (8.0)	9.1 (8.5)	9.2 (8.6)	9.3 (8.7)
9.4 (8.8)	10.0 (9.3)	10.1 (9.4)	10.2 (9.5)
10.3 (9.6)	10.8 (10.1)	10.9 (10.2)	11.0 (10.2)
11.1 (10.3)	11.6 (10.8)	11.7 (10.9)	11.8 (11.0)
11.9 (11.1)	12.4 (11.5)	12.5 (11.6)	12.6 (11.7)
12.7 (11.8)	13.3 (12.4)	13.4 (12.5)	13.5 (12.6)
13.6 (12.7)	14.1 (13.1)	14.2 (13.2)	14.3 (13.3)
14.4 (13.4)	14.9 (13.9)	15.0 (14.0)	15.1 (14.1)
15.2 (14.2)	15.7 (14.6)	15.8 (14.7)	15.9 (14.8)
16.0 (14.9)	16.6 (15.5)	16.7 (15.6)	16.8 (15.6)
16.9 (15.7)	17.4 (16.2)	17.5 (16.3)	17.6 (16.4)
17.7 (16.5)	18.2 (17.0)	18.3 (17.0)	18.4 (17.1)
18.5 (17.2)	19.0 (17.7)	19.1 (17.8)	19.2 (17.9)
19.3 (18.0)	19.4 (18.1)	19.9 (18.5)	20.0 (18.6)
20.1 (18.7)	20.2 (18.8)	20.7 (19.3)	20.8 (19.4)

20.9 (19.5)	21.0 (19.6)	21.5 (20.0)	21.6 (20.1)
21.7 (20.2)	21.8 (20.3)	22.3 (20.8)	22.4 (20.9)
22.5 (21.0)	22.6 (21.0)	22.7 (21.1)	23.2 (21.6)
23.3 (21.7)	23.4 (21.8)	23.5 (21.9)	24.0 (22.4)
24.1 (22.4)	24.2 (22.5)	24.3 (22.6)	24.8 (23.1)
24.9 (23.2)	25.0 (23.3)	25.1 (23.4)	25.6 (23.8)
25.7 (23.9)	25.8 (24.0)	25.9 (24.1)	26.0 (24.2)
26.5 (24.7)	26.6 (24.8)	26.7 (24.9)	26.8 (25.0)
27.3 (25.4)	27.4 (25.5)	27.5 (25.6)	27.6 (25.7)
28.1 (26.2)	28.2 (26.3)	28.3 (26.4)	28.4 (26.4)
28.9 (26.9)	29.0 (27.0)	29.1 (27.1)	29.2 (27.2)
29.3 (27.3)	29.8 (27.8)	29.9 (27.8)	30.0 (27.9)
30.1 (28.0)	30.6 (28.5)	30.7 (28.6)	30.8 (28.7)
30.9 (28.8)	31.4 (29.2)	31.5 (29.3)	31.6 (29.4)
31.7 (29.5)	32.3 (30.1)	32.4 (30.2)	32.5 (30.3)
32.6 (30.4)	33.1 (30.8)	33.2 (30.9)	33.3 (31.0)
33.4 (31.1)	33.9 (31.6)	34.0 (31.7)	34.1 (31.8)
34.2 (31.9)	34.7 (32.3)	34.8 (32.4)	34.9 (32.5)
35.0 (32.6)	35.6 (33.2)	35.7 (33.2)	35.8 (33.3)
35.9 (33.4)	36.4 (33.9)	36.5 (34.0)	36.6 (34.1)
36.7 (34.2)	37.2 (34.6)	37.3 (34.7)	37.4 (34.8)
37.5 (34.9)	38.0 (35.4)	38.1 (35.5)	38.2 (35.6)
38.3 (35.7)	38.9 (36.2)	39.0 (36.3)	39.1 (36.4)
39.2 (36.5)	39.7 (37.0)	39.8 (37.1)	39.9 (37.2)
40.0 (37.3)	40.5 (37.7)	40.6 (37.8)	40.7 (37.9)
40.8 (38.0)	41.3 (38.5)	41.4 (38.6)	41.5 (38.6)
41.6 (38.7)	42.2 (39.3)	42.3 (39.4)	42.4 (39.5)
42.5 (39.6)	43.0 (40.0)	43.1 (40.1)	43.2 (40.2)
43.3 (40.3)	43.8 (40.8)	43.9 (40.9)	44.0 (41.0)
44.1 (41.1)	44.6 (41.5)	44.7 (41.6)	44.8 (41.7)
44.9 (41.8)	45.0 (41.9)	45.5 (42.4)	45.6 (42.5)
45.7 (42.6)	45.8 (42.7)	46.3 (43.1)	46.4 (43.2)
46.5 (43.3)	46.6 (43.4)	47.1 (43.9)	47.2 (44.0)
47.3 (44.1)	47.4 (44.1)	47.9 (44.6)	48.0 (44.7)
48.1 (44.8)	48.2 (44.9)	48.3 (45.0)	48.8 (45.4)
48.9 (45.5)	49.0 (45.6)	49.1 (45.7)	49.6 (46.2)
49.7 (46.3)	49.8 (46.4)	49.9 (46.5)	50.4 (46.9)
50.5 (47.0)	50.6 (47.1)	50.7 (47.2)	51.2 (47.7)
51.3 (47.8)	51.4 (47.9)	51.5 (48.0)	51.6 (48.1)
52.1 (48.5)	52.2 (48.6)	52.3 (48.7)	52.4 (48.8)
52.9 (49.3)	53.0 (49.4)	53.1 (49.5)	53.2 (49.5)
53.7 (50.0)	53.8 (50.1)	53.9 (50.2)	54.0 (50.3)
54.5 (50.8)	54.6 (50.9)	54.7 (50.9)	54.8 (51.0)
54.9 (51.1)	55.4 (51.6)	55.5 (51.7)	55.6 (51.8)
55.7 (51.9)	56.2 (52.3)	56.3 (52.4)	56.4 (52.5)
56.5 (52.6)	57.0 (53.1)	57.1 (53.2)	57.2 (53.3)
57.3 (53.4)	57.9 (53.9)	58.0 (54.0)	58.1 (54.1)
58.2 (54.2)	58.7 (54.7)	58.8 (54.8)	58.9 (54.9)
59.0 (54.9)	59.5 (55.4)	59.6 (55.5)	59.7 (55.6)
59.8 (55.7)	60.3 (56.2)	60.4 (56.3)	60.5 (56.3)
60.6 (56.4)	61.2 (57.0)	61.3 (57.1)	61.4 (57.2)
61.5 (57.3)	62.0 (57.7)	62.1 (57.8)	62.2 (57.9)
62.3 (58.0)	62.8 (58.5)	62.9 (58.6)	63.0 (58.7)
63.1 (58.8)	63.6 (59.2)	63.7 (59.3)	63.8 (59.4)
63.9 (59.5)	64.5 (60.1)	64.6 (60.2)	64.7 (60.3)
64.8 (60.3)	65.3 (60.8)	65.4 (60.9)	65.5 (61.0)
65.6 (61.1)	66.1 (61.6)	66.2 (61.7)	66.3 (61.7)
66.4 (61.8)	66.9 (62.3)	67.0 (62.4)	67.1 (62.5)
67.2 (62.6)	67.8 (63.1)	67.9 (63.2)	68.0 (63.3)
68.1 (63.4)	68.6 (63.9)	68.7 (64.0)	68.8 (64.1)
68.9 (64.2)	69.4 (64.6)	69.5 (64.7)	69.6 (64.8)
69.7 (64.9)	70.2 (65.4)	70.3 (65.5)	70.4 (65.6)
70.5 (65.7)	70.6 (65.8)	71.1 (66.2)	71.2 (66.3)
71.3 (66.4)	71.4 (66.5)	71.9 (67.0)	72.0 (67.1)
72.1 (67.1)	72.2 (67.2)	72.7 (67.7)	72.8 (67.8)
72.9 (67.9)	73.0 (68.0)	73.5 (68.5)	73.6 (68.5)
73.7 (68.6)	73.8 (68.7)	73.9 (68.8)	74.4 (69.3)

74.5 (69.4)	74.6 (69.5)	74.7 (69.6)	75.2 (70.0)
75.3 (70.1)	75.4 (70.2)	75.5 (70.3)	76.0 (70.8)
76.1 (70.9)	76.2 (71.0)	76.3 (71.1)	76.8 (71.5)
76.9 (71.6)	77.0 (71.7)	77.1 (71.8)	77.2 (71.9)
77.7 (72.4)	77.8 (72.5)	77.9 (72.6)	78.0 (72.6)
78.5 (73.1)	78.6 (73.2)	78.7 (73.3)	78.8 (73.4)
79.3 (73.9)	79.4 (73.9)	79.5 (74.0)	79.6 (74.1)
80.1 (74.6)	80.2 (74.7)	80.3 (74.8)	80.4 (74.9)
80.5 (75.0)	81.0 (75.4)	81.1 (75.5)	81.2 (75.6)
81.3 (75.7)	81.8 (76.2)	81.9 (76.3)	82.0 (76.4)
82.1 (76.5)	82.6 (76.9)	82.7 (77.0)	82.8 (77.1)
82.9 (77.2)	83.5 (77.8)	83.6 (77.9)	83.7 (78.0)
83.8 (78.0)	84.3 (78.5)	84.4 (78.6)	84.5 (78.7)
84.6 (78.8)	85.1 (79.3)	85.2 (79.3)	85.3 (79.4)
85.4 (79.5)	85.9 (80.0)	86.0 (80.1)	86.1 (80.2)
86.2 (80.3)	86.8 (80.8)	86.9 (80.9)	87.0 (81.0)
87.1 (81.1)	87.6 (81.6)	87.7 (81.7)	87.8 (81.8)
87.9 (81.9)	88.4 (82.3)	88.5 (82.4)	88.6 (82.5)
88.7 (82.6)	89.2 (83.1)	89.3 (83.2)	89.4 (83.3)
89.5 (83.4)	90.1 (83.9)	90.2 (84.0)	90.3 (84.1)
90.4 (84.2)	90.9 (84.7)	91.0 (84.8)	91.1 (84.8)
91.2 (84.9)	91.7 (85.4)	91.8 (85.5)	91.9 (85.6)
92.0 (85.7)	92.5 (86.1)	92.6 (86.2)	92.7 (86.3)
92.8 (86.4)	93.4 (87.0)	93.5 (87.1)	93.6 (87.2)
93.7 (87.3)	94.2 (87.7)	94.3 (87.8)	94.4 (87.9)
94.5 (88.0)	95.0 (88.5)	95.1 (88.6)	95.2 (88.7)
95.3 (88.8)	95.8 (89.2)	95.9 (89.3)	96.0 (89.4)
96.1 (89.5)	96.2 (89.6)	96.7 (90.1)	96.8 (90.2)
96.9 (90.2)	97.0 (90.3)	97.5 (90.8)	97.6 (90.9)
97.7 (91.0)	97.8 (91.1)	98.3 (91.5)	98.4 (91.6)
98.5 (91.7)	98.6 (91.8)	99.1 (92.3)	99.2 (92.4)
99.3 (92.5)	99.4 (92.6)	99.5 (92.7)	100.0 (93.1)
100.1 (93.2)	100.2 (93.3)	100.3 (93.4)	100.8 (93.9)
100.9 (94.0)	101.0 (94.1)	101.1 (94.2)	101.6 (94.6)
101.7 (94.7)	101.8 (94.8)	101.9 (94.9)	102.4 (95.4)
102.5 (95.5)	102.6 (95.6)	102.7 (95.6)	102.8 (95.7)
103.3 (96.2)	103.4 (96.3)	103.5 (96.4)	103.6 (96.5)
104.1 (97.0)	104.2 (97.0)	104.3 (97.1)	104.4 (97.2)
104.9 (97.7)	105.0 (97.8)	105.1 (97.9)	105.2 (98.0)
105.7 (98.4)	105.8 (98.5)	105.9 (98.6)	106.0 (98.7)
106.1 (98.8)	106.6 (99.3)	106.7 (99.4)	106.8 (99.5)
106.9 (99.6)	107.4 (100.0)	107.5 (100.1)	107.6 (100.2)
107.7 (100.3)	108.2 (100.8)	108.3 (100.9)	108.4 (101.0)
108.5 (101.0)	109.1 (101.6)	109.2 (101.7)	109.3 (101.8)
109.4 (101.9)	109.9 (102.4)	110.0 (102.4)	110.1 (102.5)
110.2 (102.6)	110.7 (103.1)	110.8 (103.2)	110.9 (103.3)
111.0 (103.4)	111.5 (103.8)	111.6 (103.9)	111.7 (104.0)
111.8 (104.1)	112.4 (104.7)	112.5 (104.8)	112.6 (104.9)
112.7 (105.0)	113.2 (105.4)	113.3 (105.5)	113.4 (105.6)
113.5 (105.7)	114.0 (106.2)	114.1 (106.3)	114.2 (106.4)
114.3 (106.5)	114.8 (106.9)	114.9 (107.0)	115.0 (107.1)
115.1 (107.2)	115.7 (107.8)	115.8 (107.8)	115.9 (107.9)
116.0 (108.0)	116.5 (108.5)	116.6 (108.6)	116.7 (108.7)
116.8 (108.8)	117.3 (109.2)	117.4 (109.3)	117.5 (109.4)
117.6 (109.5)	118.1 (110.0)	118.2 (110.1)	118.3 (110.2)
118.4 (110.3)	119.0 (110.8)	119.1 (110.9)	119.2 (111.0)
119.3 (111.1)	119.8 (111.6)	119.9 (111.7)	120.0 (111.8)
120.1 (111.9)	120.6 (112.3)	120.7 (112.4)	120.8 (112.5)
120.9 (112.6)	121.4 (113.1)	121.5 (113.2)	121.6 (113.2)
121.7 (113.3)	121.8 (113.4)	122.3 (113.9)	122.4 (114.0)
122.5 (114.1)	122.6 (114.2)	123.1 (114.6)	123.2 (114.7)
123.3 (114.8)	123.4 (114.9)	123.9 (115.4)	124.0 (115.5)
124.1 (115.6)	124.2 (115.7)	124.7 (116.1)	124.8 (116.2)
124.9 (116.3)	125.0 (116.4)	125.1 (116.5)	125.6 (117.0)
125.7 (117.1)	125.8 (117.2)	125.9 (117.3)	126.4 (117.7)
126.5 (117.8)	126.6 (117.9)	126.7 (118.0)	127.2 (118.5)
127.3 (118.6)	127.4 (118.7)	127.5 (118.7)	128.0 (119.2)

128.1 (119.3)	128.2 (119.4)	128.3 (119.5)	128.4 (119.6)
128.9 (120.0)	129.0 (120.1)	129.1 (120.2)	129.2 (120.3)
129.7 (120.8)	129.8 (120.9)	129.9 (121.0)	130.0 (121.1)
130.5 (121.5)	130.6 (121.6)	130.7 (121.7)	130.8 (121.8)
131.3 (122.3)	131.4 (122.4)	131.5 (122.5)	131.6 (122.6)
131.7 (122.7)	132.2 (123.1)	132.3 (123.2)	132.4 (123.3)
132.5 (123.4)	133.0 (123.9)	133.1 (124.0)	133.2 (124.1)
133.3 (124.1)	133.8 (124.6)	133.9 (124.7)	134.0 (124.8)
134.1 (124.9)	134.7 (125.4)	134.8 (125.5)	134.9 (125.6)
135.0 (125.7)	135.5 (126.2)	135.6 (126.3)	135.7 (126.4)
135.8 (126.5)	136.3 (126.9)	136.4 (127.0)	136.5 (127.1)
136.6 (127.2)	137.1 (127.7)	137.2 (127.8)	137.3 (127.9)
137.4 (128.0)	138.0 (128.5)	138.1 (128.6)	138.2 (128.7)
138.3 (128.8)	138.8 (129.3)	138.9 (129.4)	139.0 (129.5)
139.1 (129.5)	139.6 (130.0)	139.7 (130.1)	139.8 (130.2)
139.9 (130.3)	140.4 (130.8)	140.5 (130.9)	140.6 (130.9)
140.7 (131.0)	141.3 (131.6)	141.4 (131.7)	141.5 (131.8)
141.6 (131.9)	142.1 (132.3)	142.2 (132.4)	142.3 (132.5)
142.4 (132.6)	142.9 (133.1)	143.0 (133.2)	143.1 (133.3)
143.2 (133.4)	143.7 (133.8)	143.8 (133.9)	143.9 (134.0)
144.0 (134.1)	144.6 (134.7)	144.7 (134.8)	144.8 (134.9)
144.9 (134.9)	145.4 (135.4)	145.5 (135.5)	145.6 (135.6)
145.7 (135.7)	146.2 (136.2)	146.3 (136.3)	146.4 (136.3)
146.5 (136.4)	147.0 (136.9)	147.1 (137.0)	147.2 (137.1)
147.3 (137.2)	147.4 (137.3)	147.9 (137.7)	148.0 (137.8)
148.1 (137.9)	148.2 (138.0)	148.7 (138.5)	148.8 (138.6)
148.9 (138.7)	149.0 (138.8)	149.5 (139.2)	149.6 (139.3)
149.7 (139.4)	149.8 (139.5)	150.3 (140.0)	150.4 (140.1)
150.5 (140.2)	150.6 (140.3)	150.7 (140.4)	151.2 (140.8)
151.3 (140.9)	151.4 (141.0)	151.5 (141.1)	152.0 (141.6)
152.1 (141.7)	152.2 (141.7)	152.3 (141.8)	152.8 (142.3)
152.9 (142.4)	153.0 (142.5)	153.1 (142.6)	153.6 (143.1)
153.7 (143.1)	153.8 (143.2)	153.9 (143.3)	154.0 (143.4)
154.5 (143.9)	154.6 (144.0)	154.7 (144.1)	154.8 (144.2)
155.3 (144.6)	155.4 (144.7)	155.5 (144.8)	155.6 (144.9)
156.1 (145.4)	156.2 (145.5)	156.3 (145.6)	156.4 (145.7)
156.9 (146.1)	157.0 (146.2)	157.1 (146.3)	157.2 (146.4)
157.3 (146.5)	157.8 (147.0)	157.9 (147.1)	158.0 (147.1)
158.1 (147.2)	158.6 (147.7)	158.7 (147.8)	158.8 (147.9)
158.9 (148.0)	159.4 (148.5)	159.5 (148.5)	159.6 (148.6)
159.7 (148.7)	160.3 (149.3)	160.4 (149.4)	160.5 (149.5)
160.6 (149.6)	161.1 (150.0)	161.2 (150.1)	161.3 (150.2)
161.4 (150.3)	161.9 (150.8)	162.0 (150.9)	162.1 (151.0)
162.2 (151.1)	162.7 (151.5)	162.8 (151.6)	162.9 (151.7)
163.0 (151.8)	163.6 (152.4)	163.7 (152.5)	163.8 (152.6)
163.9 (152.6)	164.4 (153.1)	164.5 (153.2)	164.6 (153.3)
164.7 (153.4)	165.2 (153.9)	165.3 (153.9)	165.4 (154.0)
165.5 (154.1)	166.0 (154.6)	166.1 (154.7)	166.2 (154.8)
166.3 (154.9)	166.9 (155.4)	167.0 (155.5)	167.1 (155.6)
167.2 (155.7)	167.7 (156.2)	167.8 (156.3)	167.9 (156.4)
168.0 (156.5)	168.5 (156.9)	168.6 (157.0)	168.7 (157.1)
168.8 (157.2)	169.3 (157.7)	169.4 (157.8)	169.5 (157.9)
169.6 (158.0)	170.2 (158.5)	170.3 (158.6)	170.4 (158.7)
170.5 (158.8)	171.0 (159.3)	171.1 (159.3)	171.2 (159.4)
171.3 (159.5)	171.8 (160.0)	171.9 (160.1)	172.0 (160.2)
172.1 (160.3)	172.6 (160.7)	172.7 (160.8)	172.8 (160.9)
172.9 (161.0)	173.0 (161.1)	173.5 (161.6)	173.6 (161.7)
173.7 (161.8)	173.8 (161.9)	174.3 (162.3)	174.4 (162.4)
174.5 (162.5)	174.6 (162.6)	175.1 (163.1)	175.2 (163.2)
175.3 (163.3)	175.4 (163.4)	175.9 (163.8)	176.0 (163.9)
176.1 (164.0)	176.2 (164.1)	176.3 (164.2)	176.8 (164.7)
176.9 (164.8)	177.0 (164.8)	177.1 (164.9)	177.6 (165.4)
177.7 (165.5)	177.8 (165.6)	177.9 (165.7)	178.4 (166.1)
178.5 (166.2)	178.6 (166.3)	178.7 (166.4)	179.2 (166.9)
179.3 (167.0)	179.4 (167.1)	179.5 (167.2)	179.6 (167.3)
180.1 (167.7)	180.2 (167.8)	180.3 (167.9)	180.4 (168.0)
180.9 (168.5)	181.0 (168.6)	181.1 (168.7)	181.2 (168.8)

181.7 (169.2)	181.8 (169.3)	181.9 (169.4)	182.0 (169.5)
182.5 (170.0)	182.6 (170.1)	182.7 (170.2)	182.8 (170.2)
182.9 (170.3)	183.4 (170.8)	183.5 (170.9)	183.6 (171.0)
183.7 (171.1)	184.2 (171.5)	184.3 (171.6)	184.4 (171.7)
184.5 (171.8)	185.0 (172.3)	185.1 (172.4)	185.2 (172.5)
185.3 (172.6)	185.9 (173.1)	186.0 (173.2)	186.1 (173.3)
186.2 (173.4)	186.7 (173.9)	186.8 (174.0)	186.9 (174.1)
187.0 (174.2)	187.5 (174.6)	187.6 (174.7)	187.7 (174.8)
187.8 (174.9)	188.3 (175.4)	188.4 (175.5)	188.5 (175.6)
188.6 (175.6)	189.2 (176.2)	189.3 (176.3)	189.4 (176.4)
189.5 (176.5)	190.0 (177.0)	190.1 (177.0)	190.2 (177.1)
190.3 (177.2)	190.8 (177.7)	190.9 (177.8)	191.0 (177.9)
191.1 (178.0)	191.6 (178.4)	191.7 (178.5)	191.8 (178.6)
191.9 (178.7)	192.5 (179.3)	192.6 (179.4)	192.7 (179.5)
192.8 (179.6)	193.3 (180.0)	193.4 (180.1)	193.5 (180.2)
193.6 (180.3)	194.1 (180.8)	194.2 (180.9)	194.3 (181.0)
194.4 (181.0)	194.9 (181.5)	195.0 (181.6)	195.1 (181.7)
195.2 (181.8)	195.8 (182.4)	195.9 (182.4)	196.0 (182.5)
196.1 (182.6)	196.6 (183.1)	196.7 (183.2)	196.8 (183.3)
196.9 (183.4)	197.4 (183.8)	197.5 (183.9)	197.6 (184.0)
197.7 (184.1)	198.2 (184.6)	198.3 (184.7)	198.4 (184.8)
198.5 (184.9)	198.6 (185.0)	199.1 (185.4)	199.2 (185.5)
199.3 (185.6)	199.4 (185.7)	199.9 (186.2)	200.0 (186.3)
200.1 (186.4)	200.2 (186.5)	200.7 (186.9)	200.8 (187.0)
200.9 (187.1)	201.0 (187.2)	201.5 (187.7)	201.6 (187.8)
201.7 (187.8)	201.8 (187.9)	201.9 (188.0)	202.4 (188.5)
202.5 (188.6)	202.6 (188.7)	202.7 (188.8)	203.2 (189.2)
203.3 (189.3)	203.4 (189.4)	203.5 (189.5)	204.0 (190.0)
204.1 (190.1)	204.2 (190.2)	204.3 (190.3)	204.8 (190.7)
204.9 (190.8)	205.0 (190.9)	205.1 (191.0)	205.2 (191.1)
205.7 (191.6)	205.8 (191.7)	205.9 (191.8)	206.0 (191.9)
206.5 (192.3)	206.6 (192.4)	206.7 (192.5)	206.8 (192.6)
207.3 (193.1)	207.4 (193.2)	207.5 (193.2)	207.6 (193.3)
208.1 (193.8)	208.2 (193.9)	208.3 (194.0)	208.4 (194.1)
208.5 (194.2)	209.0 (194.6)	209.1 (194.7)	209.2 (194.8)
209.3 (194.9)	209.8 (195.4)	209.9 (195.5)	210.0 (195.6)
210.1 (195.7)	210.6 (196.1)	210.7 (196.2)	210.8 (196.3)
210.9 (196.4)	211.5 (197.0)	211.6 (197.1)	211.7 (197.2)
211.8 (197.3)	212.3 (197.7)	212.4 (197.8)	212.5 (197.9)
212.6 (198.0)	213.1 (198.5)	213.2 (198.6)	213.3 (198.7)
213.4 (198.7)	213.9 (199.2)	214.0 (199.3)	214.1 (199.4)
214.2 (199.5)	214.8 (200.0)	214.9 (200.1)	215.0 (200.2)
215.1 (200.3)	215.6 (200.8)	215.7 (200.9)	215.8 (201.0)
215.9 (201.1)	216.4 (201.5)	216.5 (201.6)	216.6 (201.7)
216.7 (201.8)	217.2 (202.3)	217.3 (202.4)	217.4 (202.5)
217.5 (202.6)	218.1 (203.1)	218.2 (203.2)	218.3 (203.3)
218.4 (203.4)	218.9 (203.9)	219.0 (204.0)	219.1 (204.1)
219.2 (204.1)	219.7 (204.6)	219.8 (204.7)	219.9 (204.8)
220.0 (204.9)	220.5 (205.4)	220.6 (205.4)	220.7 (205.5)
220.8 (205.6)	221.4 (206.2)	221.5 (206.3)	221.6 (206.4)
221.7 (206.5)	222.2 (206.9)	222.3 (207.0)	222.4 (207.1)
222.5 (207.2)	223.0 (207.7)	223.1 (207.8)	223.2 (207.9)
223.3 (208.0)	223.8 (208.4)	223.9 (208.5)	224.0 (208.6)
224.1 (208.7)	224.2 (208.8)	224.7 (209.3)	224.8 (209.4)
224.9 (209.5)	225.0 (209.5)	225.5 (210.0)	225.6 (210.1)
225.7 (210.2)	225.8 (210.3)	226.3 (210.8)	226.4 (210.9)
226.5 (210.9)	226.6 (211.0)	227.1 (211.5)	227.2 (211.6)
227.3 (211.7)	227.4 (211.8)	227.5 (211.9)	228.0 (212.3)
228.1 (212.4)	228.2 (212.5)	228.3 (212.6)	228.8 (213.1)
228.9 (213.2)	229.0 (213.3)	229.1 (213.4)	229.6 (213.8)
229.7 (213.9)	229.8 (214.0)	229.9 (214.1)	230.4 (214.6)
230.5 (214.7)	230.6 (214.8)	230.7 (214.9)	230.8 (214.9)
231.3 (215.4)	231.4 (215.5)	231.5 (215.6)	231.6 (215.7)
232.1 (216.2)	232.2 (216.3)	232.3 (216.3)	232.4 (216.4)
232.9 (216.9)	233.0 (217.0)	233.1 (217.1)	233.2 (217.2)
233.7 (217.7)	233.8 (217.7)	233.9 (217.8)	234.0 (217.9)
234.1 (218.0)	234.6 (218.5)	234.7 (218.6)	234.8 (218.7)

234.9 (218.8)	235.4 (219.2)	235.5 (219.3)	235.6 (219.4)
235.7 (219.5)	236.2 (220.0)	236.3 (220.1)	236.4 (220.2)
236.5 (220.3)	237.1 (220.8)	237.2 (220.9)	237.3 (221.0)
237.4 (221.1)	237.9 (221.6)	238.0 (221.7)	238.1 (221.7)
238.2 (221.8)	238.7 (222.3)	238.8 (222.4)	238.9 (222.5)
239.0 (222.6)	239.5 (223.1)	239.6 (223.1)	239.7 (223.2)
239.8 (223.3)	240.4 (223.9)	240.5 (224.0)	240.6 (224.1)
240.7 (224.2)	241.2 (224.6)	241.3 (224.7)	241.4 (224.8)
241.5 (224.9)	242.0 (225.4)	242.1 (225.5)	242.2 (225.6)
242.3 (225.7)	242.8 (226.1)	242.9 (226.2)	243.0 (226.3)
243.1 (226.4)	243.7 (227.0)	243.8 (227.1)	243.9 (227.1)
244.0 (227.2)	244.5 (227.7)	244.6 (227.8)	244.7 (227.9)
244.8 (228.0)	245.3 (228.5)	245.4 (228.5)	245.5 (228.6)
245.6 (228.7)	246.1 (229.2)	246.2 (229.3)	246.3 (229.4)
246.4 (229.5)	247.0 (230.0)	247.1 (230.1)	247.2 (230.2)
247.3 (230.3)	247.8 (230.8)	247.9 (230.9)	248.0 (231.0)
248.1 (231.1)	248.6 (231.5)	248.7 (231.6)	248.8 (231.7)
248.9 (231.8)	249.4 (232.3)	249.5 (232.4)	249.6 (232.5)
249.7 (232.6)	249.8 (232.6)	250.3 (233.1)	250.4 (233.2)
250.5 (233.3)	250.6 (233.4)	251.1 (233.9)	251.2 (233.9)
251.3 (234.0)	251.4 (234.1)	251.9 (234.6)	252.0 (234.7)
252.1 (234.8)	252.2 (234.9)	252.7 (235.3)	252.8 (235.4)
252.9 (235.5)	253.0 (235.6)	253.1 (235.7)	253.6 (236.2)
253.7 (236.3)	253.8 (236.4)	253.9 (236.5)	254.4 (236.9)
254.5 (237.0)	254.6 (237.1)	254.7 (237.2)	255.2 (237.7)
255.3 (237.8)	255.4 (237.9)	255.5 (238.0)	256.0 (238.4)
256.1 (238.5)	256.2 (238.6)	256.3 (238.7)	256.4 (238.8)
256.9 (239.3)	257.0 (239.3)	257.1 (239.4)	257.2 (239.5)
257.7 (240.0)	257.8 (240.1)	257.9 (240.2)	258.0 (240.3)
258.5 (240.7)	258.6 (240.8)	258.7 (240.9)	258.8 (241.0)
259.3 (241.5)	259.4 (241.6)	259.5 (241.7)	259.6 (241.8)
259.7 (241.9)	260.2 (242.3)	260.3 (242.4)	260.4 (242.5)
260.5 (242.6)	261.0 (243.1)	261.1 (243.2)	261.2 (243.3)
261.3 (243.4)	261.8 (243.8)	261.9 (243.9)	262.0 (244.0)
262.1 (244.1)	262.7 (244.7)	262.8 (244.8)	262.9 (244.8)
263.0 (244.9)	263.5 (245.4)	263.6 (245.5)	263.7 (245.6)
263.8 (245.7)	264.3 (246.1)	264.4 (246.2)	264.5 (246.3)
264.6 (246.4)	265.1 (246.9)	265.2 (247.0)	265.3 (247.1)
265.4 (247.2)	266.0 (247.7)	266.1 (247.8)	266.2 (247.9)
266.3 (248.0)	266.8 (248.5)	266.9 (248.6)	267.0 (248.7)
267.1 (248.8)	267.6 (249.2)	267.7 (249.3)	267.8 (249.4)
267.9 (249.5)	268.4 (250.0)	268.5 (250.1)	268.6 (250.2)
268.7 (250.2)	269.3 (250.8)	269.4 (250.9)	269.5 (251.0)
269.6 (251.1)	270.1 (251.6)	270.2 (251.6)	270.3 (251.7)
270.4 (251.8)	270.9 (252.3)	271.0 (252.4)	271.1 (252.5)
271.2 (252.6)	271.7 (253.0)	271.8 (253.1)	271.9 (253.2)
272.0 (253.3)	272.6 (253.9)	272.7 (254.0)	272.8 (254.1)
272.9 (254.2)	273.4 (254.6)	273.5 (254.7)	273.6 (254.8)
273.7 (254.9)	274.2 (255.4)	274.3 (255.5)	274.4 (255.6)
274.5 (255.6)	275.0 (256.1)	275.1 (256.2)	275.2 (256.3)
275.3 (256.4)	275.4 (256.5)	275.9 (257.0)	276.0 (257.0)
276.1 (257.1)	276.2 (257.2)	276.7 (257.7)	276.8 (257.8)
276.9 (257.9)	277.0 (258.0)	277.5 (258.4)	277.6 (258.5)
277.7 (258.6)	277.8 (258.7)	278.3 (259.2)	278.4 (259.3)
278.5 (259.4)	278.6 (259.5)	278.7 (259.6)	279.2 (260.0)
279.3 (260.1)	279.4 (260.2)	279.5 (260.3)	280.0 (260.8)
280.1 (260.9)	280.2 (261.0)	280.3 (261.0)	280.8 (261.5)
280.9 (261.6)	281.0 (261.7)	281.1 (261.8)	281.6 (262.3)
281.7 (262.4)	281.8 (262.4)	281.9 (262.5)	282.0 (262.6)
282.5 (263.1)	282.6 (263.2)	282.7 (263.3)	282.8 (263.4)
283.3 (263.8)	283.4 (263.9)	283.5 (264.0)	283.6 (264.1)
284.1 (264.6)	284.2 (264.7)	284.3 (264.8)	284.4 (264.9)
284.9 (265.3)	285.0 (265.4)	285.1 (265.5)	285.2 (265.6)
285.3 (265.7)	285.8 (266.2)	285.9 (266.3)	286.0 (266.4)
286.1 (266.5)	286.6 (266.9)	286.7 (267.0)	286.8 (267.1)
286.9 (267.2)	287.4 (267.7)	287.5 (267.8)	287.6 (267.8)
287.7 (267.9)	288.3 (268.5)	288.4 (268.6)	288.5 (268.7)



288.6 (268.8)	289.1 (269.2)	289.2 (269.3)	289.3 (269.4)
289.4 (269.5)	289.9 (270.0)	290.0 (270.1)	290.1 (270.2)
290.2 (270.3)	290.7 (270.7)	290.8 (270.8)	290.9 (270.9)
291.0 (271.0)	291.6 (271.6)	291.7 (271.7)	291.8 (271.8)
291.9 (271.9)	292.4 (272.3)	292.5 (272.4)	292.6 (272.5)
292.7 (272.6)	293.2 (273.1)	293.3 (273.2)	293.4 (273.3)
293.5 (273.3)	294.0 (273.8)	294.1 (273.9)	294.2 (274.0)
294.3 (274.1)	294.9 (274.6)	295.0 (274.7)	295.1 (274.8)
295.2 (274.9)	295.7 (275.4)	295.8 (275.5)	295.9 (275.6)
296.0 (275.7)	296.5 (276.1)	296.6 (276.2)	296.7 (276.3)
296.8 (276.4)	297.3 (276.9)	297.4 (277.0)	297.5 (277.1)
297.6 (277.2)	298.2 (277.7)	298.3 (277.8)	298.4 (277.9)
298.5 (278.0)	299.0 (278.5)	299.1 (278.6)	299.2 (278.7)
299.3 (278.7)	299.8 (279.2)	299.9 (279.3)	300.0 (279.4)
300.1 (279.5)	300.6 (280.0)	300.7 (280.0)	300.8 (280.1)
300.9 (280.2)	301.0 (280.3)	301.5 (280.8)	301.6 (280.9)
301.7 (281.0)	301.8 (281.1)	302.3 (281.5)	302.4 (281.6)
302.5 (281.7)	302.6 (281.8)	303.1 (282.3)	303.2 (282.4)
303.3 (282.5)	303.4 (282.6)	303.9 (283.0)	304.0 (283.1)
304.1 (283.2)	304.2 (283.3)	304.3 (283.4)	304.8 (283.9)
304.9 (284.0)	305.0 (284.1)	305.1 (284.1)	305.6 (284.6)
305.7 (284.7)	305.8 (284.8)	305.9 (284.9)	306.4 (285.4)
306.5 (285.5)	306.6 (285.5)	306.7 (285.6)	307.2 (286.1)
307.3 (286.2)	307.4 (286.3)	307.5 (286.4)	307.6 (286.5)
308.1 (286.9)	308.2 (287.0)	308.3 (287.1)	308.4 (287.2)
308.9 (287.7)	309.0 (287.8)	309.1 (287.9)	309.2 (288.0)
309.7 (288.4)	309.8 (288.5)	309.9 (288.6)	310.0 (288.7)
310.5 (289.2)	310.6 (289.3)	310.7 (289.4)	310.8 (289.5)
310.9 (289.5)	311.4 (290.0)	311.5 (290.1)	311.6 (290.2)
311.7 (290.3)	312.2 (290.8)	312.3 (290.9)	312.4 (290.9)
312.5 (291.0)	313.0 (291.5)	313.1 (291.6)	313.2 (291.7)
313.3 (291.8)	313.9 (292.3)	314.0 (292.4)	314.1 (292.5)
314.2 (292.6)	314.7 (293.1)	314.8 (293.2)	314.9 (293.3)
315.0 (293.4)	315.5 (293.8)	315.6 (293.9)	315.7 (294.0)
315.8 (294.1)	316.3 (294.6)	316.4 (294.7)	316.5 (294.8)
316.6 (294.9)	317.2 (295.4)	317.3 (295.5)	317.4 (295.6)
317.5 (295.7)	318.0 (296.2)	318.1 (296.3)	318.2 (296.3)
318.3 (296.4)	318.8 (296.9)	318.9 (297.0)	319.0 (297.1)
319.1 (297.2)	319.6 (297.7)	319.7 (297.7)	319.8 (297.8)
319.9 (297.9)	320.5 (298.5)	320.6 (298.6)	320.7 (298.7)
320.8 (298.8)	321.3 (299.2)	321.4 (299.3)	321.5 (299.4)
321.6 (299.5)	322.1 (300.0)	322.2 (300.1)	322.3 (300.2)
322.4 (300.3)	322.9 (300.7)	323.0 (300.8)	323.1 (300.9)
323.2 (301.0)	323.8 (301.6)	323.9 (301.7)	324.0 (301.7)
324.1 (301.8)	324.6 (302.3)	324.7 (302.4)	324.8 (302.5)
324.9 (302.6)	325.4 (303.1)	325.5 (303.1)	325.6 (303.2)
325.7 (303.3)	326.2 (303.8)	326.3 (303.9)	326.4 (304.0)
326.5 (304.1)	326.6 (304.2)	327.1 (304.6)	327.2 (304.7)
327.3 (304.8)	327.4 (304.9)	327.9 (305.4)	328.0 (305.5)
328.1 (305.6)	328.2 (305.7)	328.7 (306.1)	328.8 (306.2)
328.9 (306.3)	329.0 (306.4)	329.5 (306.9)	329.6 (307.0)
329.7 (307.1)	329.8 (307.2)	329.9 (307.2)	330.4 (307.7)
330.5 (307.8)	330.6 (307.9)	330.7 (308.0)	331.2 (308.5)
331.3 (308.5)	331.4 (308.6)	331.5 (308.7)	332.0 (309.2)
332.1 (309.3)	332.2 (309.4)	332.3 (309.5)	332.8 (309.9)
332.9 (310.0)	333.0 (310.1)	333.1 (310.2)	333.2 (310.3)
333.7 (310.8)	333.8 (310.9)	333.9 (311.0)	334.0 (311.1)
334.5 (311.5)	334.6 (311.6)	334.7 (311.7)	334.8 (311.8)
335.3 (312.3)	335.4 (312.4)	335.5 (312.5)	335.6 (312.6)
336.1 (313.0)	336.2 (313.1)	336.3 (313.2)	336.4 (313.3)
336.5 (313.4)	337.0 (313.9)	337.1 (313.9)	337.2 (314.0)
337.3 (314.1)	337.8 (314.6)	337.9 (314.7)	338.0 (314.8)
338.1 (314.9)	338.6 (315.3)	338.7 (315.4)	338.8 (315.5)
338.9 (315.6)	339.5 (316.2)	339.6 (316.3)	339.7 (316.4)
339.8 (316.5)	340.3 (316.9)	340.4 (317.0)	340.5 (317.1)
340.6 (317.2)	341.1 (317.7)	341.2 (317.8)	341.3 (317.9)
341.4 (318.0)	341.9 (318.4)	342.0 (318.5)	342.1 (318.6)

342.2 (318.7)	342.8 (319.3)	342.9 (319.4)	343.0 (319.4)
343.1 (319.5)	343.6 (320.0)	343.7 (320.1)	343.8 (320.2)
343.9 (320.3)	344.4 (320.7)	344.5 (320.8)	344.6 (320.9)
344.7 (321.0)	345.2 (321.5)	345.3 (321.6)	345.4 (321.7)
345.5 (321.8)	346.1 (322.3)	346.2 (322.4)	346.3 (322.5)
346.4 (322.6)	346.9 (323.1)	347.0 (323.2)	347.1 (323.3)
347.2 (323.4)	347.7 (323.8)	347.8 (323.9)	347.9 (324.0)
348.0 (324.1)	348.5 (324.6)	348.6 (324.7)	348.7 (324.8)
348.8 (324.8)	349.4 (325.4)	349.5 (325.5)	349.6 (325.6)
349.7 (325.7)	350.2 (326.1)	350.3 (326.2)	350.4 (326.3)
350.5 (326.4)	351.0 (326.9)	351.1 (327.0)	351.2 (327.1)
351.3 (327.2)	351.8 (327.6)	351.9 (327.7)	352.0 (327.8)
352.1 (327.9)	352.2 (328.0)	352.7 (328.5)	352.8 (328.6)
352.9 (328.7)	353.0 (328.8)	353.5 (329.2)	353.6 (329.3)
353.7 (329.4)	353.8 (329.5)	354.3 (330.0)	354.4 (330.1)
354.5 (330.2)	354.6 (330.2)	355.1 (330.7)	355.2 (330.8)
355.3 (330.9)	355.4 (331.0)	355.5 (331.1)	356.0 (331.6)
356.1 (331.6)	356.2 (331.7)	356.3 (331.8)	356.8 (332.3)
356.9 (332.4)	357.0 (332.5)	357.1 (332.6)	357.6 (333.0)
357.7 (333.1)	357.8 (333.2)	357.9 (333.3)	358.4 (333.8)
358.5 (333.9)	358.6 (334.0)	358.7 (334.1)	358.8 (334.2)
359.3 (334.6)	359.4 (334.7)	359.5 (334.8)	359.6 (334.9)
360.1 (335.4)	360.2 (335.5)	360.3 (335.6)	360.4 (335.6)
360.9 (336.1)	361.0 (336.2)	361.1 (336.3)	361.2 (336.4)
361.7 (336.9)	361.8 (337.0)	361.9 (337.0)	362.0 (337.1)
362.1 (337.2)	362.6 (337.7)	362.7 (337.8)	362.8 (337.9)
362.9 (338.0)	363.4 (338.4)	363.5 (338.5)	363.6 (338.6)
363.7 (338.7)	364.2 (339.2)	364.3 (339.3)	364.4 (339.4)
364.5 (339.5)	365.1 (340.0)	365.2 (340.1)	365.3 (340.2)
365.4 (340.3)	365.9 (340.8)	366.0 (340.9)	366.1 (341.0)
366.2 (341.1)	366.7 (341.5)	366.8 (341.6)	366.9 (341.7)
367.0 (341.8)	367.5 (342.3)	367.6 (342.4)	367.7 (342.4)
367.8 (342.5)	368.4 (343.1)	368.5 (343.2)	368.6 (343.3)
368.7 (343.4)	369.2 (343.8)	369.3 (343.9)	369.4 (344.0)
369.5 (344.1)	370.0 (344.6)	370.1 (344.7)	370.2 (344.8)
370.3 (344.9)	370.8 (345.3)	370.9 (345.4)	371.0 (345.5)
371.1 (345.6)	371.7 (346.2)	371.8 (346.3)	371.9 (346.4)
372.0 (346.5)	372.5 (346.9)	372.6 (347.0)	372.7 (347.1)
372.8 (347.2)	373.3 (347.7)	373.4 (347.8)	373.5 (347.8)
373.6 (347.9)	374.1 (348.4)	374.2 (348.5)	374.3 (348.6)
374.4 (348.7)	375.0 (349.2)	375.1 (349.3)	375.2 (349.4)
375.3 (349.5)	375.8 (350.0)	375.9 (350.1)	376.0 (350.2)
376.1 (350.3)	376.6 (350.7)	376.7 (350.8)	376.8 (350.9)
376.9 (351.0)	377.4 (351.5)	377.5 (351.6)	377.6 (351.7)
377.7 (351.8)	377.8 (351.9)	378.3 (352.3)	378.4 (352.4)
378.5 (352.5)	378.6 (352.6)	379.1 (353.1)	379.2 (353.2)
379.3 (353.3)	379.4 (353.3)	379.9 (353.8)	380.0 (353.9)
380.1 (354.0)	380.2 (354.1)	380.7 (354.6)	380.8 (354.6)
380.9 (354.7)	381.0 (354.8)	381.1 (354.9)	381.6 (355.4)
381.7 (355.5)	381.8 (355.6)	381.9 (355.7)	382.4 (356.1)
382.5 (356.2)	382.6 (356.3)	382.7 (356.4)	383.2 (356.9)
383.3 (357.0)	383.4 (357.1)	383.5 (357.2)	384.0 (357.6)
384.1 (357.7)	384.2 (357.8)	384.3 (357.9)	384.4 (358.0)
384.9 (358.5)	385.0 (358.6)	385.1 (358.7)	385.2 (358.7)
385.7 (359.2)	385.8 (359.3)	385.9 (359.4)	386.0 (359.5)
386.5 (360.0)	386.6 (360.0)	386.7 (360.1)	386.8 (360.2)
387.3 (360.7)	387.4 (360.8)	387.5 (360.9)	387.6 (361.0)
387.7 (361.1)	388.2 (361.5)	388.3 (361.6)	388.4 (361.7)
388.5 (361.8)	389.0 (362.3)	389.1 (362.4)	389.2 (362.5)
389.3 (362.6)	389.8 (363.0)	389.9 (363.1)	390.0 (363.2)
390.1 (363.3)	390.7 (363.9)	390.8 (364.0)	390.9 (364.1)
391.0 (364.1)	391.5 (364.6)	391.6 (364.7)	391.7 (364.8)
391.8 (364.9)	392.3 (365.4)	392.4 (365.5)	392.5 (365.5)
392.6 (365.6)	393.1 (366.1)	393.2 (366.2)	393.3 (366.3)
393.4 (366.4)	394.0 (366.9)	394.1 (367.0)	394.2 (367.1)
394.3 (367.2)	394.8 (367.7)	394.9 (367.8)	395.0 (367.9)
395.1 (368.0)	395.6 (368.4)	395.7 (368.5)	395.8 (368.6)



395.9 (368.7)	396.4 (369.2)	396.5 (369.3)	396.6 (369.4)
396.7 (369.5)	397.3 (370.0)	397.4 (370.1)	397.5 (370.2)
397.6 (370.3)	398.1 (370.8)	398.2 (370.9)	398.3 (370.9)
398.4 (371.0)	398.9 (371.5)	399.0 (371.6)	399.1 (371.7)
399.2 (371.8)	399.7 (372.2)	399.8 (372.3)	399.9 (372.4)
400.0 (372.5)	400.6 (373.1)	400.7 (373.2)	400.8 (373.3)
400.9 (373.4)	401.4 (373.8)	401.5 (373.9)	401.6 (374.0)
401.7 (374.1)	402.2 (374.6)	402.3 (374.7)	402.4 (374.8)
402.5 (374.9)	403.0 (375.3)	403.1 (375.4)	403.2 (375.5)
403.3 (375.6)	403.4 (375.7)	403.9 (376.2)	404.0 (376.3)
404.1 (376.3)	404.2 (376.4)	404.7 (376.9)	404.8 (377.0)
404.9 (377.1)	405.0 (377.2)	405.5 (377.7)	405.6 (377.7)
405.7 (377.8)	405.8 (377.9)	406.3 (378.4)	406.4 (378.5)
406.5 (378.6)	406.6 (378.7)	406.7 (378.8)	407.2 (379.2)
407.3 (379.3)	407.4 (379.4)	407.5 (379.5)	408.0 (380.0)
408.1 (380.1)	408.2 (380.2)	408.3 (380.3)	408.8 (380.7)
408.9 (380.8)	409.0 (380.9)	409.1 (381.0)	409.6 (381.5)
409.7 (381.6)	409.8 (381.7)	409.9 (381.7)	410.0 (381.8)
410.5 (382.3)	410.6 (382.4)	410.7 (382.5)	410.8 (382.6)
411.3 (383.1)	411.4 (383.1)	411.5 (383.2)	411.6 (383.3)
412.1 (383.8)	412.2 (383.9)	412.3 (384.0)	412.4 (384.1)
412.9 (384.5)	413.0 (384.6)	413.1 (384.7)	413.2 (384.8)
413.3 (384.9)	413.8 (385.4)	413.9 (385.5)	414.0 (385.6)
414.1 (385.7)	414.6 (386.1)	414.7 (386.2)	414.8 (386.3)
414.9 (386.4)	415.4 (386.9)	415.5 (387.0)	415.6 (387.1)
415.7 (387.2)	416.3 (387.7)	416.4 (387.8)	416.5 (387.9)
416.6 (388.0)	417.1 (388.5)	417.2 (388.5)	417.3 (388.6)
417.4 (388.7)	417.9 (389.2)	418.0 (389.3)	418.1 (389.4)
418.2 (389.5)	418.7 (389.9)	418.8 (390.0)	418.9 (390.1)
419.0 (390.2)	419.6 (390.8)	419.7 (390.9)	419.8 (391.0)
419.9 (391.1)	420.4 (391.5)	420.5 (391.6)	420.6 (391.7)
420.7 (391.8)	421.2 (392.3)	421.3 (392.4)	421.4 (392.5)
421.5 (392.6)	422.0 (393.0)	422.1 (393.1)	422.2 (393.2)
422.3 (393.3)	422.9 (393.9)	423.0 (393.9)	423.1 (394.0)
423.2 (394.1)	423.7 (394.6)	423.8 (394.7)	423.9 (394.8)
424.0 (394.9)	424.5 (395.3)	424.6 (395.4)	424.7 (395.5)
424.8 (395.6)	425.3 (396.1)	425.4 (396.2)	425.5 (396.3)
425.6 (396.4)	426.2 (396.9)	426.3 (397.0)	426.4 (397.1)
426.5 (397.2)	427.0 (397.7)	427.1 (397.8)	427.2 (397.9)
427.3 (398.0)	427.8 (398.4)	427.9 (398.5)	428.0 (398.6)
428.1 (398.7)	428.6 (399.2)	428.7 (399.3)	428.8 (399.4)
428.9 (399.4)	429.0 (399.5)	429.5 (400.0)	429.6 (400.1)
429.7 (400.2)	429.8 (400.3)	430.3 (400.7)	430.4 (400.8)
430.5 (400.9)	430.6 (401.0)	431.1 (401.5)	431.2 (401.6)
431.3 (401.7)	431.4 (401.8)	431.9 (402.2)	432.0 (402.3)
432.1 (402.4)	432.2 (402.5)	432.3 (402.6)	432.8 (403.1)
432.9 (403.2)	433.0 (403.3)	433.1 (403.4)	433.6 (403.8)
433.7 (403.9)	433.8 (404.0)	433.9 (404.1)	434.4 (404.6)
434.5 (404.7)	434.6 (404.8)	434.7 (404.8)	435.2 (405.3)
435.3 (405.4)	435.4 (405.5)	435.5 (405.6)	435.6 (405.7)
436.1 (406.1)	436.2 (406.2)	436.3 (406.3)	436.4 (406.4)
436.9 (406.9)	437.0 (407.0)	437.1 (407.1)	437.2 (407.2)
437.7 (407.6)	437.8 (407.7)	437.9 (407.8)	438.0 (407.9)
438.5 (408.4)	438.6 (408.5)	438.7 (408.6)	438.8 (408.7)
438.9 (408.8)	439.4 (409.2)	439.5 (409.3)	439.6 (409.4)
439.7 (409.5)	440.2 (410.0)	440.3 (410.1)	440.4 (410.2)
440.5 (410.2)	441.0 (410.7)	441.1 (410.8)	441.2 (410.9)
441.3 (411.0)	441.9 (411.6)	442.0 (411.6)	442.1 (411.7)
442.2 (411.8)	442.7 (412.3)	442.8 (412.4)	442.9 (412.5)
443.0 (412.6)	443.5 (413.0)	443.6 (413.1)	443.7 (413.2)
443.8 (413.3)	444.3 (413.8)	444.4 (413.9)	444.5 (414.0)
444.6 (414.1)	445.2 (414.6)	445.3 (414.7)	445.4 (414.8)
445.5 (414.9)	446.0 (415.4)	446.1 (415.5)	446.2 (415.6)
446.3 (415.6)	446.8 (416.1)	446.9 (416.2)	447.0 (416.3)
447.1 (416.4)	447.6 (416.9)	447.7 (417.0)	447.8 (417.0)
447.9 (417.1)	448.5 (417.7)	448.6 (417.8)	448.7 (417.9)
448.8 (418.0)	449.3 (418.4)	449.4 (418.5)	449.5 (418.6)

449.6 (418.7)	450.1 (419.2)	450.2 (419.3)	450.3 (419.4)
450.4 (419.5)	450.9 (419.9)	451.0 (420.0)	451.1 (420.1)
451.2 (420.2)	451.8 (420.8)	451.9 (420.9)	452.0 (421.0)
452.1 (421.1)	452.6 (421.5)	452.7 (421.6)	452.8 (421.7)
452.9 (421.8)	453.4 (422.3)	453.5 (422.4)	453.6 (422.4)
453.7 (422.5)	454.2 (423.0)	454.3 (423.1)	454.4 (423.2)
454.5 (423.3)	454.6 (423.4)	455.1 (423.8)	455.2 (423.9)
455.3 (424.0)	455.4 (424.1)	455.9 (424.6)	456.0 (424.7)
456.1 (424.8)	456.2 (424.9)	456.7 (425.3)	456.8 (425.4)
456.9 (425.5)	457.0 (425.6)	457.5 (426.1)	457.6 (426.2)
457.7 (426.3)	457.8 (426.4)	457.9 (426.5)	458.4 (426.9)
458.5 (427.0)	458.6 (427.1)	458.7 (427.2)	459.2 (427.7)
459.3 (427.8)	459.4 (427.8)	459.5 (427.9)	460.0 (428.4)
460.1 (428.5)	460.2 (428.6)	460.3 (428.7)	460.8 (429.2)
460.9 (429.2)	461.0 (429.3)	461.1 (429.4)	461.2 (429.5)
461.7 (430.0)	461.8 (430.1)	461.9 (430.2)	462.0 (430.3)
462.5 (430.7)	462.6 (430.8)	462.7 (430.9)	462.8 (431.0)
463.3 (431.5)	463.4 (431.6)	463.5 (431.7)	463.6 (431.8)
464.1 (432.2)	464.2 (432.3)	464.3 (432.4)	464.4 (432.5)
464.5 (432.6)	465.0 (433.1)	465.1 (433.2)	465.2 (433.3)
465.3 (433.3)	465.8 (433.8)	465.9 (433.9)	466.0 (434.0)
466.1 (434.1)	466.6 (434.6)	466.7 (434.6)	466.8 (434.7)
466.9 (434.8)	467.5 (435.4)	467.6 (435.5)	467.7 (435.6)
467.8 (435.7)	468.3 (436.1)	468.4 (436.2)	468.5 (436.3)
468.6 (436.4)	469.1 (436.9)	469.2 (437.0)	469.3 (437.1)
469.4 (437.2)	469.9 (437.6)	470.0 (437.7)	470.1 (437.8)
470.2 (437.9)	470.8 (438.5)	470.9 (438.6)	471.0 (438.7)
471.1 (438.7)	471.6 (439.2)	471.7 (439.3)	471.8 (439.4)
471.9 (439.5)	472.4 (440.0)	472.5 (440.0)	472.6 (440.1)
472.7 (440.2)	473.2 (440.7)	473.3 (440.8)	473.4 (440.9)
473.5 (441.0)	474.1 (441.5)	474.2 (441.6)	474.3 (441.7)
474.4 (441.8)	474.9 (442.3)	475.0 (442.4)	475.1 (442.5)
475.2 (442.6)	475.7 (443.0)	475.8 (443.1)	475.9 (443.2)
476.0 (443.3)	476.5 (443.8)	476.6 (443.9)	476.7 (444.0)
476.8 (444.1)	477.4 (444.6)	477.5 (444.7)	477.6 (444.8)
477.7 (444.9)	478.2 (445.4)	478.3 (445.5)	478.4 (445.5)
478.5 (445.6)	479.0 (446.1)	479.1 (446.2)	479.2 (446.3)
479.3 (446.4)	479.8 (446.8)	479.9 (446.9)	480.0 (447.0)
480.1 (447.1)	480.2 (447.2)	480.7 (447.7)	480.8 (447.8)
480.9 (447.9)	481.0 (448.0)	481.5 (448.4)	481.6 (448.5)
481.7 (448.6)	481.8 (448.7)	482.3 (449.2)	482.4 (449.3)
482.5 (449.4)	482.6 (449.5)	483.1 (449.9)	483.2 (450.0)
483.3 (450.1)	483.4 (450.2)	483.5 (450.3)	484.0 (450.8)
484.1 (450.9)	484.2 (450.9)	484.3 (451.0)	484.8 (451.5)
484.9 (451.6)	485.0 (451.7)	485.1 (451.8)	485.6 (452.3)
485.7 (452.3)	485.8 (452.4)	485.9 (452.5)	486.4 (453.0)
486.5 (453.1)	486.6 (453.2)	486.7 (453.3)	486.8 (453.4)
487.3 (453.8)	487.4 (453.9)	487.5 (454.0)	487.6 (454.1)
488.1 (454.6)	488.2 (454.7)	488.3 (454.8)	488.4 (454.9)
488.9 (455.3)	489.0 (455.4)	489.1 (455.5)	489.2 (455.6)
489.7 (456.1)	489.8 (456.2)	489.9 (456.3)	490.0 (456.3)
490.1 (456.4)	490.6 (456.9)	490.7 (457.0)	490.8 (457.1)
490.9 (457.2)	491.4 (457.7)	491.5 (457.7)	491.6 (457.8)
491.7 (457.9)	492.2 (458.4)	492.3 (458.5)	492.4 (458.6)
492.5 (458.7)	493.1 (459.2)	493.2 (459.3)	493.3 (459.4)
493.4 (459.5)	493.9 (460.0)	494.0 (460.1)	494.1 (460.2)
494.2 (460.3)	494.7 (460.7)	494.8 (460.8)	494.9 (460.9)
495.0 (461.0)	495.5 (461.5)	495.6 (461.6)	495.7 (461.7)
495.8 (461.7)	496.4 (462.3)	496.5 (462.4)	496.6 (462.5)
496.7 (462.6)	497.2 (463.1)	497.3 (463.1)	497.4 (463.2)
497.5 (463.3)	498.0 (463.8)	498.1 (463.9)	498.2 (464.0)
498.3 (464.1)	498.8 (464.5)	498.9 (464.6)	499.0 (464.7)
499.1 (464.8)	499.7 (465.4)	499.8 (465.5)	499.9 (465.6)
500.0 (465.7)	500.5 (466.1)	500.6 (466.2)	500.7 (466.3)
500.8 (466.4)	501.3 (466.9)	501.4 (467.0)	501.5 (467.1)
501.6 (467.2)	502.1 (467.6)	502.2 (467.7)	502.3 (467.8)
502.4 (467.9)	503.0 (468.5)	503.1 (468.5)	503.2 (468.6)

503.3 (468.7)	503.8 (469.2)	503.9 (469.3)	504.0 (469.4)
504.1 (469.5)	504.6 (469.9)	504.7 (470.0)	504.8 (470.1)
504.9 (470.2)	505.4 (470.7)	505.5 (470.8)	505.6 (470.9)
505.7 (471.0)	505.8 (471.1)	506.3 (471.5)	506.4 (471.6)
506.5 (471.7)	506.6 (471.8)	507.1 (472.3)	507.2 (472.4)
507.3 (472.5)	507.4 (472.6)	507.9 (473.0)	508.0 (473.1)
508.1 (473.2)	508.2 (473.3)	508.7 (473.8)	508.8 (473.9)
508.9 (474.0)	509.0 (474.0)	509.1 (474.1)	509.6 (474.6)
509.7 (474.7)	509.8 (474.8)	509.9 (474.9)	510.4 (475.3)
510.5 (475.4)	510.6 (475.5)	510.7 (475.6)	511.2 (476.1)
511.3 (476.2)	511.4 (476.3)	511.5 (476.4)	512.0 (476.8)
512.1 (476.9)	512.2 (477.0)	512.3 (477.1)	512.4 (477.2)
512.9 (477.7)	513.0 (477.8)	513.1 (477.9)	513.2 (478.0)
513.7 (478.4)	513.8 (478.5)	513.9 (478.6)	514.0 (478.7)
514.5 (479.2)	514.6 (479.3)	514.7 (479.4)	514.8 (479.4)
515.3 (479.9)	515.4 (480.0)	515.5 (480.1)	515.6 (480.2)
515.7 (480.3)	516.2 (480.7)	516.3 (480.8)	516.4 (480.9)
516.5 (481.0)	517.0 (481.5)	517.1 (481.6)	517.2 (481.7)
517.3 (481.8)	517.8 (482.2)	517.9 (482.3)	518.0 (482.4)
518.1 (482.5)	518.7 (483.1)	518.8 (483.2)	518.9 (483.3)
519.0 (483.4)	519.5 (483.8)	519.6 (483.9)	519.7 (484.0)
519.8 (484.1)	520.3 (484.6)	520.4 (484.7)	520.5 (484.8)
520.6 (484.8)	521.1 (485.3)	521.2 (485.4)	521.3 (485.5)
521.4 (485.6)	522.0 (486.2)	522.1 (486.2)	522.2 (486.3)
522.3 (486.4)	522.8 (486.9)	522.9 (487.0)	523.0 (487.1)
523.1 (487.2)	523.6 (487.6)	523.7 (487.7)	523.8 (487.8)
523.9 (487.9)	524.4 (488.4)	524.5 (488.5)	524.6 (488.6)
524.7 (488.7)	525.3 (489.2)	525.4 (489.3)	525.5 (489.4)
525.6 (489.5)	526.1 (490.0)	526.2 (490.1)	526.3 (490.2)
526.4 (490.2)	526.9 (490.7)	527.0 (490.8)	527.1 (490.9)
527.2 (491.0)	527.7 (491.5)	527.8 (491.6)	527.9 (491.6)
528.0 (491.7)	528.6 (492.3)	528.7 (492.4)	528.8 (492.5)
528.9 (492.6)	529.4 (493.0)	529.5 (493.1)	529.6 (493.2)
529.7 (493.3)	530.2 (493.8)	530.3 (493.9)	530.4 (494.0)
530.5 (494.1)	531.0 (494.5)	531.1 (494.6)	531.2 (494.7)
531.3 (494.8)	531.4 (494.9)	531.9 (495.4)	532.0 (495.5)
532.1 (495.6)	532.2 (495.6)	532.7 (496.1)	532.8 (496.2)
532.9 (496.3)	533.0 (496.4)	533.5 (496.9)	533.6 (497.0)
533.7 (497.0)	533.8 (497.1)	534.3 (497.6)	534.4 (497.7)
534.5 (497.8)	534.6 (497.9)	534.7 (498.0)	535.2 (498.4)
535.3 (498.5)	535.4 (498.6)	535.5 (498.7)	536.0 (499.2)
536.1 (499.3)	536.2 (499.4)	536.3 (499.5)	536.8 (499.9)
536.9 (500.0)	537.0 (500.1)	537.1 (500.2)	537.6 (500.7)
537.7 (500.8)	537.8 (500.9)	537.9 (501.0)	538.0 (501.1)
538.5 (501.5)	538.6 (501.6)	538.7 (501.7)	538.8 (501.8)
539.3 (502.3)	539.4 (502.4)	539.5 (502.4)	539.6 (502.5)
540.1 (503.0)	540.2 (503.1)	540.3 (503.2)	540.4 (503.3)
540.9 (503.8)	541.0 (503.8)	541.1 (503.9)	541.2 (504.0)
541.3 (504.1)	541.8 (504.6)	541.9 (504.7)	542.0 (504.8)
542.1 (504.9)	542.6 (505.3)	542.7 (505.4)	542.8 (505.5)
542.9 (505.6)	543.4 (506.1)	543.5 (506.2)	543.6 (506.3)
543.7 (506.4)	544.3 (506.9)	544.4 (507.0)	544.5 (507.1)
544.6 (507.2)	545.1 (507.7)	545.2 (507.8)	545.3 (507.9)
545.4 (507.9)	545.9 (508.4)	546.0 (508.5)	546.1 (508.6)
546.2 (508.7)	546.7 (509.2)	546.8 (509.2)	546.9 (509.3)
547.0 (509.4)	547.6 (510.0)	547.7 (510.1)	547.8 (510.2)
547.9 (510.3)	548.4 (510.7)	548.5 (510.8)	548.6 (510.9)
548.7 (511.0)	549.2 (511.5)	549.3 (511.6)	549.4 (511.7)
549.5 (511.8)	550.0 (512.2)	550.1 (512.3)	550.2 (512.4)
550.3 (512.5)	550.9 (513.1)	551.0 (513.2)	551.1 (513.3)
551.2 (513.3)	551.7 (513.8)	551.8 (513.9)	551.9 (514.0)
552.0 (514.1)	552.5 (514.6)	552.6 (514.6)	552.7 (514.7)
552.8 (514.8)	553.3 (515.3)	553.4 (515.4)	553.5 (515.5)
553.6 (515.6)	554.2 (516.1)	554.3 (516.2)	554.4 (516.3)
554.5 (516.4)	555.0 (516.9)	555.1 (517.0)	555.2 (517.1)
555.3 (517.2)	555.8 (517.6)	555.9 (517.7)	556.0 (517.8)
556.1 (517.9)	556.6 (518.4)	556.7 (518.5)	556.8 (518.6)

556.9 (518.7)	557.0 (518.7)	557.5 (519.2)	557.6 (519.3)
557.7 (519.4)	557.8 (519.5)	558.3 (520.0)	558.4 (520.1)
558.5 (520.1)	558.6 (520.2)	559.1 (520.7)	559.2 (520.8)
559.3 (520.9)	559.4 (521.0)	559.9 (521.4)	560.0 (521.5)
560.1 (521.6)	560.2 (521.7)	560.3 (521.8)	560.8 (522.3)
560.9 (522.4)	561.0 (522.5)	561.1 (522.6)	561.6 (523.0)
561.7 (523.1)	561.8 (523.2)	561.9 (523.3)	562.4 (523.8)
562.5 (523.9)	562.6 (524.0)	562.7 (524.1)	563.2 (524.5)
563.3 (524.6)	563.4 (524.7)	563.5 (524.8)	563.6 (524.9)
564.1 (525.4)	564.2 (525.5)	564.3 (525.5)	564.4 (525.6)
564.9 (526.1)	565.0 (526.2)	565.1 (526.3)	565.2 (526.4)
565.7 (526.8)	565.8 (526.9)	565.9 (527.0)	566.0 (527.1)
566.5 (527.6)	566.6 (527.7)	566.7 (527.8)	566.8 (527.9)
566.9 (528.0)	567.4 (528.4)	567.5 (528.5)	567.6 (528.6)
567.7 (528.7)	568.2 (529.2)	568.3 (529.3)	568.4 (529.4)
568.5 (529.5)	569.0 (529.9)	569.1 (530.0)	569.2 (530.1)
569.3 (530.2)	569.9 (530.8)	570.0 (530.9)	570.1 (530.9)
570.2 (531.0)	570.7 (531.5)	570.8 (531.6)	570.9 (531.7)
571.0 (531.8)	571.5 (532.3)	571.6 (532.3)	571.7 (532.4)
571.8 (532.5)	572.3 (533.0)	572.4 (533.1)	572.5 (533.2)
572.6 (533.3)	573.2 (533.8)	573.3 (533.9)	573.4 (534.0)
573.5 (534.1)	574.0 (534.6)	574.1 (534.7)	574.2 (534.8)
574.3 (534.9)	574.8 (535.3)	574.9 (535.4)	575.0 (535.5)
575.1 (535.6)	575.6 (536.1)	575.7 (536.2)	575.8 (536.3)
575.9 (536.3)	576.5 (536.9)	576.6 (537.0)	576.7 (537.1)
576.8 (537.2)	577.3 (537.7)	577.4 (537.7)	577.5 (537.8)
577.6 (537.9)	578.1 (538.4)	578.2 (538.5)	578.3 (538.6)
578.4 (538.7)	578.9 (539.1)	579.0 (539.2)	579.1 (539.3)
579.2 (539.4)	579.8 (540.0)	579.9 (540.1)	580.0 (540.2)
580.1 (540.3)	580.6 (540.7)	580.7 (540.8)	580.8 (540.9)
580.9 (541.0)	581.4 (541.5)	581.5 (541.6)	581.6 (541.7)
581.7 (541.8)	582.2 (542.2)	582.3 (542.3)	582.4 (542.4)
582.5 (542.5)	582.6 (542.6)	583.1 (543.1)	583.2 (543.1)
583.3 (543.2)	583.4 (543.3)	583.9 (543.8)	584.0 (543.9)
584.1 (544.0)	584.2 (544.1)	584.7 (544.5)	584.8 (544.6)
584.9 (544.7)	585.0 (544.8)	585.5 (545.3)	585.6 (545.4)
585.7 (545.5)	585.8 (545.6)	585.9 (545.7)	586.4 (546.1)
586.5 (546.2)	586.6 (546.3)	586.7 (546.4)	587.2 (546.9)
587.3 (547.0)	587.4 (547.1)	587.5 (547.2)	588.0 (547.6)
588.1 (547.7)	588.2 (547.8)	588.3 (547.9)	588.8 (548.4)
588.9 (548.5)	589.0 (548.5)	589.1 (548.6)	589.2 (548.7)
589.7 (549.2)	589.8 (549.3)	589.9 (549.4)	590.0 (549.5)
590.5 (549.9)	590.6 (550.0)	590.7 (550.1)	590.8 (550.2)
591.3 (550.7)	591.4 (550.8)	591.5 (550.9)	591.6 (551.0)
592.1 (551.4)	592.2 (551.5)	592.3 (551.6)	592.4 (551.7)
592.5 (551.8)	593.0 (552.3)	593.1 (552.4)	593.2 (552.5)
593.3 (552.6)	593.8 (553.0)	593.9 (553.1)	594.0 (553.2)
594.1 (553.3)	594.6 (553.8)	594.7 (553.9)	594.8 (554.0)
594.9 (554.0)	595.5 (554.6)	595.6 (554.7)	595.7 (554.8)
595.8 (554.9)	596.3 (555.3)	596.4 (555.4)	596.5 (555.5)
596.6 (555.6)	597.1 (556.1)	597.2 (556.2)	597.3 (556.3)
597.4 (556.4)	597.9 (556.8)	598.0 (556.9)	598.1 (557.0)
598.2 (557.1)	598.8 (557.7)	598.9 (557.8)	599.0 (557.9)
599.1 (558.0)	599.6 (558.4)	599.7 (558.5)	599.8 (558.6)
599.9 (558.7)	600.4 (559.2)	600.5 (559.3)	600.6 (559.4)
600.7 (559.4)	601.2 (559.9)	601.3 (560.0)	601.4 (560.1)
601.5 (560.2)	602.1 (560.7)	602.2 (560.8)	602.3 (560.9)
602.4 (561.0)	602.9 (561.5)	603.0 (561.6)	603.1 (561.7)
603.2 (561.8)	603.7 (562.2)	603.8 (562.3)	603.9 (562.4)
604.0 (562.5)	604.5 (563.0)	604.6 (563.1)	604.7 (563.2)
604.8 (563.3)	605.4 (563.8)	605.5 (563.9)	605.6 (564.0)
605.7 (564.1)	606.2 (564.6)	606.3 (564.7)	606.4 (564.8)
606.5 (564.8)	607.0 (565.3)	607.1 (565.4)	607.2 (565.5)
607.3 (565.6)	607.8 (566.1)	607.9 (566.2)	608.0 (566.2)
608.1 (566.3)	608.2 (566.4)	608.7 (566.9)	608.8 (567.0)
608.9 (567.1)	609.0 (567.2)	609.5 (567.6)	609.6 (567.7)
609.7 (567.8)	609.8 (567.9)	610.3 (568.4)	610.4 (568.5)

610.5 (568.6)	610.6 (568.7)	611.1 (569.1)	611.2 (569.2)
611.3 (569.3)	611.4 (569.4)	611.5 (569.5)	612.0 (570.0)
612.1 (570.1)	612.2 (570.2)	612.3 (570.2)	612.8 (570.7)
612.9 (570.8)	613.0 (570.9)	613.1 (571.0)	613.6 (571.5)
613.7 (571.6)	613.8 (571.6)	613.9 (571.7)	614.4 (572.2)
614.5 (572.3)	614.6 (572.4)	614.7 (572.5)	614.8 (572.6)
615.3 (573.0)	615.4 (573.1)	615.5 (573.2)	615.6 (573.3)
616.1 (573.8)	616.2 (573.9)	616.3 (574.0)	616.4 (574.1)
616.9 (574.5)	617.0 (574.6)	617.1 (574.7)	617.2 (574.8)
617.7 (575.3)	617.8 (575.4)	617.9 (575.5)	618.0 (575.6)
618.1 (575.7)	618.6 (576.1)	618.7 (576.2)	618.8 (576.3)
618.9 (576.4)	619.4 (576.9)	619.5 (577.0)	619.6 (577.0)
619.7 (577.1)	620.2 (577.6)	620.3 (577.7)	620.4 (577.8)
620.5 (577.9)	621.1 (578.4)	621.2 (578.5)	621.3 (578.6)
621.4 (578.7)	621.9 (579.2)	622.0 (579.3)	622.1 (579.4)
622.2 (579.5)	622.7 (579.9)	622.8 (580.0)	622.9 (580.1)
623.0 (580.2)	623.5 (580.7)	623.6 (580.8)	623.7 (580.9)
623.8 (581.0)	624.4 (581.5)	624.5 (581.6)	624.6 (581.7)
624.7 (581.8)	625.2 (582.3)	625.3 (582.4)	625.4 (582.4)
625.5 (582.5)	626.0 (583.0)	626.1 (583.1)	626.2 (583.2)
626.3 (583.3)	626.8 (583.8)	626.9 (583.8)	627.0 (583.9)
627.1 (584.0)	627.7 (584.6)	627.8 (584.7)	627.9 (584.8)
628.0 (584.9)	628.5 (585.3)	628.6 (585.4)	628.7 (585.5)
628.8 (585.6)	629.3 (586.1)	629.4 (586.2)	629.5 (586.3)
629.6 (586.4)	630.1 (586.8)	630.2 (586.9)	630.3 (587.0)
630.4 (587.1)	631.0 (587.7)	631.1 (587.8)	631.2 (587.9)
631.3 (587.9)	631.8 (588.4)	631.9 (588.5)	632.0 (588.6)
632.1 (588.7)	632.6 (589.2)	632.7 (589.2)	632.8 (589.3)
632.9 (589.4)	633.4 (589.9)	633.5 (590.0)	633.6 (590.1)
633.7 (590.2)	633.8 (590.3)	634.3 (590.7)	634.4 (590.8)
634.5 (590.9)	634.6 (591.0)	635.1 (591.5)	635.2 (591.6)
635.3 (591.7)	635.4 (591.8)	635.9 (592.2)	636.0 (592.3)
636.1 (592.4)	636.2 (592.5)	636.7 (593.0)	636.8 (593.1)
636.9 (593.2)	637.0 (593.3)	637.1 (593.3)	637.6 (593.8)
637.7 (593.9)	637.8 (594.0)	637.9 (594.1)	638.4 (594.6)
638.5 (594.6)	638.6 (594.7)	638.7 (594.8)	639.2 (595.3)
639.3 (595.4)	639.4 (595.5)	639.5 (595.6)	640.0 (596.0)
640.1 (596.1)	640.2 (596.2)	640.3 (596.3)	640.4 (596.4)
640.9 (596.9)	641.0 (597.0)	641.1 (597.1)	641.2 (597.2)
641.7 (597.6)	641.8 (597.7)	641.9 (597.8)	642.0 (597.9)
642.5 (598.4)	642.6 (598.5)	642.7 (598.6)	642.8 (598.7)
643.3 (599.1)	643.4 (599.2)	643.5 (599.3)	643.6 (599.4)
643.7 (599.5)	644.2 (600.0)	644.3 (600.1)	644.4 (600.1)
644.5 (600.2)	645.0 (600.7)	645.1 (600.8)	645.2 (600.9)
645.3 (601.0)	645.8 (601.4)	645.9 (601.5)	646.0 (601.6)
646.1 (601.7)	646.7 (602.3)	646.8 (602.4)	646.9 (602.5)
647.0 (602.6)	647.5 (603.0)	647.6 (603.1)	647.7 (603.2)
647.8 (603.3)	648.3 (603.8)	648.4 (603.9)	648.5 (604.0)
648.6 (604.1)	649.1 (604.5)	649.2 (604.6)	649.3 (604.7)
649.4 (604.8)	650.0 (605.4)	650.1 (605.5)	650.2 (605.5)
650.3 (605.6)	650.8 (606.1)	650.9 (606.2)	651.0 (606.3)
651.1 (606.4)	651.6 (606.8)	651.7 (606.9)	651.8 (607.0)
651.9 (607.1)	652.4 (607.6)	652.5 (607.7)	652.6 (607.8)
652.7 (607.9)	653.3 (608.4)	653.4 (608.5)	653.5 (608.6)
653.6 (608.7)	654.1 (609.2)	654.2 (609.3)	654.3 (609.4)
654.4 (609.5)	654.9 (609.9)	655.0 (610.0)	655.1 (610.1)
655.2 (610.2)	655.7 (610.7)	655.8 (610.8)	655.9 (610.9)
656.0 (610.9)	656.6 (611.5)	656.7 (611.6)	656.8 (611.7)
656.9 (611.8)	657.4 (612.3)	657.5 (612.3)	657.6 (612.4)
657.7 (612.5)	658.2 (613.0)	658.3 (613.1)	658.4 (613.2)
658.5 (613.3)	659.0 (613.7)	659.1 (613.8)	659.2 (613.9)
659.3 (614.0)	659.4 (614.1)	659.9 (614.6)	660.0 (614.7)
660.1 (614.8)	660.2 (614.9)	660.7 (615.3)	660.8 (615.4)
660.9 (615.5)	661.0 (615.6)	661.5 (616.1)	661.6 (616.2)
661.7 (616.3)	661.8 (616.3)	662.3 (616.8)	662.4 (616.9)
662.5 (617.0)	662.6 (617.1)	662.7 (617.2)	663.2 (617.7)
663.3 (617.7)	663.4 (617.8)	663.5 (617.9)	664.0 (618.4)

664.1 (618.5)	664.2 (618.6)	664.3 (618.7)	664.8 (619.1)
664.9 (619.2)	665.0 (619.3)	665.1 (619.4)	665.6 (619.9)
665.7 (620.0)	665.8 (620.1)	665.9 (620.2)	666.0 (620.3)
666.5 (620.7)	666.6 (620.8)	666.7 (620.9)	666.8 (621.0)
667.3 (621.5)	667.4 (621.6)	667.5 (621.7)	667.6 (621.8)
668.1 (622.2)	668.2 (622.3)	668.3 (622.4)	668.4 (622.5)
668.9 (623.0)	669.0 (623.1)	669.1 (623.1)	669.2 (623.2)
669.3 (623.3)	669.8 (623.8)	669.9 (623.9)	670.0 (624.0)
670.1 (624.1)	670.6 (624.5)	670.7 (624.6)	670.8 (624.7)
670.9 (624.8)	671.4 (625.3)	671.5 (625.4)	671.6 (625.5)
671.7 (625.6)	672.3 (626.1)	672.4 (626.2)	672.5 (626.3)
672.6 (626.4)	673.1 (626.9)	673.2 (627.0)	673.3 (627.1)
673.4 (627.2)	673.9 (627.6)	674.0 (627.7)	674.1 (627.8)
674.2 (627.9)	674.7 (628.4)	674.8 (628.5)	674.9 (628.5)
675.0 (628.6)	675.6 (629.2)	675.7 (629.3)	675.8 (629.4)
675.9 (629.5)	676.4 (629.9)	676.5 (630.0)	676.6 (630.1)
676.7 (630.2)	677.2 (630.7)	677.3 (630.8)	677.4 (630.9)
677.5 (631.0)	678.0 (631.4)	678.1 (631.5)	678.2 (631.6)
678.3 (631.7)	678.9 (632.3)	679.0 (632.4)	679.1 (632.5)
679.2 (632.6)	679.7 (633.0)	679.8 (633.1)	679.9 (633.2)
680.0 (633.3)	680.5 (633.8)	680.6 (633.9)	680.7 (634.0)
680.8 (634.0)	681.3 (634.5)	681.4 (634.6)	681.5 (634.7)
681.6 (634.8)	682.2 (635.3)	682.3 (635.4)	682.4 (635.5)
682.5 (635.6)	683.0 (636.1)	683.1 (636.2)	683.2 (636.3)
683.3 (636.4)	683.8 (636.8)	683.9 (636.9)	684.0 (637.0)
684.1 (637.1)	684.6 (637.6)	684.7 (637.7)	684.8 (637.8)
684.9 (637.9)	685.0 (638.0)	685.5 (638.4)	685.6 (638.5)
685.7 (638.6)	685.8 (638.7)	686.3 (639.2)	686.4 (639.3)
686.5 (639.4)	686.6 (639.4)	687.1 (639.9)	687.2 (640.0)
687.3 (640.1)	687.4 (640.2)	687.9 (640.7)	688.0 (640.7)
688.1 (640.8)	688.2 (640.9)	688.3 (641.0)	688.8 (641.5)
688.9 (641.6)	689.0 (641.7)	689.1 (641.8)	689.6 (642.2)
689.7 (642.3)	689.8 (642.4)	689.9 (642.5)	690.4 (643.0)
690.5 (643.1)	690.6 (643.2)	690.7 (643.3)	691.2 (643.7)
691.3 (643.8)	691.4 (643.9)	691.5 (644.0)	691.6 (644.1)
692.1 (644.6)	692.2 (644.7)	692.3 (644.8)	692.4 (644.8)
692.9 (645.3)	693.0 (645.4)	693.1 (645.5)	693.2 (645.6)
693.7 (646.1)	693.8 (646.2)	693.9 (646.2)	694.0 (646.3)
694.5 (646.8)	694.6 (646.9)	694.7 (647.0)	694.8 (647.1)
694.9 (647.2)	695.4 (647.6)	695.5 (647.7)	695.6 (647.8)
695.7 (647.9)	696.2 (648.4)	696.3 (648.5)	696.4 (648.6)
696.5 (648.7)	697.0 (649.1)	697.1 (649.2)	697.2 (649.3)
697.3 (649.4)	697.9 (650.0)	698.0 (650.1)	698.1 (650.2)
698.2 (650.2)	698.7 (650.7)	698.8 (650.8)	698.9 (650.9)
699.0 (651.0)	699.5 (651.5)	699.6 (651.6)	699.7 (651.6)
699.8 (651.7)	700.3 (652.2)	700.4 (652.3)	700.5 (652.4)
700.6 (652.5)	701.2 (653.0)	701.3 (653.1)	701.4 (653.2)
701.5 (653.3)	702.0 (653.8)	702.1 (653.9)	702.2 (654.0)
702.3 (654.1)	702.8 (654.5)	702.9 (654.6)	703.0 (654.7)
703.1 (654.8)	703.6 (655.3)	703.7 (655.4)	703.8 (655.5)
703.9 (655.6)	704.5 (656.1)	704.6 (656.2)	704.7 (656.3)
704.8 (656.4)	705.3 (656.9)	705.4 (657.0)	705.5 (657.0)
705.6 (657.1)	706.1 (657.6)	706.2 (657.7)	706.3 (657.8)
706.4 (657.9)	706.9 (658.4)	707.0 (658.4)	707.1 (658.5)
707.2 (658.6)	707.8 (659.2)	707.9 (659.3)	708.0 (659.4)
708.1 (659.5)	708.6 (659.9)	708.7 (660.0)	708.8 (660.1)
708.9 (660.2)	709.4 (660.7)	709.5 (660.8)	709.6 (660.9)
709.7 (661.0)	710.2 (661.4)	710.3 (661.5)	710.4 (661.6)
710.5 (661.7)	710.6 (661.8)	711.1 (662.3)	711.2 (662.4)
711.3 (662.4)	711.4 (662.5)	711.9 (663.0)	712.0 (663.1)
712.1 (663.2)	712.2 (663.3)	712.7 (663.8)	712.8 (663.8)
712.9 (663.9)	713.0 (664.0)	713.5 (664.5)	713.6 (664.6)
713.7 (664.7)	713.8 (664.8)	713.9 (664.9)	714.4 (665.3)
714.5 (665.4)	714.6 (665.5)	714.7 (665.6)	715.2 (666.1)
715.3 (666.2)	715.4 (666.3)	715.5 (666.4)	716.0 (666.8)
716.1 (666.9)	716.2 (667.0)	716.3 (667.1)	716.8 (667.6)
716.9 (667.7)	717.0 (667.8)	717.1 (667.9)	717.2 (667.9)



717.7 (668.4)	717.8 (668.5)	717.9 (668.6)	718.0 (668.7)
718.5 (669.2)	718.6 (669.2)	718.7 (669.3)	718.8 (669.4)
719.3 (669.9)	719.4 (670.0)	719.5 (670.1)	719.6 (670.2)
720.1 (670.6)	720.2 (670.7)	720.3 (670.8)	720.4 (670.9)
720.5 (671.0)	721.0 (671.5)	721.1 (671.6)	721.2 (671.7)
721.3 (671.8)	721.8 (672.2)	721.9 (672.3)	722.0 (672.4)
722.1 (672.5)	722.6 (673.0)	722.7 (673.1)	722.8 (673.2)
722.9 (673.3)	723.5 (673.8)	723.6 (673.9)	723.7 (674.0)
723.8 (674.1)	724.3 (674.6)	724.4 (674.7)	724.5 (674.7)
724.6 (674.8)	725.1 (675.3)	725.2 (675.4)	725.3 (675.5)
725.4 (675.6)	725.9 (676.0)	726.0 (676.1)	726.1 (676.2)
726.2 (676.3)	726.8 (676.9)	726.9 (677.0)	727.0 (677.1)
727.1 (677.2)	727.6 (677.6)	727.7 (677.7)	727.8 (677.8)
727.9 (677.9)	728.4 (678.4)	728.5 (678.5)	728.6 (678.6)
728.7 (678.7)	729.2 (679.1)	729.3 (679.2)	729.4 (679.3)
729.5 (679.4)	730.1 (680.0)	730.2 (680.1)	730.3 (680.1)
730.4 (680.2)	730.9 (680.7)	731.0 (680.8)	731.1 (680.9)
731.2 (681.0)	731.7 (681.4)	731.8 (681.5)	731.9 (681.6)
732.0 (681.7)	732.5 (682.2)	732.6 (682.3)	732.7 (682.4)
732.8 (682.5)	733.4 (683.0)	733.5 (683.1)	733.6 (683.2)
733.7 (683.3)	734.2 (683.8)	734.3 (683.9)	734.4 (684.0)
734.5 (684.1)	735.0 (684.5)	735.1 (684.6)	735.2 (684.7)
735.3 (684.8)	735.8 (685.3)	735.9 (685.4)	736.0 (685.5)
736.1 (685.5)	736.2 (685.6)	736.7 (686.1)	736.8 (686.2)
736.9 (686.3)	737.0 (686.4)	737.5 (686.9)	737.6 (686.9)
737.7 (687.0)	737.8 (687.1)	738.3 (687.6)	738.4 (687.7)
738.5 (687.8)	738.6 (687.9)	739.1 (688.3)	739.2 (688.4)
739.3 (688.5)	739.4 (688.6)	739.5 (688.7)	740.0 (689.2)
740.1 (689.3)	740.2 (689.4)	740.3 (689.5)	740.8 (689.9)
740.9 (690.0)	741.0 (690.1)	741.1 (690.2)	741.6 (690.7)
741.7 (690.8)	741.8 (690.9)	741.9 (690.9)	742.4 (691.4)
742.5 (691.5)	742.6 (691.6)	742.7 (691.7)	742.8 (691.8)
743.3 (692.3)	743.4 (692.3)	743.5 (692.4)	743.6 (692.5)
744.1 (693.0)	744.2 (693.1)	744.3 (693.2)	744.4 (693.3)
744.9 (693.7)	745.0 (693.8)	745.1 (693.9)	745.2 (694.0)
745.7 (694.5)	745.8 (694.6)	745.9 (694.7)	746.0 (694.8)
746.1 (694.9)	746.6 (695.3)	746.7 (695.4)	746.8 (695.5)
746.9 (695.6)	747.4 (696.1)	747.5 (696.2)	747.6 (696.3)
747.7 (696.3)	748.2 (696.8)	748.3 (696.9)	748.4 (697.0)
748.5 (697.1)	749.1 (697.7)	749.2 (697.7)	749.3 (697.8)
749.4 (697.9)	749.9 (698.4)	750.0 (698.5)	750.1 (698.6)
750.2 (698.7)	750.7 (699.1)	750.8 (699.2)	750.9 (699.3)
751.0 (699.4)	751.5 (699.9)	751.6 (700.0)	751.7 (700.1)
751.8 (700.2)	752.4 (700.7)	752.5 (700.8)	752.6 (700.9)
752.7 (701.0)	753.2 (701.5)	753.3 (701.6)	753.4 (701.7)
753.5 (701.8)	754.0 (702.2)	754.1 (702.3)	754.2 (702.4)
754.3 (702.5)	754.8 (703.0)	754.9 (703.1)	755.0 (703.1)
755.1 (703.2)	755.7 (703.8)	755.8 (703.9)	755.9 (704.0)
756.0 (704.1)	756.5 (704.5)	756.6 (704.6)	756.7 (704.7)
756.8 (704.8)	757.3 (705.3)	757.4 (705.4)	757.5 (705.5)
757.6 (705.6)	758.1 (706.0)	758.2 (706.1)	758.3 (706.2)
758.4 (706.3)	759.0 (706.9)	759.1 (707.0)	759.2 (707.1)
759.3 (707.2)	759.8 (707.6)	759.9 (707.7)	760.0 (707.8)
760.1 (707.9)	760.6 (708.4)	760.7 (708.5)	760.8 (708.6)
760.9 (708.6)	761.4 (709.1)	761.5 (709.2)	761.6 (709.3)
761.7 (709.4)	761.8 (709.5)	762.3 (709.9)	762.4 (710.0)
762.5 (710.1)	762.6 (710.2)	763.1 (710.7)	763.2 (710.8)
763.3 (710.9)	763.4 (711.0)	763.9 (711.4)	764.0 (711.5)
764.1 (711.6)	764.2 (711.7)	764.7 (712.2)	764.8 (712.3)
764.9 (712.4)	765.0 (712.5)	765.1 (712.6)	765.6 (713.0)
765.7 (713.1)	765.8 (713.2)	765.9 (713.3)	766.4 (713.8)
766.5 (713.9)	766.6 (714.0)	766.7 (714.0)	767.2 (714.5)
767.3 (714.6)	767.4 (714.7)	767.5 (714.8)	768.0 (715.3)
768.1 (715.3)	768.2 (715.4)	768.3 (715.5)	768.4 (715.6)
768.9 (716.1)	769.0 (716.2)	769.1 (716.3)	769.2 (716.4)
769.7 (716.8)	769.8 (716.9)	769.9 (717.0)	770.0 (717.1)
770.5 (717.6)	770.6 (717.7)	770.7 (717.8)	770.8 (717.9)

771.3 (718.3)	771.4 (718.4)	771.5 (718.5)	771.6 (718.6)
771.7 (718.7)	772.2 (719.2)	772.3 (719.3)	772.4 (719.4)
772.5 (719.4)	773.0 (719.9)	773.1 (720.0)	773.2 (720.1)
773.3 (720.2)	773.8 (720.7)	773.9 (720.8)	774.0 (720.8)
774.1 (720.9)	774.7 (721.5)	774.8 (721.6)	774.9 (721.7)
775.0 (721.8)	775.5 (722.2)	775.6 (722.3)	775.7 (722.4)
775.8 (722.5)	776.3 (723.0)	776.4 (723.1)	776.5 (723.2)
776.6 (723.3)	777.1 (723.7)	777.2 (723.8)	777.3 (723.9)
777.4 (724.0)	778.0 (724.6)	778.1 (724.7)	778.2 (724.8)
778.3 (724.8)	778.8 (725.3)	778.9 (725.4)	779.0 (725.5)
779.1 (725.6)	779.6 (726.1)	779.7 (726.2)	779.8 (726.2)
779.9 (726.3)	780.4 (726.8)	780.5 (726.9)	780.6 (727.0)
780.7 (727.1)	781.3 (727.6)	781.4 (727.7)	781.5 (727.8)
781.6 (727.9)	782.1 (728.4)	782.2 (728.5)	782.3 (728.6)
782.4 (728.7)	782.9 (729.1)	783.0 (729.2)	783.1 (729.3)
783.2 (729.4)	783.7 (729.9)	783.8 (730.0)	783.9 (730.1)
784.0 (730.2)	784.6 (730.7)	784.7 (730.8)	784.8 (730.9)
784.9 (731.0)	785.4 (731.5)	785.5 (731.6)	785.6 (731.6)
785.7 (731.7)	786.2 (732.2)	786.3 (732.3)	786.4 (732.4)
786.5 (732.5)	787.0 (733.0)	787.1 (733.0)	787.2 (733.1)
787.3 (733.2)	787.4 (733.3)	787.9 (733.8)	788.0 (733.9)
788.1 (734.0)	788.2 (734.1)	788.7 (734.5)	788.8 (734.6)
788.9 (734.7)	789.0 (734.8)	789.5 (735.3)	789.6 (735.4)
789.7 (735.5)	789.8 (735.6)	790.3 (736.0)	790.4 (736.1)
790.5 (736.2)	790.6 (736.3)	790.7 (736.4)	791.2 (736.9)
791.3 (737.0)	791.4 (737.0)	791.5 (737.1)	792.0 (737.6)
792.1 (737.7)	792.2 (737.8)	792.3 (737.9)	792.8 (738.4)
792.9 (738.4)	793.0 (738.5)	793.1 (738.6)	793.6 (739.1)
793.7 (739.2)	793.8 (739.3)	793.9 (739.4)	794.0 (739.5)
794.5 (739.9)	794.6 (740.0)	794.7 (740.1)	794.8 (740.2)
795.3 (740.7)	795.4 (740.8)	795.5 (740.9)	795.6 (741.0)
796.1 (741.4)	796.2 (741.5)	796.3 (741.6)	796.4 (741.7)
796.9 (742.2)	797.0 (742.3)	797.1 (742.4)	797.2 (742.5)
797.3 (742.5)	797.8 (743.0)	797.9 (743.1)	798.0 (743.2)
798.1 (743.3)	798.6 (743.8)	798.7 (743.8)	798.8 (743.9)
798.9 (744.0)	799.4 (744.5)	799.5 (744.6)	799.6 (744.7)
799.7 (744.8)	800.3 (745.3)	800.4 (745.4)	800.5 (745.5)
800.6 (745.6)	801.1 (746.1)	801.2 (746.2)	801.3 (746.3)
801.4 (746.4)	801.9 (746.8)	802.0 (746.9)	802.1 (747.0)
802.2 (747.1)	802.7 (747.6)	802.8 (747.7)	802.9 (747.8)
803.0 (747.9)	803.6 (748.4)	803.7 (748.5)	803.8 (748.6)
803.9 (748.7)	804.4 (749.2)	804.5 (749.2)	804.6 (749.3)
804.7 (749.4)	805.2 (749.9)	805.3 (750.0)	805.4 (750.1)
805.5 (750.2)	806.0 (750.6)	806.1 (750.7)	806.2 (750.8)
806.3 (750.9)	806.9 (751.5)	807.0 (751.6)	807.1 (751.7)
807.2 (751.8)	807.7 (752.2)	807.8 (752.3)	807.9 (752.4)
808.0 (752.5)	808.5 (753.0)	808.6 (753.1)	808.7 (753.2)
808.8 (753.3)	809.3 (753.7)	809.4 (753.8)	809.5 (753.9)
809.6 (754.0)	810.2 (754.6)	810.3 (754.7)	810.4 (754.7)
810.5 (754.8)	811.0 (755.3)	811.1 (755.4)	811.2 (755.5)
811.3 (755.6)	811.8 (756.0)	811.9 (756.1)	812.0 (756.2)
812.1 (756.3)	812.6 (756.8)	812.7 (756.9)	812.8 (757.0)
812.9 (757.1)	813.0 (757.2)	813.5 (757.6)	813.6 (757.7)
813.7 (757.8)	813.8 (757.9)	814.3 (758.4)	814.4 (758.5)
814.5 (758.6)	814.6 (758.7)	815.1 (759.1)	815.2 (759.2)
815.3 (759.3)	815.4 (759.4)	815.9 (759.9)	816.0 (760.0)
816.1 (760.1)	816.2 (760.1)	816.3 (760.2)	816.8 (760.7)
816.9 (760.8)	817.0 (760.9)	817.1 (761.0)	817.6 (761.4)
817.7 (761.5)	817.8 (761.6)	817.9 (761.7)	818.4 (762.2)
818.5 (762.3)	818.6 (762.4)	818.7 (762.5)	819.2 (762.9)
819.3 (763.0)	819.4 (763.1)	819.5 (763.2)	819.6 (763.3)
820.1 (763.8)	820.2 (763.9)	820.3 (764.0)	820.4 (764.1)
820.9 (764.5)	821.0 (764.6)	821.1 (764.7)	821.2 (764.8)
821.7 (765.3)	821.8 (765.4)	821.9 (765.5)	822.0 (765.5)
822.5 (766.0)	822.6 (766.1)	822.7 (766.2)	822.8 (766.3)
822.9 (766.4)	823.4 (766.9)	823.5 (766.9)	823.6 (767.0)
823.7 (767.1)	824.2 (767.6)	824.3 (767.7)	824.4 (767.8)



824.5 (767.9)	825.0 (768.3)	825.1 (768.4)	825.2 (768.5)
825.3 (768.6)	825.9 (769.2)	826.0 (769.3)	826.1 (769.4)
826.2 (769.5)	826.7 (769.9)	826.8 (770.0)	826.9 (770.1)
827.0 (770.2)	827.5 (770.7)	827.6 (770.8)	827.7 (770.9)
827.8 (770.9)	828.3 (771.4)	828.4 (771.5)	828.5 (771.6)
828.6 (771.7)	829.2 (772.3)	829.3 (772.3)	829.4 (772.4)
829.5 (772.5)	830.0 (773.0)	830.1 (773.1)	830.2 (773.2)
830.3 (773.3)	830.8 (773.7)	830.9 (773.8)	831.0 (773.9)
831.1 (774.0)	831.6 (774.5)	831.7 (774.6)	831.8 (774.7)
831.9 (774.8)	832.5 (775.3)	832.6 (775.4)	832.7 (775.5)
832.8 (775.6)	833.3 (776.1)	833.4 (776.2)	833.5 (776.3)
833.6 (776.4)	834.1 (776.8)	834.2 (776.9)	834.3 (777.0)
834.4 (777.1)	834.9 (777.6)	835.0 (777.7)	835.1 (777.7)
835.2 (777.8)	835.8 (778.4)	835.9 (778.5)	836.0 (778.6)
836.1 (778.7)	836.6 (779.1)	836.7 (779.2)	836.8 (779.3)
836.9 (779.4)	837.4 (779.9)	837.5 (780.0)	837.6 (780.1)
837.7 (780.2)	838.2 (780.6)	838.3 (780.7)	838.4 (780.8)
838.5 (780.9)	838.6 (781.0)	839.1 (781.5)	839.2 (781.6)
839.3 (781.7)	839.4 (781.8)	839.9 (782.2)	840.0 (782.3)
840.1 (782.4)	840.2 (782.5)	840.7 (783.0)	840.8 (783.1)
840.9 (783.1)	841.0 (783.2)	841.5 (783.7)	841.6 (783.8)
841.7 (783.9)	841.8 (784.0)	841.9 (784.1)	842.4 (784.5)
842.5 (784.6)	842.6 (784.7)	842.7 (784.8)	843.2 (785.3)
843.3 (785.4)	843.4 (785.5)	843.5 (785.6)	844.0 (786.0)
844.1 (786.1)	844.2 (786.2)	844.3 (786.3)	844.8 (786.8)
844.9 (786.9)	845.0 (787.0)	845.1 (787.1)	845.2 (787.2)
845.7 (787.6)	845.8 (787.7)	845.9 (787.8)	846.0 (787.9)
846.5 (788.4)	846.6 (788.5)	846.7 (788.6)	846.8 (788.6)
847.3 (789.1)	847.4 (789.2)	847.5 (789.3)	847.6 (789.4)
848.1 (789.9)	848.2 (789.9)	848.3 (790.0)	848.4 (790.1)
848.5 (790.2)	849.0 (790.7)	849.1 (790.8)	849.2 (790.9)
849.3 (791.0)	849.8 (791.4)	849.9 (791.5)	850.0 (791.6)
850.1 (791.7)	850.6 (792.2)	850.7 (792.3)	850.8 (792.4)
850.9 (792.5)	851.5 (793.0)	851.6 (793.1)	851.7 (793.2)
851.8 (793.3)	852.3 (793.8)	852.4 (793.9)	852.5 (794.0)
852.6 (794.0)	853.1 (794.5)	853.2 (794.6)	853.3 (794.7)
853.4 (794.8)	853.9 (795.3)	854.0 (795.3)	854.1 (795.4)
854.2 (795.5)	854.8 (796.1)	854.9 (796.2)	855.0 (796.3)
855.1 (796.4)	855.6 (796.8)	855.7 (796.9)	855.8 (797.0)
855.9 (797.1)	856.4 (797.6)	856.5 (797.7)	856.6 (797.8)
856.7 (797.9)	857.2 (798.3)	857.3 (798.4)	857.4 (798.5)
857.5 (798.6)	858.1 (799.2)	858.2 (799.3)	858.3 (799.4)
858.4 (799.4)	858.9 (799.9)	859.0 (800.0)	859.1 (800.1)
859.2 (800.2)	859.7 (800.7)	859.8 (800.8)	859.9 (800.8)
860.0 (800.9)	860.5 (801.4)	860.6 (801.5)	860.7 (801.6)
860.8 (801.7)	861.4 (802.2)	861.5 (802.3)	861.6 (802.4)
861.7 (802.5)	862.2 (803.0)	862.3 (803.1)	862.4 (803.2)
862.5 (803.3)	863.0 (803.7)	863.1 (803.8)	863.2 (803.9)
863.3 (804.0)	863.8 (804.5)	863.9 (804.6)	864.0 (804.7)
864.1 (804.8)	864.2 (804.8)	864.7 (805.3)	864.8 (805.4)
864.9 (805.5)	865.0 (805.6)	865.5 (806.1)	865.6 (806.2)
865.7 (806.2)	865.8 (806.3)	866.3 (806.8)	866.4 (806.9)
866.5 (807.0)	866.6 (807.1)	867.1 (807.5)	867.2 (807.6)
867.3 (807.7)	867.4 (807.8)	867.5 (807.9)	868.0 (808.4)
868.1 (808.5)	868.2 (808.6)	868.3 (808.7)	868.8 (809.1)
868.9 (809.2)	869.0 (809.3)	869.1 (809.4)	869.6 (809.9)
869.7 (810.0)	869.8 (810.1)	869.9 (810.2)	870.4 (810.6)
870.5 (810.7)	870.6 (810.8)	870.7 (810.9)	870.8 (811.0)
871.3 (811.5)	871.4 (811.6)	871.5 (811.6)	871.6 (811.7)
872.1 (812.2)	872.2 (812.3)	872.3 (812.4)	872.4 (812.5)
872.9 (813.0)	873.0 (813.0)	873.1 (813.1)	873.2 (813.2)
873.7 (813.7)	873.8 (813.8)	873.9 (813.9)	874.0 (814.0)
874.1 (814.1)	874.6 (814.5)	874.7 (814.6)	874.8 (814.7)
874.9 (814.8)	875.4 (815.3)	875.5 (815.4)	875.6 (815.5)
875.7 (815.6)	876.2 (816.0)	876.3 (816.1)	876.4 (816.2)
876.5 (816.3)	877.1 (816.9)	877.2 (817.0)	877.3 (817.0)
877.4 (817.1)	877.9 (817.6)	878.0 (817.7)	878.1 (817.8)

878.2 (817.9)	878.7 (818.4)	878.8 (818.4)	878.9 (818.5)
879.0 (818.6)	879.5 (819.1)	879.6 (819.2)	879.7 (819.3)
879.8 (819.4)	880.4 (819.9)	880.5 (820.0)	880.6 (820.1)
880.7 (820.2)	881.2 (820.7)	881.3 (820.8)	881.4 (820.9)
881.5 (821.0)	882.0 (821.4)	882.1 (821.5)	882.2 (821.6)
882.3 (821.7)	882.8 (822.2)	882.9 (822.3)	883.0 (822.4)
883.1 (822.5)	883.7 (823.0)	883.8 (823.1)	883.9 (823.2)
884.0 (823.3)	884.5 (823.8)	884.6 (823.8)	884.7 (823.9)
884.8 (824.0)	885.3 (824.5)	885.4 (824.6)	885.5 (824.7)
885.6 (824.8)	886.1 (825.2)	886.2 (825.3)	886.3 (825.4)
886.4 (825.5)	887.0 (826.1)	887.1 (826.2)	887.2 (826.3)
887.3 (826.4)	887.8 (826.8)	887.9 (826.9)	888.0 (827.0)
888.1 (827.1)	888.6 (827.6)	888.7 (827.7)	888.8 (827.8)
888.9 (827.9)	889.4 (828.3)	889.5 (828.4)	889.6 (828.5)
889.7 (828.6)	889.8 (828.7)	890.3 (829.2)	890.4 (829.2)
890.5 (829.3)	890.6 (829.4)	891.1 (829.9)	891.2 (830.0)
891.3 (830.1)	891.4 (830.2)	891.9 (830.6)	892.0 (830.7)
892.1 (830.8)	892.2 (830.9)	892.7 (831.4)	892.8 (831.5)
892.9 (831.6)	893.0 (831.7)	893.1 (831.8)	893.6 (832.2)
893.7 (832.3)	893.8 (832.4)	893.9 (832.5)	894.4 (833.0)
894.5 (833.1)	894.6 (833.2)	894.7 (833.3)	895.2 (833.7)
895.3 (833.8)	895.4 (833.9)	895.5 (834.0)	896.0 (834.5)
896.1 (834.6)	896.2 (834.7)	896.3 (834.7)	896.4 (834.8)
896.9 (835.3)	897.0 (835.4)	897.1 (835.5)	897.2 (835.6)
897.7 (836.0)	897.8 (836.1)	897.9 (836.2)	898.0 (836.3)
898.5 (836.8)	898.6 (836.9)	898.7 (837.0)	898.8 (837.1)
899.3 (837.5)	899.4 (837.6)	899.5 (837.7)	899.6 (837.8)
899.7 (837.9)	900.2 (838.4)	900.3 (838.5)	900.4 (838.6)
900.5 (838.7)	901.0 (839.1)	901.1 (839.2)	901.2 (839.3)
901.3 (839.4)	901.8 (839.9)	901.9 (840.0)	902.0 (840.1)
902.1 (840.1)	902.7 (840.7)	902.8 (840.8)	902.9 (840.9)
903.0 (841.0)	903.5 (841.4)	903.6 (841.5)	903.7 (841.6)
903.8 (841.7)	904.3 (842.2)	904.4 (842.3)	904.5 (842.4)
904.6 (842.5)	905.1 (842.9)	905.2 (843.0)	905.3 (843.1)
905.4 (843.2)	906.0 (843.8)	906.1 (843.9)	906.2 (844.0)
906.3 (844.1)	906.8 (844.5)	906.9 (844.6)	907.0 (844.7)
907.1 (844.8)	907.6 (845.3)	907.7 (845.4)	907.8 (845.5)
907.9 (845.5)	908.4 (846.0)	908.5 (846.1)	908.6 (846.2)
908.7 (846.3)	909.3 (846.9)	909.4 (846.9)	909.5 (847.0)
909.6 (847.1)	910.1 (847.6)	910.2 (847.7)	910.3 (847.8)
910.4 (847.9)	910.9 (848.3)	911.0 (848.4)	911.1 (848.5)
911.2 (848.6)	911.7 (849.1)	911.8 (849.2)	911.9 (849.3)
912.0 (849.4)	912.6 (849.9)	912.7 (850.0)	912.8 (850.1)
912.9 (850.2)	913.4 (850.7)	913.5 (850.8)	913.6 (850.9)
913.7 (850.9)	914.2 (851.4)	914.3 (851.5)	914.4 (851.6)
914.5 (851.7)	915.0 (852.2)	915.1 (852.3)	915.2 (852.3)
915.3 (852.4)	915.4 (852.5)	915.9 (853.0)	916.0 (853.1)
916.1 (853.2)	916.2 (853.3)	916.7 (853.7)	916.8 (853.8)
916.9 (853.9)	917.0 (854.0)	917.5 (854.5)	917.6 (854.6)
917.7 (854.7)	917.8 (854.8)	918.3 (855.2)	918.4 (855.3)
918.5 (855.4)	918.6 (855.5)	918.7 (855.6)	919.2 (856.1)
919.3 (856.2)	919.4 (856.3)	919.5 (856.4)	920.0 (856.8)
920.1 (856.9)	920.2 (857.0)	920.3 (857.1)	920.8 (857.6)
920.9 (857.7)	921.0 (857.7)	921.1 (857.8)	921.6 (858.3)
921.7 (858.4)	921.8 (858.5)	921.9 (858.6)	922.0 (858.7)
922.5 (859.1)	922.6 (859.2)	922.7 (859.3)	922.8 (859.4)
923.3 (859.9)	923.4 (860.0)	923.5 (860.1)	923.6 (860.2)
924.1 (860.6)	924.2 (860.7)	924.3 (860.8)	924.4 (860.9)
924.9 (861.4)	925.0 (861.5)	925.1 (861.6)	925.2 (861.7)
925.3 (861.8)	925.8 (862.2)	925.9 (862.3)	926.0 (862.4)
926.1 (862.5)	926.6 (863.0)	926.7 (863.1)	926.8 (863.1)
926.9 (863.2)	927.4 (863.7)	927.5 (863.8)	927.6 (863.9)
927.7 (864.0)	928.3 (864.5)	928.4 (864.6)	928.5 (864.7)
928.6 (864.8)	929.1 (865.3)	929.2 (865.4)	929.3 (865.5)
929.4 (865.6)	929.9 (866.0)	930.0 (866.1)	930.1 (866.2)
930.2 (866.3)	930.7 (866.8)	930.8 (866.9)	930.9 (867.0)
931.0 (867.1)	931.6 (867.6)	931.7 (867.7)	931.8 (867.8)

931.9 (867.9)	932.4 (868.4)	932.5 (868.5)	932.6 (868.6)
932.7 (868.6)	933.2 (869.1)	933.3 (869.2)	933.4 (869.3)
933.5 (869.4)	934.0 (869.9)	934.1 (869.9)	934.2 (870.0)
934.3 (870.1)	934.9 (870.7)	935.0 (870.8)	935.1 (870.9)
935.2 (871.0)	935.7 (871.4)	935.8 (871.5)	935.9 (871.6)
936.0 (871.7)	936.5 (872.2)	936.6 (872.3)	936.7 (872.4)
936.8 (872.5)	937.3 (872.9)	937.4 (873.0)	937.5 (873.1)
937.6 (873.2)	938.2 (873.8)	938.3 (873.9)	938.4 (874.0)
938.5 (874.0)	939.0 (874.5)	939.1 (874.6)	939.2 (874.7)
939.3 (874.8)	939.8 (875.3)	939.9 (875.4)	940.0 (875.4)
940.1 (875.5)	940.6 (876.0)	940.7 (876.1)	940.8 (876.2)
940.9 (876.3)	941.0 (876.4)	941.5 (876.8)	941.6 (876.9)
941.7 (877.0)	941.8 (877.1)	942.3 (877.6)	942.4 (877.7)
942.5 (877.8)	942.6 (877.9)	943.1 (878.3)	943.2 (878.4)
943.3 (878.5)	943.4 (878.6)	943.9 (879.1)	944.0 (879.2)
944.1 (879.3)	944.2 (879.4)	944.3 (879.4)	944.8 (879.9)
944.9 (880.0)	945.0 (880.1)	945.1 (880.2)	945.6 (880.7)
945.7 (880.8)	945.8 (880.8)	945.9 (880.9)	946.4 (881.4)
946.5 (881.5)	946.6 (881.6)	946.7 (881.7)	947.2 (882.1)
947.3 (882.2)	947.4 (882.3)	947.5 (882.4)	947.6 (882.5)
948.1 (883.0)	948.2 (883.1)	948.3 (883.2)	948.4 (883.3)
948.9 (883.7)	949.0 (883.8)	949.1 (883.9)	949.2 (884.0)
949.7 (884.5)	949.8 (884.6)	949.9 (884.7)	950.0 (884.8)
950.5 (885.2)	950.6 (885.3)	950.7 (885.4)	950.8 (885.5)
950.9 (885.6)	951.4 (886.1)	951.5 (886.2)	951.6 (886.2)
951.7 (886.3)	952.2 (886.8)	952.3 (886.9)	952.4 (887.0)
952.5 (887.1)	953.0 (887.6)	953.1 (887.6)	953.2 (887.7)
953.3 (887.8)	953.9 (888.4)	954.0 (888.5)	954.1 (888.6)
954.2 (888.7)	954.7 (889.1)	954.8 (889.2)	954.9 (889.3)
955.0 (889.4)	955.5 (889.9)	955.6 (890.0)	955.7 (890.1)
955.8 (890.2)	956.3 (890.6)	956.4 (890.7)	956.5 (890.8)
956.6 (890.9)	957.2 (891.5)	957.3 (891.6)	957.4 (891.6)
957.5 (891.7)	958.0 (892.2)	958.1 (892.3)	958.2 (892.4)
958.3 (892.5)	958.8 (893.0)	958.9 (893.0)	959.0 (893.1)
959.1 (893.2)	959.6 (893.7)	959.7 (893.8)	959.8 (893.9)
959.9 (894.0)	960.5 (894.5)	960.6 (894.6)	960.7 (894.7)
960.8 (894.8)	961.3 (895.3)	961.4 (895.4)	961.5 (895.5)
961.6 (895.6)	962.1 (896.0)	962.2 (896.1)	962.3 (896.2)
962.4 (896.3)	962.9 (896.8)	963.0 (896.9)	963.1 (897.0)
963.2 (897.0)	963.8 (897.6)	963.9 (897.7)	964.0 (897.8)
964.1 (897.9)	964.6 (898.4)	964.7 (898.4)	964.8 (898.5)
964.9 (898.6)	965.4 (899.1)	965.5 (899.2)	965.6 (899.3)
965.7 (899.4)	966.2 (899.8)	966.3 (899.9)	966.4 (900.0)
966.5 (900.1)	966.6 (900.2)	967.1 (900.7)	967.2 (900.8)
967.3 (900.9)	967.4 (901.0)	967.9 (901.4)	968.0 (901.5)
968.1 (901.6)	968.2 (901.7)	968.7 (902.2)	968.8 (902.3)
968.9 (902.4)	969.0 (902.5)	969.5 (902.9)	969.6 (903.0)
969.7 (903.1)	969.8 (903.2)	969.9 (903.3)	970.4 (903.8)
970.5 (903.8)	970.6 (903.9)	970.7 (904.0)	971.2 (904.5)
971.3 (904.6)	971.4 (904.7)	971.5 (904.8)	972.0 (905.2)
972.1 (905.3)	972.2 (905.4)	972.3 (905.5)	972.8 (906.0)
972.9 (906.1)	973.0 (906.2)	973.1 (906.3)	973.2 (906.4)
973.7 (906.8)	973.8 (906.9)	973.9 (907.0)	974.0 (907.1)
974.5 (907.6)	974.6 (907.7)	974.7 (907.8)	974.8 (907.9)
975.3 (908.3)	975.4 (908.4)	975.5 (908.5)	975.6 (908.6)
976.1 (909.1)	976.2 (909.2)	976.3 (909.3)	976.4 (909.3)
976.5 (909.4)	977.0 (909.9)	977.1 (910.0)	977.2 (910.1)
977.3 (910.2)	977.8 (910.6)	977.9 (910.7)	978.0 (910.8)
978.1 (910.9)	978.6 (911.4)	978.7 (911.5)	978.8 (911.6)
978.9 (911.7)	979.5 (912.2)	979.6 (912.3)	979.7 (912.4)
979.8 (912.5)	980.3 (913.0)	980.4 (913.1)	980.5 (913.2)
980.6 (913.3)	981.1 (913.7)	981.2 (913.8)	981.3 (913.9)
981.4 (914.0)	981.9 (914.5)	982.0 (914.6)	982.1 (914.7)
982.2 (914.7)			

### **Action**

Specify a valid volume size and then resubmit the task.

---

**CMUN02389E** *SOURCE* **Unable to create volume. Not enough extents are available.**

### **Explanation**

The volume cannot be created because not enough extents are available in the extent pool. More extents must be added to the extent pool.

### **Action**

Add more extents to the extent pool, and then resubmit the task.

---

**CMUN02390E** *SOURCE* **Unable to create volume. Not enough extents are available at this time.**

### **Explanation**

The volume cannot be created because not enough extents are available. However, freed extents in the extent pool are being reformatted. Enough extents will be available when the reformatting process completes. One terabyte of disk space can be reformatted in approximately four hours.

### **Action**

Wait until reformatting completes, and then resubmit the task.

---

**CMUN02391E** *SOURCE* **Unable to delete CKD base volume. Unable to delete or reassign aliases.**

### **Explanation**

The storage management console server reports a storage unit microcode-level error. The CKD base volume cannot be deleted because its alias volumes cannot be deleted or reassigned.

### **Action**

Delete or reassign the alias volumes first, and then resubmit the task.

---

**CMUN02392E** *SOURCE* **Invalid alias volume group**

### **Explanation**

The specified alias volume group does not exist or is not a FICON/ESCON - MASK type volume group. Volume group 10 is the default valid volume group of this type.

### **Action**

Specify a valid volume group, and then resubmit the task.

---

**CMUN02393E** *SOURCE* Unable to create or modify CKD alias volume. The base and alias volumes belong to different logical subsystems.

**Explanation**

The base and its alias volumes must belong to the same logical subsystem.

**Action**

Specify base and alias volumes that belong to the same logical subsystem, and then resubmit the task.

---

**CMUN02394E** *SOURCE* Unable to create or modify CKD alias volume. The maximum number of aliases are already assigned to the base volume.

**Explanation**

A maximum of 255 aliases can be assigned to a base volume. The specified base volume already has 255 aliases that are assigned to it.

**Action**

Specify a different base volume, or reassign some of the previously assigned alias volumes, and then resubmit the task.

---

**CMUN02395E** *SOURCE* Unable to create or modify CKD alias volume. The base volume and alias volume are not in the same volume group.

**Explanation**

The base volume and alias volume must be in the same volume group. To create a new alias volume in the volume group, assign the base volume to the volume group, and then create the alias volume in the volume group. To modify an existing alias volume, you must select a base volume that is already in that volume group.

**Action**

Specify a base volume and alias volume that are in the same volume group and then resubmit the task.

---

**CMUN02396E** *SOURCE* Contact information must be entered before you can invoke call home.

**Explanation**

Your company name, machine location, ship to country, and contact primary telephone number must be entered before you can invoke the **call home** task.

**Action**

Use the **IBM TotalStorage DS Command-Line Interface setcontactinfo** command, or the **IBM TotalStorage DS Storage Manager Company information work sheet** to enter contact information. Then resubmit the task.

---

**CMUN02397E** *SOURCE* **Unable to delete volume: The volume does not exist.**

**Explanation**

The specified volume cannot be found. Therefore, it cannot be deleted.

**Action**

Specify a different volume to delete.

---

**CMUN02398E** *SOURCE* **Unable to create array. All array sites must be in the same loop.**

**Explanation**

The specified array sites are not in the same adapter loop. All of the array sites for the array must be in the same adapter loop.

**Action**

Specify array sites in the same loop, and then resubmit the task.

---

**CMUN02399E** *SOURCE* **Unable to create array. A RAID5 array can have only one spare.**

**Explanation**

More than one spare is specified for the array. A RAID5 array can have only one spare.

**Action**

Specify only one spare for the array, and then resubmit the task.

---

**CMUN02400E** *SOURCE* **Unable to create logical subsystem: invalid address group**

**Explanation**

The specification contains an invalid address group.

**Action**

Specify a valid address group, and then resubmit the task.

---

**CMUN02401E** *SOURCE* **Unable to create logical subsystem: microcode-level error**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02402E SOURCE Unable to create rank: failed disk drives detected****Explanation**

The specified storage includes failed disk drives. These drives must be replaced before a rank can be created on them.

**Action**

Specify a different array, or ensure that the failed disk drives are replaced. Then resubmit the task.

---

**CMUN02403E SOURCE Unable to create rank: not a licensed operation****Explanation**

Your current license does not permit you to create the rank.

**Action**

Obtain and install the appropriate license key, and then resubmit the task.

---

**CMUN02404E SOURCE Unable to create rank: maximum number of ranks already created****Explanation**

The maximum number of ranks already has been created.

**Action**

Delete unused ranks or install and license more storage capacity. Then resubmit the task.

---

**CMUN02405E SOURCE Unable to delete rank: Extents on the rank are in use.****Explanation**

Extents on the rank are still assigned to a valid volume group. You must delete volumes that use extents on the rank before you can delete the rank.

**Action**

Ensure that no extents from the rank are assigned, and then resubmit the task.

---

**CMUN02406E** *SOURCE* Internal logical configuration error: Collect a PE package.

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Collect a PE package and contact IBM technical support for assistance.

---

**CMUN02407E** *SOURCE* Array operation failure: Resource Manager not available on alternate server

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02408E** *SOURCE* Array creation failure: Too many array sites specified.

**Explanation**

You must specify only one array site when creating RAID5 or RAID10 arrays. Multiple array sites are specified.

**Action**

Specify only one array site, and then resubmit the task.

---

**CMUN02409E** *SOURCE* Rank operation failure: Resource Manager not available on alternate server

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.



---

**CMUN02410E** *SOURCE* **Extent pool operation failure: Resource Manager not available on alternate server**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02411E** *SOURCE* **Logical volume operation failure: Resource Manager not available on alternate server**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02412E** *SOURCE* **Volume group operation failure: Host agent Resource Manager not available on alternate server**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02413E** *SOURCE* **SCSI host port operation failure: Host agent Resource Manager not available on alternate server**

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02414E** *SOURCE* Unable to create SCSI host port. A colon ":" cannot be used when specifying a SCSI host port.

**Explanation**

A colon ":" is used in a SCSI host port specification. This character cannot be used in a SCSI host port specification.

**Action**

Omit the colon, and then resubmit the task.

---

**CMUN02415E** *SOURCE* Unable to modify SCSI host port. A colon ":" cannot be used when specifying a SCSI host port.

**Explanation**

A colon ":" is used in a SCSI host port specification. This character cannot be used in a SCSI host port specification.

**Action**

Omit the colon, and then resubmit the task.

---

**CMUN02416E** *SOURCE* Rank repair operation failure

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02417E** *SOURCE* Rank repair operation failure

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02418E** *SOURCE* Rank repair operation failure: At least one array must be in assigned status.

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02419E** *SOURCE* **Rank repair operation failure: Service intent flag is set.****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02420E** *SOURCE* **Rank repair operation failure****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02421E** *SOURCE* **Rank repair operation failure: Unable to establish array site communication session.****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02422E** *SOURCE* **Rank repair operation failure: Unable to retrieve adapter name.****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02423E** *SOURCE* Rank repair operation failure: device adapter error

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02424E** *SOURCE* Rank repair operation failure: Multiple ranks exist or the rank is still accessible.

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02425E** *SOURCE* Rank repair operation failure: Unable to delete RAID array.

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02426E** *SOURCE* Rank repair operation failure: Unable to retrieve serial number.

**Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN02427E** *SOURCE* **Internal logical configuration error: Another configuration is in progress.**

**Explanation**

The storage management console server reports a storage unit microcode-level error. Another configuration process is in progress. Your task cannot be performed at this time.

**Action**

Wait, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02428E** *SOURCE* **Unable to create rank. Disks are being formatted.**

**Explanation**

The rank cannot be created until disk reformatting completes.

**Action**

Wait until disk reformatting completes, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02429E** *SOURCE* **A recovery is in progress. Logical configuration commands are blocked.**

**Explanation**

A recovery is in progress. Logical configurations commands are rejected until recovery completes.

**Action**

Wait, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN02430E** *SOURCE* **Invalid configuration: The base and alias/map volumes must be in the same volume group.**

**Explanation**

A volume group cannot contain an alias/map volume unless the base volume is also in that group.

**Action**

Ensure that the base and alias/map volumes are in the same volume group, and then resubmit the task.

---

**CMUN02431E** *SOURCE* **Invalid configuration: A volume group cannot contain unconfigured logical volumes.**

**Explanation**

A volume group cannot contain an unconfigured volume. One or more of the specified volumes is not in the **configured** state.

**Action**

Specify only configured volumes, and then resubmit the task.

---

**CMUN02432E** *SOURCE* **Invalid configuration: volume group and volume type mismatch**

**Explanation**

A FICON ESCON mixed volume group can contain only logical volumes of the following types:

- count-key-data base
- count-key-data alias
- count-key-data map
- 512-byte fixed-block

**Action**

Specify logical volumes of the correct type, and then resubmit the task.

---

**CMUN02433E** *SOURCE* **Invalid configuration: 512-byte fixed-block volumes must share data.**

**Explanation**

In a FICON ESCON mixed volume group all logical volumes of type 512-byte fixed-block must have **data sharing allowed** set to **true**.

**Action**

Ensure that all 512-byte fixed-block volumes permit data sharing, and then resubmit the task.

---

**CMUN02434E** *SOURCE* **Invalid configuration: volume group and volume type mismatch**

**Explanation**

A FICON ESCON (not mixed) volume group can contain only logical volumes of the following types: count-key-data base or count-key-data alias.

**Action**

Specify only count-key-data base or count-key-data alias volumes, and then resubmit the task.

---

**CMUN02435E** *SOURCE* **Invalid configuration: volume group and volume type mismatch**

**Explanation**

A SCSI (not mixed) volume group must contain only logical volumes of type 512-byte fixed-block.

**Action**

Specify only 512-byte fixed-block logical volumes, and then resubmit the task.

---

**CMUN02436E** *SOURCE* **Invalid configuration: volume group and volume type mismatch**

**Explanation**

A SCSI mixed volume group must contain only logical volumes of the following types:

- fixed-block map
- count-key-data base
- 520-byte fixed-block

**Action**

Specify only volumes of types fixed-block map, count-key-data base, or 520-byte fixed-block base. Then resubmit the task.

---

**CMUN02437E** *SOURCE* **Invalid configuration: CKD base logical volumes must share data.**

**Explanation**

In a SCSI mixed volume group, all count-key-data base logical volumes must have **data sharing allowed** set to **true**.

**Action**

Ensure that all count-key-data base logical volumes permit data sharing, and then resubmit the task.

---

**CMUN02438E** *SOURCE* **Invalid configuration: volume group and volume type mismatch**

**Explanation**

A SCSI520 MASK volume group must contain only logical volumes of type 520-byte fixed block.

**Action**

Specify only 520-byte fixed block logical volumes, and then resubmit the task.

---

**CMUN02439E** *SOURCE* **Unable to create rank. DDM repair is required or in progress.**

**Explanation**

The rank cannot be created because disk drive repair is required or is in progress.

**Action**

Wait until the drives have been repaired, and then resubmit the task.

---

**CMUN03000E** *SOURCE* **Operation failure: action cancelled due to lack of resources**

**Explanation**

The storage management console server reports a Copy Services error. The storage unit did not have enough resources to complete the task.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03001E** *SOURCE* **Operation failure: action not supported**

**Explanation**

The storage management console server reports a Copy Services error. The command is not supported by the current microcode.

**Action**

Ensure that the latest version of microcode is installed on your storage unit. Contact IBM technical support for assistance.

---

**CMUN03002E** *SOURCE* **Operation failure: action not supported**

**Explanation**

The storage management console server reports a Copy Services error. The command is not supported by the current microcode.

**Action**

Ensure that the latest version of microcode is installed on your storage unit. Contact IBM technical support for assistance.

---

**CMUN03003E** *SOURCE* **Copy Services operation failure: currently processing a previously issued Global Mirror command**

**Explanation**

The task is being rejected because a previously issued task is still being processed.



### **Action**

Wait until the first process completes, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN03004E *SOURCE* Copy Services operation failure: Global Mirror command not properly defined**

### **Explanation**

The storage management console server reports a Copy Services error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN03005E *SOURCE* Copy Services operation failure: Global Mirror feature not installed**

### **Explanation**

The Global Mirror feature is not installed on this storage image.

### **Action**

Install and license the feature, and then resubmit the task. Contact IBM technical support for assistance.

---

## **CMUN03006E *SOURCE* Copy Services operation failure: Global Mirror structures not available**

### **Explanation**

A Global Mirror command fails because an internal error occurs or because the storage image is in single cluster mode.

### **Action**

Check for hardware errors and ensure that the storage image is in dual cluster mode. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN03007E *SOURCE* Copy Services operation failure: FlashCopy battery feature not installed**

### **Explanation**

The task cannot be initiated because the FlashCopy battery feature is not installed.

### **Action**

Install the FlashCopy battery feature, and then resubmit the task. Contact IBM technical support for assistance.

---

**CMUN03008E** *SOURCE* **Copy Services operation failure: cascading FlashCopy prohibited**

**Explanation**

A FlashCopy target cannot be a FlashCopy source or the target of another relationship.

**Action**

Specify a logical volume that is not a FlashCopy target, and then resubmit the task. Contact IBM technical support for assistance.

---

**CMUN03009E** *SOURCE* **Copy Services operation failure: cascading primary**

**Explanation**

A cascading primary logical volume cannot be in a Global Mirror relationship.

**Action**

Specify a logical volume that is not a cascading primary, and then resubmit the task. Contact IBM technical support for assistance.

---

**CMUN03010E** *SOURCE* **Copy Services operation failure: cascading secondary noncascade**

**Explanation**

The specified volume was not established with the **cascading** option.

**Action**

Specify a volume that has been established with the **cascading** option, and then resubmit the task. Contact IBM technical support for assistance.

---

**CMUN03011E** *SOURCE* **Copy Services operation failure: cascading secondary synchronous**

**Explanation**

Cascading secondaries cannot be primary volumes in a Metro Mirror relationship.

**Action**

Specify a logical volume that is not a cascading secondary, and then resubmit the task. Contact IBM technical support for assistance.

---

**CMUN03012E** *SOURCE* Remote Mirror and Copy operation failure**Explanation**

The storage management console server reports a Remote Mirror and Copy error. One of the following conditions is occurring:

- Abnormal conditions exist at the secondary controller.
- Abnormal conditions exist at the secondary storage unit.
- The communication paths between the primary and remote controller are not functioning.
- Communication cannot be established with the secondary control unit.

**Action**

Check for hardware errors and disconnected cables, and follow the recommended service procedure. Check the status of the secondary system. If the problem persists, contact IBM technical support for assistance.

---

**CMUN03013E** *SOURCE* CKD management is disabled.**Explanation**

Management of count-key-data resources on the storage unit is disabled.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03014E** *SOURCE* Copy Services operation failure: A microcode code load is in progress.**Explanation**

A microcode code load is in progress, and no other activities can take place on the storage unit.

**Action**

Wait until the microcode code load completes, and then resubmit the task.

---

**CMUN03015E** *SOURCE* Operation failure: consistent copy would be compromised**Explanation**

A pause or end Global Mirror fails because the action cannot complete without compromising the consistent copy of the data.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03016E** *SOURCE* **Copy Services feature not installed****Explanation**

The Copy Services feature is not installed on the storage unit.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03017E** *SOURCE* **Copy Services feature not supported.****Explanation**

The storage unit does not support the requested Copy Services feature.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03018E** *SOURCE* **Copy Services server internal error****Explanation**

The storage management console server reports a Copy Services server internal error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03019E** *SOURCE* **Copy Services operation failure: critical volume mode unavailable****Explanation**

Critical volume mode cannot be specified with Global Mirror.

**Action**

Do not specify critical volume mode, and then resubmit the task. Contact IBM technical support for assistance.

---

**CMUN03020E** *SOURCE* **Copy Services operation failure: device not found****Explanation**

One of the following might be occurring:

- The request is being issued to an unconfigured logical volume.
- The request requires at least one configured volume, and no volumes are configured for the logical subsystem.
- An unknown error

### **Action**

Ensure that a configured logical volume exists, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN03021E *SOURCE* Copy Services operation failure: device status cannot be determined**

### **Explanation**

A logical volume in the specification is either:

- Unconfigured
- Flagged for service
- In the **status cannot be determined** state
- The wrong type

### **Action**

Make the volume or underlying device available, or specify another volume, and then resubmit the task.

---

## **CMUN03022E *SOURCE* Copy Services operation failure: source is destination**

### **Explanation**

The source and destination ports for a path over FCP must be unique. No port can be used as both source and destination.

### **Action**

Specify two distinct ports, and then resubmit the task.

---

## **CMUN03023E *SOURCE* Copy Services operation failure: ESCON - FCP collision**

### **Explanation**

An attempt is being made to establish ESCON paths between two control units with FCP paths that already exist between the control units, or an attempt is being made to establish FCP paths between two control units with ESCON paths that already exist between the control units.

### **Action**

Contact IBM technical support for assistance.

---

**CMUN03024E** *SOURCE* Copy Services operation failure: ESCON - FCP remove collision

**Explanation**

An attempt is being made to remove ESCON paths between two control units with FCP paths that also exist between the control units, or an attempt is being made to remove FCP paths between two control units with ESCON paths that also exist between the control units.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03025E** *SOURCE* Copy Services operation failure: storage image not available

**Explanation**

Communication was the storage image failed.

**Action**

Ensure that the storage image is online and available.

---

**CMUN03026E** *SOURCE* Copy Services operation failure: storage image not found

**Explanation**

The storage image was not found in the Copy Services domain.

**Action**

Properly identify the storage image, and then resubmit the task.

---

**CMUN03027E** *SOURCE* FlashCopy operation failure: action prohibited by current FlashCopy state

**Explanation**

The storage management console server reports a Copy Services error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03028E** *SOURCE* Copy Services operation failure: master process conflict

**Explanation**

One of the following is taking place:

- A start or resume Global Mirror command with no modify options is being issued to a storage image on which a master process is running.
- A start or resume Global Mirror command with modify options is being issued, but the parameters do not match the existing configuration.
- A start or resume Global Mirror command with modify options is being issued, but the master process is not paused.

### **Action**

Ensure that the master process is not running and that the parameters match.  
Resubmit the task.

---

## **CMUN03029E SOURCE Copy Services operation failure: invalid failback primary**

### **Explanation**

The specified failback primary does not match the existing primary for the volume.

### **Action**

Specify the correct primary, and then resubmit the task.

---

## **CMUN03030E SOURCE Copy Services operation failure: failback primary volume not suspended**

### **Explanation**

The Remote Mirror and Copy failback primary volume must be suspended before the task is issued.

### **Action**

Suspend the failback primary volume, and then resubmit the task.

---

## **CMUN03031E SOURCE Copy Services operation failure: invalid failover primary site**

### **Explanation**

The specified failover primary site does not match the existing primary site for the volume.

### **Action**

Specify the correct failover primary site, and then resubmit the task.

---

**CMUN03032E** *SOURCE* **Operation failure: invalid failover secondary volume**

**Explanation**

The failover action fails because the volume is not a full duplex Metro Mirror secondary volume.

**Action**

Ensure that the secondary volume is in full duplex mode, and then resubmit the task.

---

**CMUN03033E** *SOURCE* **Copy Services operation failure: FCP - FICON path collision**

**Explanation**

You are attempting to establish an FCP path on a port with existing FICON logical paths.

**Action**

Specify a port with no existing FICON paths, and then resubmit the task.

---

**CMUN03034E** *SOURCE* **Copy Services operation failure: FCP connectivity queries are not supported by the storage image.**

**Explanation**

FCP connectivity queries are not supported by the storage image.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03035E** *SOURCE* **Copy Services operation failure: feature not installed**

**Explanation**

The specified feature is not installed.

**Action**

License and install the feature, and then resubmit the task.



---

**CMUN03036E** *SOURCE* Copy Services operation failure: maximum FlashCopy relationships exceeded or initialization in progress

**Explanation**

The requested FlashCopy Relationship cannot be established because the maximum number of relationships already are established or because the volume was recently created and is still being initialized to support FlashCopy (Release 5.0.\* only).

If the volume is still being initialized, wait until the initialization completes, and then resubmit the request.

**Action**

Remove unnecessary relationships or wait until initialization completes, and then resubmit the task.

---

**CMUN03037E** *SOURCE* Copy Services operation failure: FlashCopy inhibited

**Explanation**

FlashCopy is inhibited on this volume.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03038E** *SOURCE* Copy Services operation failure: Volume is already a FlashCopy target.

**Explanation**

The specified Remote Mirror and Copy secondary volume is already a FlashCopy target. It cannot be used as a target for another relationship.

**Action**

Specify a different target logical volume, and then resubmit the task.

---

**CMUN03039E** *SOURCE* Copy Services operation failure: maximum FlashCopy targets exceeded

**Explanation**

The maximum number of FlashCopy targets for this source has been exceeded.

**Action**

Remove any unwanted targets, and then resubmit the task.

---

**CMUN03040E** *SOURCE* **Copy Services operation failure: maximum relationships exceeded**

**Explanation**

The maximum number of FlashCopy relationships has been established for this volume. No more relationships can be created.

**Action**

Remove any unwanted relationships, and then resubmit the task.

---

**CMUN03041E** *SOURCE* **Copy Services operation failure: already a FlashCopy source**

**Explanation**

A FlashCopy source logical volume cannot be the source of a new relationship, and it cannot be the relationship target logical volume.

**Action**

Specify a different logical volume, and then resubmit the task.

---

**CMUN03042E** *SOURCE* **Copy Services operation failure: already a FlashCopy target**

**Explanation**

The specified target is already a FlashCopy target. A FlashCopy target cannot be the target of a new relationship.

**Action**

Specify a different target logical volume, and then resubmit the task.

---

**CMUN03043E** *SOURCE* **Operation failure: functional code timeout**

**Explanation**

The storage management console server reports a storage unit microcode-level error. The storage unit does not respond in a satisfactory time period.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03044E** *SOURCE* **Copy Services operation failure: path not available**

**Explanation**

The conduit logical subsystem does not have a relationship with the FlashCopy primary logical volume.

**Action**

Specify a different conduit logical subsystem or establish a path, and then resubmit the task.

---

**CMUN03045E** *SOURCE* **Copy Services operation failure: increment failed due to internal error****Explanation**

The relationship cannot be incremented due to an internal error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03046E** *SOURCE* **Copy Services operation failure: FlashCopy increment mismatch****Explanation**

The increment of a FlashCopy relationship fails because the logical volumes are in relationships with other volumes.

**Action**

Specify the correct relationship or remove the other relationships, and then resubmit the task.

---

**CMUN03047E** *SOURCE* **Copy Services operation failure: invalid fibre-channel protocol configuration****Explanation**

Fibre-channel protocol paths are specified, but the adapters use fibre-channel arbitrated loop protocol.

**Action**

Specify compatible path and adapter protocols, and then resubmit the command.

---

**CMUN03048E** *SOURCE* **Copy Services operation failure: invalid FlashCopy target****Explanation**

The specified target is a Remote Mirror and Copy or Global Mirror primary volume.

**Action**

Specify a different target, and then resubmit the task.

---

**CMUN03049E** *SOURCE* **Copy Services operation failure: incompatible volumes**

**Explanation**

FlashCopy volumes must be the same capacity, and they must belong to the same logical subsystem.

**Action**

Specify volumes that are the same capacity and are on the same logical subsystem, and then resubmit the task.

---

**CMUN03050E** *SOURCE* **Copy Services operation failure: invalid FlashCopy extent**

**Explanation**

The FlashCopy operation does not allow the specification of extents.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03051E** *SOURCE* **Copy services operation failure: invalid FlashCopy source**

**Explanation**

The FlashCopy source is not the target of the addressed Remote Mirror and Copy pair.

**Action**

Specify a different FlashCopy source or a different Remote Mirror and Copy pair, and then resubmit the task.

---

**CMUN03052E** *SOURCE* **Copy Services operation failure: invalid secondary**

**Explanation**

The storage management console server reports a Copy Services error. The secondary volume address is not valid.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03053E** *SOURCE* **Copy Services operation failure: invalid transition**

**Explanation**

The command attempts to perform an invalid transition between modes.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03054E** *SOURCE* **Copy Services operation failure: invalid revertible specification**

**Explanation**

Either:

- A FlashCopy establish was specified with the revertible option for a pair that does not exist or is already revertible.
- A FlashCopy withdraw was specified on a pair that is not revertible.

**Action**

Specify a different pair, and then resubmit the command.

---

**CMUN03055E** *SOURCE* **Copy Services operation failure: session or members not in correct state.**

**Explanation**

The Global Mirror start fails because a session or session members are not in the correct state.

**Action**

Place the session or members in the correct state, and then resubmit the command.

---

**CMUN03056E** *SOURCE* **Copy Services operation failure: invalid session state for FlashCopy**

**Explanation**

The Global Mirror session is not in the correct state.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03057E** *SOURCE* **Copy Services operation failure: invalid subsystem ID**

**Explanation**

The specified subsystem ID cannot be found.

**Action**

Specify an valid subsystem ID, and then resubmit the task.

---

**CMUN03058E** *SOURCE* **Copy Services Operation failure: invalid WNN**

**Explanation**

The primary or secondary worldwide node name is invalid.

**Action**

Specify a valid worldwide node name, and then resubmit the task.

---

**CMUN03059E** *SOURCE* **Copy Services operation failure: LSS not found**

**Explanation**

The logical subsystem was not found in the Copy Services domain.

**Action**

Specify a valid logical subsystem, and then resubmit the task.

---

**CMUN03060E** *SOURCE* **Copy Services operation failure: logical subsystem mismatch**

**Explanation**

The storage management console server reports a Copy Services error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03061E** *SOURCE* **Copy Services operation failure: master serial number not defined**

**Explanation**

The storage management console server reports a Copy Services error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03062E** *SOURCE* **Copy Services operation failure: maximum masters exceeded**

**Explanation**

A start or resume Global Mirror command was received by a subordinate that already has the maximum number (32) of masters.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03063E** *SOURCE* **Copy Services operation failure: sequence number and session ID mismatch**

**Explanation**

The specified sequence numbers do not match the master and subordinate sequence numbers for the session ID.

**Action**

Specify different sequence numbers or a different session ID, and then resubmit the task.

---

**CMUN03064E** *SOURCE* **Copy Services operation failure: mixed adapters specified**

**Explanation**

You must specify either all ESCON paths or all FCP paths. ESCON and FCP paths cannot be mixed within the same command.

**Action**

Specify paths of the same type, and then resubmit the command.

---

**CMUN03065E** *SOURCE* **Copy Services operation failure: volumes not a Remote Mirror and Copy pair**

**Explanation**

The operation references logical volumes that are not a Remote Mirror and Copy pair.

**Action**

Specify a valid Remote Mirror and Copy pair, and then resubmit the task.

---

**CMUN03066E** *SOURCE* **Copy Services operation failure: no volume zero on secondary logical subsystem**

**Explanation**

The storage management console server reports a Copy Services error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03067E** *SOURCE* **Copy Services operation failure: configuration does not exist**

**Explanation**

The specified configuration does not exist or the specified logical subsystem is incorrect.

**Action**

Ensure that the correct pair and the correct logical subsystem are specified, and then resubmit the task.

---

**CMUN03068E** *SOURCE* **Copy Services operation failure: not ready for resync**

**Explanation**

Both the source and target volumes must be suspended before they can be resynchronized.

**Action**

Suspend the volumes, and then resubmit the task.

---

**CMUN03069E** *SOURCE* **Pair capacity mismatch**

**Explanation**

The capacity of a target volume must be greater than or equal to the size of the source volume. The target volume is too small.

**Action**

Specify a target volume that is larger than or equal to the size of the source volume, and then resubmit the task.

---

**CMUN03070E** *SOURCE* **Copy Services operation failure: pairs remain**

**Explanation**

The path cannot be removed because Remote Mirror and Copy pairs are currently using the path.



**Action**

Remove the Remote Mirror and Copy pairs, and then resubmit the task.

---

**CMUN03071E SOURCE Copy Services operation failure: invalid parameter****Explanation**

The storage management console server reports a Copy Services error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03072E SOURCE Copy Services operation failure: invalid track****Explanation**

The storage management console server reports a Copy Services error. A defective track has been accessed.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03073E SOURCE Copy Services operation failure: path establish failed****Explanation**

The storage management console server reports a Copy Services error. The path establish task failed. The path is in an unknown state.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03074E SOURCE Copy Services operation failure: maximum number of device adapter paths exceeded****Explanation**

The attempt to establish the path fails because there can be no more than 4 paths from a single local adapter and no more than 8 paths to any attached adapter.

**Action**

Specify volumes on another device adapter, or remove other existing paths that use volumes on the adapter. Resubmit the task.

---

**CMUN03075E** *SOURCE* **Copy Services operation failure: path timeout****Explanation**

The storage management console server reports a Copy Services error. Communication to the secondary timed out.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03076E** *SOURCE* **Operation failure: path type mismatch****Explanation**

ESCON and FCP paths cannot be established over the same hardware. A path of the other type already exists.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03077E** *SOURCE* **Copy Services operation failure: pinned data****Explanation**

A Remote Mirror and Copy establish pair action is being issued against a logical volume that is suspended with pinned data. A relationship cannot be established using a suspended logical volume that has pinned data.

**Action**

Consider carefully before you discard pinned data. You might want to specify a different logical volume. Place both logical volumes in the simplex state, and then resubmit the task.

---

**CMUN03078E** *SOURCE* **Copy Services operation failure: pinned data****Explanation**

A Remote Mirror and Copy or FlashCopy pair action is being issued against a logical volume that has pinned data. A relationship cannot be established using a logical volume with pinned data.

**Action**

Consider carefully before you discard pinned data. You might want to specify a different logical volume. Place both logical volumes in the simplex state, and then resubmit the task.

---

**CMUN03079E** *SOURCE* **Copy Services operation failure: copy pending****Explanation**

The attempt to suspend a volume fails because the pair is still copy pending. The volume cannot be suspended because data changes are not consistent between the source and target volumes.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03080E** *SOURCE* **Copy Services: recovery command rejected****Explanation**

The command to establish a relationship pair in failover or failback mode is being rejected because the pair is already in the requested state.

**Action**

None.

---

**CMUN03081E** *SOURCE* **Copy Services operation failure: secondary command invalid****Explanation**

The storage management console server reports a Copy Services error. A command that is not allowed on a secondary device is being issued to the secondary device.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03082E** *SOURCE* **Copy Services operation failure: Global Mirror invalid transition****Explanation**

The storage management console server reports a Copy Services error. An invalid transition between modes is being attempted. A transition from Global Mirror to any mode other than synchronous mode is not allowed.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03083E** *SOURCE* Copy Services operation failure: preexisting Remote Mirror and Copy pair

**Explanation**

The storage management console server reports a Copy Services error. The action conflicts with an existing Remote Mirror and Copy pair that is established on the logical volumes.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03084E** *SOURCE* Copy Services operation failure: busy

**Explanation**

The storage management console server reports a Copy Services error. Copy Services is too busy to accept commands.

**Action**

Resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN03085E** *SOURCE* Copy Services operation failure: maximum number of FlashCopy relationships exceeded

**Explanation**

The maximum number of FlashCopy relationships has been established already.

**Action**

Remove unnecessary relationships, and then resubmit the command.

---

**CMUN03086E** *SOURCE* Copy Services operation failure: volume already in FlashCopy relationship

**Explanation**

One or both of the volumes specified in the FlashCopy pair is already in a FlashCopy relationship. Volumes can participate in only one FlashCopy relationship at a time.

**Action**

Specify a different volume, and then resubmit the task.

---

**CMUN03087E** *SOURCE* **Copy Services operation failure: reverse bitmap non-zero**

**Explanation**

The storage management console server reports a Copy Services error. The target volume bitmap is not all zeros.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03088E** *SOURCE* **Copy Services operation failure: secondary error**

**Explanation**

The storage management console server reports a Copy Services error. An error on the secondary is causing the command to fail. The secondary controller cache might not be enabled or nonvolatile storage might not be available.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03089E** *SOURCE* **Copy Services operation failure: session already open**

**Explanation**

The specified session is already open for the logical subsystem or the maximum number of sessions allowed has been reached.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03090E** *SOURCE* **Copy Services operation failure: session command not defined**

**Explanation**

The storage management console server reports a Copy Services error. The submitted session command was not properly defined.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03091E** *SOURCE* **Copy Services operation failure: session members not defined**

**Explanation**

The storage management console server reports a Copy Services error. The submitted session members are not defined.

**Action**

Specify valid logical volumes for the session members, and then resubmit the task.

---

**CMUN03092E** *SOURCE* **Copy Services operation failure: session not open**

**Explanation**

The session that is specified for member management is not open.

**Action**

Open the session, and then resubmit the task.

---

**CMUN03093E** *SOURCE* **Copy Services operation failure: invalid session number**

**Explanation**

The specified session number is invalid. A session number is an integer between 1 and 255 inclusive.

**Action**

Specify a valid session number, and then resubmit the task.

---

**CMUN03094E** *SOURCE* **Operation failure: status cannot be determined.**

**Explanation**

Status cannot be determined for one of the following reasons:

- Unable to locate the global subsystem status tracks
- Unable to establish the status of a Remote Mirror and Copy pair or a DASD fast write volume
- Unable to access the RAID rank that the data is stored on
- Unable to access a directory for a subsystem
- Unable to synchronize the volume with data in the nonvolatile store

**Action**

Contact IBM technical support for assistance.

---

**CMUN03095E** *SOURCE* **Copy Services operation failure: subordinate count out of range**

**Explanation**

The storage management console server reports a Copy Services error. The specified subordinate count is out of range. The subordinate count must be between 0 and 16 inclusive.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03096E** *SOURCE* **Copy Services operation failure: target online**

**Explanation**

The target volume is online to a host.

**Action**

Take the target volume offline, and then resubmit the task.

---

**CMUN03097E** *SOURCE* **Copy Services operation failure: target reserved**

**Explanation**

The target is reserved.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03098E** *SOURCE* **Copy Services operation failure: topology missing paths**

**Explanation**

Paths do not exist for specified topology.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03099E** *SOURCE* **Copy Services operation failure: VM minidisk**

**Explanation**

The storage management console server reports a Copy Services error. FlashCopy failed because the volumes are managed by VM minidisk.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03100E** *SOURCE* **Copy Services operation failure: volume in session**

**Explanation**

The specified volume is already associated with a session.

**Action**

Specify a different volume, and then resubmit the task.

---

**CMUN03101E** *SOURCE* **Copy Services operation failure: volume in use**

**Explanation**

The storage management console server reports a Copy Services error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03102E** *SOURCE* **Copy Services operation failure: volume inaccessible**

**Explanation**

FlashCopy failed because the volumes are in the **inaccessible** or **offline** state.

**Action**

Make the volumes accessible, and then resubmit the command.

---

**CMUN03103E** *SOURCE* **Copy Services operation failure: volume long busy**

**Explanation**

One of the volumes is in the long busy state. This might be because the volume is already participating in a Global Mirror relationship.

**Action**

Specify a volume that is available, and then resubmit the task.

---

**CMUN03104E** *SOURCE* **Copy Services operation failure: source and target volume mismatch**

**Explanation**

The capacity of the source volume must be less than or equal to the capacity of the target volume, and the volumes must be the same type.



**Action**

Specify compatible volumes, and then resubmit the task.

---

**CMUN03105E** *SOURCE* **Copy Services operation failure: volume not restorable****Explanation**

The volume is not in a persistent FlashCopy relationship with a completed background copy.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03106E** *SOURCE* **Copy Services operation failure: volume reserved****Explanation**

The storage management console server reports a Copy Services error. The volume is already reserved.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03107E** *SOURCE* **Copy Services operation failure: volumes in session****Explanation**

The session cannot be closed because volumes still exist in the session.

**Action**

Remove the session members, and then resubmit the task.

---

**CMUN03108E** *SOURCE* **Copy Services operation failure: volumes not found****Explanation**

The storage management console server reports a Copy Services error. The volumes cannot be found in the Copy Services domain.

**Action**

Specify known volumes, and then resubmit the task.

---

**CMUN03109E** *SOURCE* **Copy Services operation failure: volumes not simplex**

**Explanation**

Both the source and target volumes must be in the simplex state before you can establish a relationship pair.

**Action**

Place both the source and target volumes in the simplex state, and then resubmit the task.

---

**CMUN03110E** *SOURCE* **Copy Services operation failure: warm start occurred**

**Explanation**

A warm start occurred on the storage image while this action was running. The action might or might not have completed.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03111E** *SOURCE* **Copy Services operation failure: writes prohibited by suspend**

**Explanation**

Writes are prohibited. The volume is suspended.

**Action**

Remove the volume from the **suspended** state, and then resubmit the task.

---

**CMUN03112E** *SOURCE* **Copy Services operation failure: Global Mirror consistency cannot be maintained.**

**Explanation**

The storage management console server reports a Copy Services error. Consistency cannot be maintained. A paused increment activity has timed out, or another problem has caused the volume to be in an incorrect state.

**Action**

Contact IBM technical support for assistance.

---

**CMUN03113E** *SOURCE* **Operation failure: CKD base required****Explanation**

A count-key-data base device is required for this operation. A count-key-data alias is specified.

**Action**

Specify a CKD base device, and then resubmit the task.

---

**CMUN03114E** *SOURCE* **Unable to establish FlashCopy with fast reverse restore: previous FRR****Explanation**

A FlashCopy with fast reverse restore (FRR) cannot be established if a FlashCopy with FRR is still in progress or if one has recently completed.

**Action**

Wait, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN03115E** *SOURCE* **Performance statistics cannot be accumulated: LSS not configured****Explanation**

A logical subsystem must be configured before performance statistics can be requested. No logical subsystem is configured.

**Action**

Configure the logical subsystem, and then resubmit the task.

---

**CMUN03116E** *SOURCE* **Performance statistics cannot be accumulated: resource not configured****Explanation**

The rank, extent pool, or I/O port to be queried for performance statistics is not configured.

**Action**

Configure the resource, and then resubmit the task.

---

**CMUN03117E** *SOURCE* **Unable to establish FlashCopy or Remote Mirror and Copy pair. A FlashCopy initialization is in progress.****Explanation**

The pair cannot be established until initialization completes.

### **Action**

Wait until initialization completes, and then resubmit the task.

---

## **CMUN03118E** *SOURCE* **Copy Services error: Intervention is required.**

### **Explanation**

One of the following conditions exists:

- The addressed device is in CE mode.
- The addressed device is not ready.
- The volume configuration of the addressed device is incorrect.

### **Action**

Ensure that the volume is ready, that it is not flagged to be serviced, and that it is correctly configured. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN03119E** *SOURCE* **Hardware error: An unusual hardware condition originates in the channel, drive, or storage unit.**

### **Explanation**

The storage management console server reports a hardware error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN04000E** *SOURCE* **Operation failure: Copy Services server failure**

### **Explanation**

The storage management console server reports an internal error. The Copy Services server is failing.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN04001E** *SOURCE* **Operation failure**

### **Explanation**

The storage management console server reports an internal error.

### **Action**

Contact IBM technical support for assistance.

---

**CMUN04002E** *SOURCE* **Operation failure: internal error****Explanation**

The storage management console server reports a storage unit microcode-level error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN04003E** *SOURCE* **Operation failure: internal error****Explanation**

The storage management console server reports an internal error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN04004E** *SOURCE* **Operation failure: invalid parameters****Explanation**

The storage management console server reports an internal error.

**Action**

Check the format, type, and number of parameters, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN04005E** *SOURCE* **Operation failure: node agent 0 fails****Explanation**

The storage management console server reports a storage unit microcode-level error. An agent is not running on a processor card.

**Action**

Contact IBM technical support for assistance.

---

**CMUN04006E** *SOURCE* **Operation failure: node agent 1 fails****Explanation**

The storage management console server reports a storage unit microcode-level error. An agent is not running on a processor card.

**Action**

Contact IBM technical support for assistance.

---

**CMUN04007E** *SOURCE* **Operation failure: resource not found****Explanation**

The storage management console server reports an internal error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN04008E** *SOURCE* **Operation failure****Explanation**

The storage management console server reports an internal error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN04009E** *SOURCE* **Operation failure: unknown****Explanation**

The storage management console server reports an internal error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05000E** *SOURCE* **Operation failure: alternate busy****Explanation**

The storage management console server reports a storage unit microcode-level error. The alternate repository is being updated and is not available.

**Action**

Wait, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN05001E** *SOURCE* **Operation failure: duplicate user name in alternate repository****Explanation**

The storage management console server reports an internal security error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05002E** *SOURCE* **Operation failure: duplicate user name in local repository**

**Explanation**

The storage management console server reports an internal security error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05003E** *SOURCE* **Operation failure: alternate communication failure**

**Explanation**

The storage management console server reports an internal security error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05004E** *SOURCE* **Operation failure: group not found in alternate repository**

**Explanation**

The storage management console server reports an internal security error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05005E** *SOURCE* **Operation failure: group not found in local repository**

**Explanation**

The storage management console server reports an internal security error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05006E** *SOURCE* **Operation failure: invalid user account name**

**Explanation**

A user account name must be supplied.

**Action**

Specify a valid user account name, and then resubmit the task.

---

**CMUN05007E** *SOURCE* **Operation failure: local busy****Explanation**

The storage management console server reports a storage unit microcode-level error. The local repository is being updated and is not available.

**Action**

Wait, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN05008E** *SOURCE* **Operation failure****Explanation**

The storage management console server reports an internal security error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05009E** *SOURCE* **Operation failure: maximum number of accounts reached on alternate repository****Explanation**

The number of user accounts on the alternate repository is at the maximum allowed. No more accounts can be created.

**Action**

Increase the limit or remove unused accounts, and then resubmit the task.

---

**CMUN05010E** *SOURCE* **Operation failure: maximum number of accounts reached on local repository****Explanation**

The number of user accounts on the local repository is at the maximum allowed. No more accounts can be created.

**Action**

Increase the limit or remove unused accounts, and then resubmit the task.

---

**CMUN05012E** *SOURCE* **Operation failure: incorrect password format****Explanation**

The password that you specified does not meet password format requirements. Passwords must contain at least 5 alphabetic characters, and at least one numeric character, with an alphabetic character in the first and last positions. Passwords are limited to a total of 16 characters. The user name can not be part of the password.



The minimum number of unique new passwords that must be used before an old password can be reused is four.

**Action**

Specify a valid password, and then resubmit the task.

---

**CMUN05013E** *SOURCE* **Operation failure: password same as previous password**

**Explanation**

A user account password cannot be used again.

**Action**

Specify a password that has not been used previously, and then resubmit the task.

---

**CMUN05014E** *SOURCE* **Operation failure: alternate repository not accessible**

**Explanation**

The storage management console server reports an internal security error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05015E** *SOURCE* **Operation failure: local repository not accessible**

**Explanation**

The storage management console server reports an internal security error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05016E** *SOURCE* **Operation failure: request timed out**

**Explanation**

The storage management console server reports an internal security error. A security request is timing out. The alternate repository might not be responding.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05017E** *SOURCE* **Operation failure: internal error in alternate repository**

**Explanation**

The storage management console server reports an internal security error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05018E** *SOURCE* **Operation failure: internal error in local repository**

**Explanation**

The storage management console server reports an internal security error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05019E** *SOURCE* **Operation failure: settings entry not found in alternate repository**

**Explanation**

The storage management console server reports an internal security error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05020E** *SOURCE* **Operation failure: settings entry not found in local repository**

**Explanation**

The storage management console server reports an internal security error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN05021E** *SOURCE* **Operation failure: user not found in alternate repository**

**Explanation**

The specified user name cannot be found in the alternate repository.

### **Action**

Specify a valid user name, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN05022E *SOURCE* Operation failure: user not found in local repository**

### **Explanation**

The specified user name cannot be found in the local repository.

### **Action**

Specify a valid user name, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN06000E *SOURCE* Operation failure: unable to connect**

### **Explanation**

The storage management console server reports an internal service advisor error. A code load fails, possibly because of a communication failure.

### **Action**

Check for cabling and hardware problems, and follow the recommended service procedure. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN06001E *SOURCE* Operation failure: unable to copy code**

### **Explanation**

The service advisor is unable to copy the code bundle to the storage unit.

### **Action**

This problem might be temporary. Ensure that there is network connectivity to the storage unit. Verify that you can log in to the storage unit and that no other administrators are attempting to copy code or activate a code load. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN06002E *SOURCE* Operation failure: unable to copy log files**

### **Explanation**

The storage management console server reports an internal service advisor error.

### **Action**

Contact IBM technical support for assistance.

---

**CMUN06003E** *SOURCE* **Operation failure: unable to copy PE package****Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN06004E** *SOURCE* **Operation failure: unable to copy SA logs to the PE package****Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Submit the command from the storage management console with administrator authority. If the problem persists, then re-install the storage management console server software. If the problem still persists, contact IBM technical support for assistance.

---

**CMUN06005E** *SOURCE* **Operation failure: unable to copy state save****Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN06006E** *SOURCE* **Operation failure: unable to create PE package****Explanation**

The storage management console server reports an internal service advisor error. The storage unit might not have sufficient disk space available.

**Action**

Contact IBM technical support for assistance.

---

**CMUN06007E** *SOURCE* **Operation failure: results list is empty****Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN06008E** *SOURCE* **Operation failure: console server exception returned to SA**

**Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN06009E** *SOURCE* **Operation failure: unable to retrieve list of field-replacable units**

**Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN06010E** *SOURCE* **Operation failure: unable to retrieve list of network ports**

**Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN06011E** *SOURCE* **Operation failure: unable to retrieve password**

**Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN06012E** *SOURCE* **Operation failure: unable to retrieve list of storage servers**

**Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN06013E** *SOURCE* **Operation failure: unable to retrieve software version**

**Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN06014E** *SOURCE* **Operation failure: unable to retrieve trace service**

**Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN06015E** *SOURCE* **Operation failure: unable to extract Jar file for package bundle**

**Explanation**

The storage management console server reports an internal service advisor error. The code load bundle that was downloaded to the storage management console is corrupted.

**Action**

Download a new copy of the code bundle and try again. If the problem persists, contact IBM technical support for assistance.

---

**CMUN06016E** *SOURCE* **Operation failure: file or directory not found**

**Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Ensure that the destination and source directories on the storage management console are valid. If the problem persists, contact IBM technical support for assistance.

---

**CMUN06017E** *SOURCE* **Operation failure: FTP failure**

**Explanation**

The storage management console server reports an internal service advisor error. Problem determination data cannot be sent to IBM using file transfer protocol.

### **Action**

1. Ensure that all the files in directory %MR1750\_SM\_HOME%\send2IBM are valid and can be transferred by FTP.
2. Ensure that network connectivity and firewall access is available.
3. Attempt to resend the data again.
4. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN06018E SOURCE Unable to activate code load: incompatible hardware and code versions**

### **Explanation**

Code load cannot be activated on the storage unit. The hardware on the storage unit is not compatible with the code bundle that you are attempting to load.

### **Action**

Ensure that the engineering change level of the storage unit and the code bundle version level are compatible, and then try again. If the hardware and code versions should be compatible, contact IBM technical support for assistance.

---

## **CMUN06019E SOURCE Unable to activate code load: incompatible software version in package bundle**

### **Explanation**

Code load cannot be activated on the storage unit. The bundle version and the current storage unit software version are incompatible for concurrent code load.

### **Action**

Either perform a non concurrent code load or choose a bundle level that is compatible with the microcode version that is currently running on the storage unit. If you still cannot activate the code load, contact IBM technical support for assistance.

---

## **CMUN06020E SOURCE Operation failure: invalid code bundle**

### **Explanation**

The storage management console server reports an internal service advisor error. The code bundle that was copied to the storage management console is not valid.

### **Action**

Download a new copy of the code bundle and try again. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN06021E SOURCE Operation failure: invalid file or directory**

### **Explanation**

The storage management console server reports an internal service advisor error.

- Environment variables might not be set properly.

- This command can be run from the storage management console only.

**Action**

1. Submit the command from the storage management console with administrator authority.
2. If the problem persists, then re-install the storage management console server software.
3. If the problem still persists, contact IBM technical support for assistance.

---

**CMUN06022E** *SOURCE* **Operation failure: unable to load code bundle****Explanation**

The storage management console server reports an internal service advisor error. The storage management console server software installation might have failed or the code bundle might be invalid.

**Action**

1. Download a new copy of the code bundle and try again.
2. If the problem persists, then re-install the storage management console server software.
3. If the problem persists, contact IBM technical support for assistance.

---

**CMUN06023E** *SOURCE* **Operation failure: unable to mark state save****Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Contact IBM technical support for assistance.

---

**CMUN06024E** *SOURCE* **Operation failure: possible invalid code bundle****Explanation**

The storage management console server reports an internal service advisor error. The code bundle might not be valid.

**Action**

Download a new copy of the code bundle and try again. If the problem persists, contact IBM technical support for assistance.

---

**CMUN06025E** *SOURCE* **Operation failure: unable to open file****Explanation**

The storage management console server reports an internal service advisor error.

**Action**

Contact IBM technical support for assistance.



---

**CMUN06026E** *SOURCE* **Operation failure: an external utility does not run****Explanation**

The utility might not run for one of the following reasons:

- The utility invoked by the service advisor does not exist or the utility has been moved.
- You are not invoking the utility from the storage management console.
- The storage management console server software installation failed.

**Action**

1. Ensure that the **PUTTY** command is installed properly and its location is specified in the **PATH** environment variable.
2. Ensure that %MR1750\_SM\_HOME%\bin is specified in the **PATH** environment variable.
3. Run the command from the storage management console with administrator authority.
4. If the problem persists, then re-install the storage management console server software.
5. If the problem still persists, contact IBM technical support for assistance.

---

**CMUN06027E** *SOURCE* **Operation failure: thread interrupted****Explanation**

The storage management console server reports an internal service advisor error. The program is interrupted for an unknown reason.

**Action**

Contact IBM technical support for assistance.

---

**CMUN06028E** *SOURCE* **Operation failure: timeout****Explanation**

The storage management console server reports an internal service advisor error. The program times out before it completes.

**Action**

This might be a temporary problem. Resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN06029E** *SOURCE* **Operation failure: unknown operating system****Explanation**

The storage management console server reports an internal service advisor error. An unknown operating system is detected.

### **Action**

Install the storage management console server on a supported operating system. If the problem persists, contact IBM technical support for assistance.

---

## **CMUN06030E *SOURCE* Operation failure: environment variable not found**

### **Explanation**

The service advisor relies on environment variables that are initialized when the storage management console server software is installed. The storage management console server software installation might have failed.

### **Action**

Submit the command from the storage management console. If the problem persists, then re-install the storage management console server software. If the problem still persists, contact IBM technical support for assistance.

---

## **CMUN06031E *SOURCE* Operation failure: unable to compress all files to zip file**

### **Explanation**

The storage management console server reports an internal service advisor error.

### **Action**

Contact IBM technical support for assistance.

---

## **CMUN80000E Storage management console server unavailable**

### **Explanation**

The storage management console server cannot be reached over the TCP/IP network. The server might not be enabled, a network problem might exist, or the server might be refusing connections because too many clients are connected.

### **Action**

Ensure the network is functioning properly and the server is enabled. If too many clients are connected, wait until the server has fewer clients. Resubmit the task.

---

## **CMUN80001E An error occurs while communicating with the storage management console server.**

### **Explanation**

This message is displayed only if a specific storage management console server error is not available. The problem might be temporary, due to heavy network traffic, or it might be a more serious condition.

### **Action**

Check network traffic to determine if unusual workloads exist. Check for network adapter hardware errors, configuration changes, or address changes. Resubmit the task. If the problem persists, contact IBM technical support.

---

## **CMUN80002E The client code is not at the same version level as the storage management console server code.**

### **Explanation**

The client and storage management console server code are at different version levels. This can cause miscommunication between the client and server.

### **Action**

Ensure that both client and server code are at the same version level.

---

## **CMUN80003E Information for this resource cannot be retrieved.**

### **Explanation**

The query for information for this resource cannot run. No specific information about the cause of the failure is available.

### **Action**

Ensure that the correct version of software has been installed. If the problem persists, contact IBM technical support.

---

## **CMUN80004E The resource cannot be created.**

### **Explanation**

You attempted to create a resource, but an error occurs and the creation cannot be committed. No specific information about the cause of the failure is available.

### **Action**

Ensure that the correct version of software has been installed. Resubmit the task. If the problem persists, contact IBM technical support.

---

## **CMUN80005E An error occurs while committing configuration changes.**

### **Explanation**

You are attempting to configure a resource, but an error occurs and the configuration cannot be committed. No specific information about the cause of the failure is available.

### **Action**

Ensure that the correct version of software has been installed. Resubmit the task. If the problem persists, contact IBM technical support.

---

**CMUN80006E The information for this resource cannot be retrieved.****Explanation**

The query for information on extent usage for the resource cannot run. No specific information about the cause of the failure is available.

**Action**

Ensure that the correct version of software has been installed. Resubmit the task. If the problem persists, contact IBM technical support.

---

**CMUN80007E Information for this resource cannot be retrieved.****Explanation**

No specific information about the cause of the failure is available.

**Action**

Ensure that the correct version of software has been installed. Resubmit the task. If the problem persists, contact IBM technical support.

---

**CMUN80008E Unknown error****Explanation**

While querying for data or committing changes, an error of unknown origin occurs. No specific information about the cause of the failure is available.

**Action**

Ensure that the correct version of software has been installed. Resubmit the task. If the problem persists, contact IBM technical support.

---

**CMUN80009E The attributes specified for the resource are not valid.****Explanation**

You are attempting to create or modify a resource and the system detects one or more attributes that are not valid for that resource.

**Action**

Ensure that the resource attributes are valid, and then resubmit the task.

---

**CMUN80010E You are not authorized to perform this action through the storage management console.****Explanation**

You are attempting to perform an action for which you have no authorization.

### **Action**

Contact your system administrator to change your authorization level. Resubmit the task.

---

## **CMUN80011E The connection cannot be made because authentication information is invalid.**

### **Explanation**

The authentication information is invalid.

### **Action**

Ensure that correct authentication information is entered. Resubmit the task.

---

## **CMUN80012E The IP address of the host cannot be determined.**

### **Explanation**

The IP address cannot be determined for the host name that you entered.

### **Action**

Provide the correct host name and IP address, and then resubmit the task.

---

## **CMUN80013E Task execution failure: timeout**

### **Explanation**

The storage management console server reports a timeout error because the storage management console server or the storage image cannot complete the submitted task within the expected time period.

### **Action**

Wait until the server or storage unit is less busy. Resubmit the task.

Note: If your task involved storage unit configuration changes, first check to see if the task was partially completed before the failure occurred.

---

## **CMUN80014E Invalid parameter**

### **Explanation**

The storage management console server reports one or more invalid parameters in the specification.

### **Action**

Ensure that the format and data type of the specified parameters are correct. Resubmit the task.

---

**CMUN80015E Resource not found****Explanation**

The storage management console server cannot find the specified resource.

**Action**

Ensure that the resource is configured on the storage complex and is specified correctly in the task. Resubmit the task.

---

**CMUN80016E The storage management console server reports an internal error.****Explanation**

The storage management console server reports an internal error.

**Action**

Ensure that the correct version of the server software has been installed. Resubmit the task. If the problem persists, call technical support.

---

**CMUN80017E *SOURCE* Copy Services communications error****Explanation**

While communicating with the Copy Services server, the storage management console server reported an error

**Action**

This might be a temporary problem due to unusually high network traffic. Resubmit the task. If the problem persists, call technical support.

---

**CMUN80018E *SOURCE* Authentication failure: Your account is locked.****Explanation**

The storage management console server reports an authentication failure. Your account is locked. Access will be denied until the account is unlocked by an administrative user.

**Action**

Ask your system administrator to unlock your account using the user administration panels. If you are the system administrator, you must use the security recovery utility.

---

**CMUN80019E** *SOURCE* **Authentication failure: The security database is not accessible.**

**Explanation**

The storage management console server reports an authentication failure. The security database is not accessible.

**Action**

Contact IBM technical support for assistance.

---

**CMUN80020E** *SOURCE* **Authentication failure: invalid password**

**Explanation**

The storage management console server reports an authentication failure. The specified password is invalid.

**Action**

Specify a valid password, and then resubmit the task.

---

**CMUN80021E** *SOURCE* **Authentication failure: Unable to connect to type 2105 machine.**

**Explanation**

The storage management console server reports an authentication failure that occurs while you are trying to connect to a machine type 2105 Enterprise Storage Server. Your user name and password might not be correctly defined on the 2105, or the user name and password that you supplied might be incorrect.

**Action**

Ensure that the user name and password that you specify are correctly defined on the type 2105 system, and then resubmit the task. If the problem persists, contact IBM technical support for assistance.

---

**CMUN80022E** *SOURCE* **Authentication failure: Your password has expired.**

**Explanation**

The storage management console server reports an authentication failure. Your password has expired. You must change your password now.

**Action**

Enter your expired password, and then change your password to a new password.

---

**CMUN80023E** *SOURCE* **Authentication failure: Nonexistent account.****Explanation**

The storage management console server reports an authentication failure. The specified user account does not exist.

**Action**

Ask your system administrator to create this account and ensure that it is registered in the security database, or log in using a different user name.

---

**CMUN80024E** *SOURCE* **Authorization failure: You are not authorized to run this task.****Explanation**

The storage management console server reports an authentication failure. You are not authorized to run the task.

**Action**

Ask your system administrator to grant you the necessary permissions to run the task, and then resubmit the task.

---

**CMUN80025E** *SOURCE* **Rank creation denied. This rank would exceed the installed LMC feature key enablement. Delete all references to this rank.****Explanation**

The installed license machine code does not permit the creation of additional ranks. Your request to create a rank is denied. A reference to this uncreated rank is visible to make the request and denial history available. This reference can be deleted.

**Action**

Delete the rank reference. Obtain a license for additional ranks, and then resubmit the task.



---

## Accessibility

Accessibility features provide users who have disabilities with the ability to successfully access information and use technology.

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use software products successfully.

### Features

These are the major accessibility features in the IBM TotalStorage DS8000 information:

- You can use screen-reader software and a digital speech synthesizer to hear what is displayed on the screen. IBM Home Page Reader version 3.0 has been tested.
- You can operate features using the keyboard instead of the mouse.

### Navigating by keyboard

You can use keys or key combinations to perform operations and initiate menu actions that can also be done through mouse actions. You can navigate the IBM TotalStorage DS8000 information from the keyboard by using the shortcut keys for your browser or Home Page Reader. See your browser Help for a list of shortcut keys that it supports. See the following Web site for a list of shortcut keys supported by Home Page Reader: [http://www-306.ibm.com/able/solution\\_offerings/keyshort.html](http://www-306.ibm.com/able/solution_offerings/keyshort.html)

### Accessing the publications

You can find HTML versions of the IBM TotalStorage DS8000 information at the following Web site:  
<http://www.ehone.ibm.com/public/applications/publications/cgibin/pbi.cgi>

You can access the information using IBM Home Page Reader 3.0.



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VS07171L



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# Glossary

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This glossary includes terms for the IBM TotalStorage and other Resiliency Family products.

This glossary includes selected terms and definitions from:

- The *American National Standard Dictionary for Information Systems*, ANSI X3.172–1990, copyright 1990 by the American National Standards Institute (ANSI), 11 West 42nd Street, New York, New York 10036. Definitions derived from this book have the symbol (A) after the definition.
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This glossary uses the following cross-reference forms:

- See** Refers the reader to one of two kinds of related information:
- A term that is the expanded form of an abbreviation or acronym. This expanded form of the term contains the full definition.
  - A synonym or more preferred term

**See also** Refers the reader to one or more related terms.

## Contrast with

Refers the reader to a term that has an opposite or substantively different meaning.

## Numerics

- 750** A model of the Enterprise Storage Server featuring a 2-way processor with limited physical storage capacity. This model can be updated to the model 800.
- 800** A model of the Enterprise Storage Server featuring a standard processor or an optional Turbo processor. The Model 800 supports RAID 5, RAID 10, and 15000 rpm drives. Model 800 supersedes Model F20.
- 1750** The machine type for the IBM TotalStorage DS6000 series. Models for the DS6000 include the 511 and EX1.
- 2105** The machine number for the IBM TotalStorage Enterprise Storage Server. Models of the Enterprise Storage Server are expressed as the number 2105 followed by "Model <xxx>", such as 2105 Model 800. The 2105 Model 100 is an Enterprise Storage Server expansion enclosure that is typically referred to simply as the Model 100.
- 2107** The machine type for the IBM TotalStorage DS8000 series. Models for the DS8000 series include the base units 921, 922 and 9A2 and expansion units 92E and 9AE.
- 3390** The machine number of an IBM disk storage system. The Enterprise Storage Server, when interfaced to IBM zSeries hosts, is set up to appear as one or more 3390 devices, with a choice of 3390-2, 3390-3, or 3390-9 track formats.
- 3990** The machine number of an IBM control unit.
- 7133** The machine number of an IBM disk storage system. The Model D40 and 020 drawers of the 7133 can be installed in the 2105-100 expansion enclosure of the ESS.

## A

### access

- 1) To obtain the use of a computer resource.
- 2) In computer security, a specific type of interaction between a subject and an object that results in flow of information from one to the other.

### access-any mode

One of the two access modes that can be set for the storage unit during initial configuration. It enables all fibre-channel-attached host systems with no defined access profile to access all logical volumes on the storage unit. With a profile defined in DS Storage Manager for a particular host, that host has access only to volumes that are assigned to the WWPN for that host. See also *pseudo host* and *worldwide port name*.

**ACK** See *request for acknowledgment and acknowledgment*.

**agent** A program that automatically performs some service without user intervention or on a regular schedule. See also *subagent*.

**alert** A message or log that a storage unit generates as the result of error event collection and analysis. An alert indicates that a service action is required.

### allegiance

For zSeries, a relationship that is created between a device and one or more channel paths during the processing of certain conditions. See also *implicit allegiance*, *contingent allegiance*, and *reserved allegiance*.

### allocated storage

The space that is allocated to volumes but not yet assigned. Contrast with *assigned storage*.

### American National Standards Institute (ANSI)

An organization of producers, consumers, and general interest groups that establishes the procedures by which accredited organizations create and maintain voluntary industry standards in the United States. (A)

### Anonymous

In the DS Storage Manager, the label on an icon that represents all connections that are using fibre-channel adapters

between the storage unit and hosts but are not completely defined to the storage unit. See also *anonymous host*, *pseudo host*, and *access-any mode*.

### anonymous host

Synonym for *pseudo host*. Contrast with *Anonymous* and *pseudo host*.

**ANSI** See *American National Standards Institute*.

**APAR** See *authorized program analysis report*. (GC)

**API** See *application programming interface*.

### application programming interface

An interface that allows an application program that is written in a high-level language to use specific data or functions of the operating system or another program.

### arbitrated loop

A fibre-channel topology that enables the interconnection of a set of nodes. See also *point-to-point connection* and *switched fabric*.

**array** An ordered collection, or group, of physical devices (disk drive modules) that is used to define logical volumes or devices. In the storage unit, an array is a group of disks that the user designates to be managed by the RAID technique. See also *redundant array of independent disks*.

**ASCII** (American National Standard Code for Information Interchange) The standard code, using a coded character set consisting of 7-bit coded characters (8 bits including parity check), that is used for information interchange among data processing systems, data communication systems, and associated equipment. The ASCII set consists of control characters and graphic characters. (A) Some organizations, including IBM, have used the parity bit to expand the basic code set.

### assigned storage

The space that is allocated to a volume and that is assigned to a port.

### authorized program analysis report (APAR)

A request for correction of a defect in a current release of an IBM-supplied program. (GC)

**availability**

The degree to which a system or resource is capable of performing its normal function. See *data availability*.

**B**

**bay** The physical space that is used for installing SCSI, ESCON, and fibre-channel host adapter cards. The DS8000 has four bays, two in each cluster. See also *service boundary*.

**bit** 1) Either of the digits 0 or 1 when used in the binary numeration system. (T)  
2) The storage medium required to store a single binary digit. See also *byte*.

**block** A string of data elements recorded or transmitted as a unit. The elements may be characters, words, or physical records. (T)

A group of consecutive bytes used as the basic storage unit in fixed-block architecture (FBA). All blocks on the storage device are the same size (fixed size). See also *fixed-block architecture* and *data record*.

**byte** 1) A group of eight adjacent binary digits that represent one EBCDIC character.  
2) The storage medium required to store eight bits. See also *bit*.

**C**

**cache** A special-purpose buffer storage, smaller and faster than main storage, used to hold a copy of instructions and data obtained from main storage and likely to be needed next by the processor. (T)

**cache fast write**

A form of the fast-write operation in which the storage server writes the data directly to cache, where it is available for later destaging.

**cache hit**

An event that occurs when a read operation is sent to the cluster, and the requested data is found in cache. Contrast with *cache miss*.

**cache memory**

Memory, typically volatile memory, that a storage server uses to improve access times to instructions or data. The cache

memory is typically smaller and faster than the primary memory or storage medium. In addition to residing in cache memory, the same data also resides on the storage devices in the storage unit.

**cache miss**

An event that occurs when a read operation is sent to the cluster, but the data is not found in cache. Contrast with *cache hit*.

**call home**

A communication link established between the DS8000 and a service provider. The DS8000 can use this link to place a call to IBM or to another service provider when it requires service. With access to the machine, service personnel can perform service tasks, such as viewing error logs and problem logs or initiating trace and dump retrievals. See also *heartbeat* and *remote technical assistance information network*.

**cascading**

1) Connecting network controllers to each other in a succession of levels to concentrate many more lines than a single level permits.

2) In high-availability cluster multiprocessing (HACMP), cascading pertains to a cluster configuration in which the cluster node with the highest priority for a particular resource acquires the resource if the primary node fails. The cluster node relinquishes the resource to the primary node upon reintegration of the primary node into the cluster.

**catcher**

A server that service personnel use to collect and retain status data that an DS8000 sends to it.

**CCR** See *channel command retry*.

**CCW** See *channel command word*.

**CD** See *compact disc*.

**CEC** See *computer-electronic complex*.

**channel**

For zSeries, the part of a channel subsystem that manages a single I/O interface between a channel subsystem and a set of control units.

**channel command retry (CCR)**

For zSeries, the protocol used between a channel and a control unit that enables the control unit to request that the channel reissue the current command.

**channel command word (CCW)**

For zSeries, a data structure that specifies an I/O operation to the channel subsystem.

**channel path**

For zSeries, the interconnection between a channel and its associated control units.

**channel subsystem**

For zSeries, the part of a host computer that manages I/O communication between the program and any attached control units.

**channel-subsystem image**

For zSeries, the logical functions that a system requires to perform the function of a channel subsystem. With ESCON multiple image facility (EMIF), one channel subsystem image exists in the channel subsystem for each logical partition (LPAR). Each image appears to be an independent channel subsystem program, but all images share a common set of hardware facilities.

**CKD** See *count key data*.

**CLI** See *command-line interface*. See also *Copy Services command-line interface*.

**cluster**

1) A partition capable of performing all DS8000 functions. With two clusters in the DS8000, any operational cluster can take over the processing of a failing cluster.

2) In the AIX operating system, a group of nodes within a complex.

**cluster processor complex (CPC)**

The unit within a cluster that provides the management function for the DS8000. It consists of cluster processors, cluster memory, and related logic.

**command-line interface (CLI)**

An interface provided by an operating system that defines a set of commands and enables a user (or a script-like language) to issue these commands by typing text in response to the command prompt (for example, DOS commands or

UNIX shell commands). See also *Copy Services command-line interface*.

**compact disc**

An optically read disc, typically storing approximately 660 MB. CD-ROM (compact disc read-only memory) refers to the read-only format used to distribute DS8000 code and documentation.

**compression**

1) The process of eliminating gaps, empty fields, redundancies, and unnecessary data to shorten the length of records or blocks.

2) Any encoding that reduces the number of bits used to represent a given message or record. (GC)

**computer-electronic complex (CEC)**

The set of hardware facilities associated with a host computer.

**concurrent copy**

A facility on a storage server that enables a program to make a backup of a data set while the logical volume remains available for subsequent processing. The data in the backup copy is frozen at the point in time that the server responds to the request.

**concurrent installation of licensed internal code** Process of installing licensed internal code on a DS8000 while applications continue to run.

**concurrent maintenance**

Service that is performed on a unit while it is operational.

**concurrent media maintenance**

Service performed on a disk drive module (DDM) without losing access to the data.

**configure**

In storage, to define the logical and physical configuration of the input/output (I/O) subsystem through the user interface that the storage unit provides for this function.

**consistency group**

A group of volumes participating in FlashCopy relationships in a logical subsystem, across logical subsystems, or across multiple storage units that must be kept in a consistent state to ensure data integrity.

**consistency group interval time**

The value in seconds that indicates the length of time between the formation of consistency groups.

**consistent copy**

A copy of a data entity (a logical volume, for example) that contains the contents of the entire data entity at a single instant in time.

**console**

A user interface to a server, for example, the interface provided on a personal computer. See also *IBM TotalStorage Management Console*.

**contingent allegiance**

For zSeries, a relationship that is created in a control unit between a device and a channel when the channel accepts unit-check status. The allegiance causes the control unit to guarantee access; the control unit does not present the busy status to the device. The allegiance enables the channel to retrieve sense data that is associated with the unit-check status on the channel path associated with the allegiance.

**control path**

The route that is established from the master storage unit to the subordinate storage unit when more than one storage unit participates in a Global Mirror session. If there is only one storage unit (the master) in the Global Mirror session, no control path is required.

**control unit (CU)**

- 1) A device that coordinates and controls the operation of one or more input/output devices, and synchronizes the operation of such devices with the operation of the system as a whole.
- 2) For zSeries, a storage server with ESCON or OEMI interfaces. The control unit adapts a native device interface to an I/O interface that a zSeries host system supports.
- 3) The portion of the storage unit that supports the attachment of emulated count key data devices over ESCON, FICON, or OEMI interfaces. See also *cluster*.

**control-unit image**

For zSeries, a logical subsystem that is

accessed through an ESCON I/O interface. One or more control-unit images exist in each control unit. Each image appears as an independent control unit, but all control-unit images share a common set of hardware facilities. The DS8000 can emulate 3990-3, TPF, 3990-6, or 2105 control units.

**control-unit-initiated reconfiguration (CUIR)**

A software mechanism that the DS8000 uses to request that an operating system of a zSeries host verify that one or more subsystem resources can be taken offline for service. The DS8000 can use this process to automatically vary channel paths offline and online to facilitate bay service or concurrent code installation. Depending on the operating system, support for this process might be model dependent, might depend on the IBM TotalStorage Enterprise Storage Server Subsystem Device Driver, or might not exist.

**Coordinated Universal Time (UTC)**

The international standard of time that is kept by atomic clocks around the world.

**Copy Services**

A collection of optional software features, with a Web-browser interface, used for configuring, managing, and monitoring data-copy functions.

**Copy Services CLI**

See *Copy Services command-line interface*.

**Copy Services client**

Software that runs on each DS8000 cluster in the Copy Services server group and that performs the following functions:

- Communicates configuration, status and connectivity information to the Copy Services server
- Performs data-copy functions on behalf of the Copy Services server

**Copy Services command-line interface (Copy Services CLI)**

The command-line interface software that is provided with DS8000 Copy Services and used for invoking Copy Services functions from host systems attached to the DS8000. See also *command-line interface*.



**Copy Services server**

A cluster that the Copy Services administrator designates to perform the DS8000 Copy Services functions.

**Copy Services server group**

A collection of user-designated DS8000 clusters participating in Copy Services functions that a designated, active, Copy Services server manages. A Copy Services server group is also called a Copy Services domain.

**count field**

The first field of a count key data (CKD) record. This eight-byte field contains a four-byte track address (CCHH). It defines the cylinder and head that are associated with the track, and a one-byte record number (R) that identifies the record on the track. It defines a one-byte key length that specifies the length of the record's key field (0 means no key field). It defines a two-byte data length that specifies the length of the record's data field (0 means no data field). Only the end-of-file record has a data length of zero.

**count key data (CKD)**

For zSeries, a data-record format employing self-defining record formats in which each record is represented by up to three fields: a *count* field that identifies the record and specifies its format, an optional *key* field that identifies the data area contents, and an optional *data* field that typically contains the user data. For CKD records on the storage unit, the logical volume size is defined in terms of the device emulation mode (3390 or 3380 track format). The count field is always 8 bytes long and contains the lengths of the key and data fields, the key field has a length of 0 to 255 bytes, and the data field has a length of 0 to 65 535 or the maximum that will fit on the track. See also *data record*.

**CPC** See *cluster processor complex*.

**CRC** See *cyclic redundancy check*.

**CU** See *control unit*.

**CUIR** See *control-unit initiated reconfiguration*.

**custom volume**

A volume in count-key-data (CKD) format that is not a standard volume, which means that it does not necessarily present

the same number of cylinders and capacity to its assigned logical control unit as provided by one of the following standard zSeries volume types: 3390-2, 3390-3, 3390-9, 3390-2 (3380-track mode), or 3390-3 (3380-track mode). See also *count-key-data*, *interleave*, *standard volume*, and *volume*.

**CUT** See *Coordinated Universal Time*.

**cyclic redundancy check (CRC)**

A redundancy check in which the check key is generated by a cyclic algorithm. (T)

**cylinder**

A unit of storage on a CKD device with a fixed number of tracks.

**D**

**DA** See *device adapter*. See also *IBM Serial Storage adapter*.

**daisy chain**

See *serial connection*.

**DASD** See *direct access storage device*.

**DASD fast write (DFW)**

A function of a storage server in which active write data is stored in nonvolatile cache, thus avoiding exposure to data loss.

**data availability**

The degree to which data is available when needed, typically measured as a percentage of time that the system would be capable of responding to any data request (for example, 99.999% available).

**data compression**

A technique or algorithm used to encode data such that the encoded result can be stored in less space than the original data. The original data can be recovered from the encoded result through a reverse technique or reverse algorithm. See also *compression*.

**Data Facility Storage Management Subsystem (DFSMS)**

An operating environment that helps automate and centralize the management of storage. To manage storage, DFSMS provides the storage administrator with control over data class, storage class, management class, storage group, and automatic class selection routine definitions.

**data field**

The optional third field of a count key data (CKD) record. The count field specifies the length of the data field. The data field contains data that the program writes.

**data record**

The basic unit of zSeries storage on a DS8000, also known as a count-key-data (CKD) record. Data records are stored on a track. The records are sequentially numbered starting with 0. The first record, R0, is typically called the track descriptor record and contains data that the operating system normally uses to manage the track. See also *count-key-data* and *fixed-block architecture*.

**data set FlashCopy**

For zSeries hosts, a feature of FlashCopy that indicates how many partial volume FlashCopy relationships are active on a volume.

**data sharing**

The ability of multiple host systems to concurrently utilize data that they store on one or more storage devices. The storage unit enables configured storage to be accessible to any, or all, attached host systems. To use this capability, the host program must be designed to support data that it is sharing.

**DDM** See *disk drive module*.

**DDM group**

See *disk pack*.

**dedicated storage**

Storage within a storage unit that is configured such that a single host system has exclusive access to the storage.

**demote**

To remove a logical data unit from cache memory. A storage server demotes a data unit to make room for other logical data units in the cache or because the logical data unit is not valid. The storage unit must destage logical data units with active write units before they can be demoted. See also *destage*.

**destage**

To move data from an online or higher priority to an offline or lower priority

device. The storage unit stages incoming data into cache and then destages it to disk.

**device**

For zSeries, a disk drive.

**device adapter (DA)**

A physical component of the DS8000 that provides communication between the clusters and the storage devices. The DS8000 has eight device adapters that it deploys in pairs, one from each cluster. Device adapter pairing enables the DS8000 to access any disk drive from either of two paths, providing fault tolerance and enhanced availability.

**device address**

For zSeries, the field of an ESCON device-level frame that selects a specific device on a control-unit image.

**device ID**

The unique two-digit hexadecimal number that identifies the logical device.

**device interface card**

A physical subunit of a storage cluster that provides the communication with the attached device drive modules.

**device number**

For zSeries, a four-hexadecimal-character identifier, for example 13A0, that the systems administrator associates with a device to facilitate communication between the program and the host operator. The device number is associated with a subchannel.

**device sparing**

A subsystem function that automatically copies data from a failing device drive module to a spare device drive module. The subsystem maintains data access during the process.

**DFS** See *distributed file service*.

**DFSMS**

See *Data Facility Storage Management Subsystem*.

**direct access storage device (DASD)**

1) A mass storage medium on which a computer stores data.

2) A disk device.

**disk cage**

A container for disk drives. Each disk cage supports eight disk packs (64 disks).

**disk drive**

Standard term for a disk-based nonvolatile storage medium. The DS8000 uses hard disk drives as the primary nonvolatile storage media to store host data.

**disk drive module (DDM)**

A field replaceable unit that consists of a single disk drive and its associated packaging.

**disk drive module group**

See *disk pack*.

**disk pack**

A group of disk drive modules (DDMs) installed as a unit in a DDM bay.

**disk group**

A collection of 4 disk drives that are connected to the same pair of IBM Serial Storage adapters and can be used to create a RAID array. A disk group can be formatted as count key data or fixed block, and as RAID or non-RAID, or it can be left unformatted. A disk group is a logical assemblage of disk drives. Contrast with *disk pack*.

**distributed file service (DFS)**

A service that provides data access over IP networks.

**DNS** See *domain name system*.

**domain**

1) That part of a computer network in which the data processing resources are under common control.

2) In TCP/IP, the naming system used in hierarchical networks.

3) A Copy Services server group, in other words, the set of clusters the user designates to be managed by a particular Copy Services server.

**domain name system (DNS)**

In TCP/IP, the server program that supplies name-to-address translation by mapping domain names to internet addresses. The address of a DNS server is the internet address of the server that hosts the DNS software for the network.

**dotted decimal notation**

A convention used to identify IP

addresses. The notation consists of four 8-bit numbers written in base 10. For example, 9.113.76.250 is an IP address that contains the octets 9, 113, 76, and 250.

**drawer**

A unit that contains multiple device drive modules and provides power, cooling, and related interconnection logic to make the device drive modules accessible to attached host systems.

**drive** 1) A peripheral device, especially one that has addressed storage media. See also *disk drive module*.

2) The mechanism used to seek, read, and write information on a storage medium.

**DS8000**

See *IBM TotalStorage DS8000*.

**DS8000 Batch Configuration tool**

A program that automatically configures a DS8000. The configuration is based on data that IBM service personnel enter into the program.

**DS Storage Manager**

See *IBM TotalStorage DS Storage Manager*.

**duplex**

1) Regarding Copy Services, the state of a volume pair after Remote Mirror and Copy has completed the copy operation and the volume pair is synchronized.

2) In general, pertaining to a communication mode in which data can be sent and received at the same time.

**dynamic sparing**

The ability of a storage server to move data from a failing disk drive module (DDM) to a spare DDM while maintaining storage functions.

**E**

**E10** The predecessor of the F10 model of the Enterprise Storage Server. See also *F10*.

**E20** The predecessor of the F20 model of the Enterprise Storage Server. See also *F20*.

**EBCDIC**

See *extended binary-coded decimal interchange code*.



**EC** See *engineering change*.

**ECKD** See *extended count key data*.

**eight pack**  
See *disk pack*.

**electrostatic discharge (ESD)**  
An undesirable discharge of static electricity that can damage equipment and degrade electrical circuitry.

**emergency power off (EPO)**  
A means of turning off power during an emergency, usually a switch.

**EMIF** See *ESCON multiple image facility*.

**enclosure**  
A unit that houses the components of a storage subsystem, such as a control unit, disk drives, and power source.

**end of file**  
A coded character recorded on a data medium to indicate the end of the medium. On a count-key-data direct access storage device, the subsystem indicates the end of a file by including a record with a data length of zero.

**engineering change (EC)**  
An update to a machine, part, or program.

**Enterprise Systems Architecture/390 (ESA/390)**  
An IBM architecture for mainframe computers and peripherals. Processor systems that follow the ESA/390 architecture include the ES/9000® family. See also *z/Architecture*.

**Enterprise Systems Connection (ESCON)**  
1) A zSeries computer peripheral interface. The I/O interface uses zSeries logical protocols over a serial interface that configures attached units to a communication fabric.  
2) A set of IBM products and services that provide a dynamically connected environment within an enterprise.

**EPO** See *emergency power off*.

**ERDS** See *error-recording data set*.

**ERP** See *error recovery procedure*.

**error-recording data set (ERDS)**  
On zSeries hosts, a data set that records data-storage and data-retrieval errors. A

service information message (SIM) provides the error information for the ERDS.

**error recovery procedure (ERP)**  
Procedures designed to help isolate and, where possible, to recover from errors in equipment. The procedures are often used in conjunction with programs that record information on machine malfunctions.

**ESA/390**  
See *Enterprise Systems Architecture/390*.

**ESCD** See *ESCON director*.

**ESCON**  
See *Enterprise System Connection*.

**ESCON channel**  
A zSeries channel that supports ESCON protocols.

**ESCON director (ESCD)**  
An I/O interface switch that allows the interconnection of multiple ESCON interfaces in a distributed-star topology.

**ESCON host systems**  
zSeries hosts that attach to the DS8000 with an ESCON adapter. Such host systems run on operating systems that include MVS, VSE, TPF, or versions of VM.

**ESCON multiple image facility (EMIF)**  
For zSeries, a function that enables LPARs to share an ESCON channel path by providing each LPAR with its own channel-subsystem image.

**EsconNet**  
In the DS Storage Manager, the label on a pseudo host icon that represents a host connection that uses the ESCON protocol and that is not completely defined on the DS8000. See also *pseudo host* and *access-any mode*.

**ESD** See *electrostatic discharge*.

**eserver**  
See *IBM e(logo)server*.

**ESSNet**  
See *IBM TotalStorage Enterprise Storage Server Network*.

**extended binary-coded decimal interchange code (EBCDIC)**  
An IBM-developed coding scheme used to represent various alphabetic, numeric, and

special symbols with a coded character set of 256 eight-bit codes.

**extended count key data (ECKD)**

An extension of the count key data (CKD) architecture.

**extent** A continuous space on a disk that is occupied by or reserved for a particular data set, data space, or file. The unit of increment is a track. See also *multiple allegiance* and *parallel access volumes*.

**extent pool**

A groups of extents. See also *extent*.

**F**

**fabric** In fibre-channel technology, a routing structure, such as a switch, receives addressed information and routes to the appropriate destination. A fabric can consist of more than one switch. When multiple fibre-channel switches are interconnected, they are said to be *cascaded*.

**failback**

Pertaining to a cluster recovery from failover following repair. See also *failover*.

**failover**

Pertaining to the process of transferring all control to a single cluster when the other cluster in the storage unit fails. See also *cluster* and *failback*.

**fast write**

A write operation at cache speed that does not require immediate transfer of data to a disk drive. The subsystem writes the data directly to cache, to nonvolatile storage, or to both. The data is then available for destaging. A fast-write operation reduces the time an application must wait for the I/O operation to complete.

**FBA** See *fixed-block architecture*.

**FC** See *feature code*. **Note:** *FC* is a common abbreviation for fibre channel in the industry, but the DS8000 customer documentation library reserves *FC* for feature code.

**FC-AL** See *Fibre Channel-Arbitrated Loop*.

**FCP** See *fibre-channel protocol*.

**FCS** See *fibre-channel standard*.

**feature code (FC)**

A code that identifies a particular orderable option and that is used by service personnel to process hardware and software orders. Individual optional features are each identified by a unique feature code.

**fibre channel**

A data-transmission architecture based on the ANSI Fibre Channel standard, which supports full-duplex communication. The DS8000 supports data transmission over fiber-optic cable through its fibre-channel adapters. See also *fibre-channel protocol* and *fibre-channel standard*.

**Fibre Channel-Arbitrated Loop (FC-AL)**

An implementation of the Fibre Channel standard that uses a ring topology for the communication fabric. Refer to American National Standards Institute (ANSI) X3T11/93-275. In this topology, two or more fibre-channel end points are interconnected through a looped interface.

**fibre-channel connection (FICON)**

A fibre-channel communications protocol designed for IBM mainframe computers and peripherals.

**fibre-channel protocol (FCP)**

A protocol used in fibre-channel communications with five layers that define how fibre-channel ports interact through their physical links to communicate with other ports.

**Fibre-Channel standard (FCS)**

An ANSI standard for a computer peripheral interface. The I/O interface defines a protocol for communication over a serial interface that configures attached units to a communication fabric. The protocol has two layers. The IP layer defines basic interconnection protocols. The upper layer supports one or more logical protocols (for example, FCP for SCSI command protocols and SBICON for zSeries command protocols). Refer to American National Standards Institute (ANSI) X3.230-199x. See also *fibre-channel protocol*.

**fibre-channel topology**

An interconnection topology supported on fibre-channel adapters. See also *point-to-point connection*, *switched fabric*, and *arbitrated loop*.

**FICON**

See *fibre-channel connection*.

**FiconNet**

In the DS Storage Manager, the label on a pseudo host icon that represents a host connection that uses the FICON protocol and that is not completely defined on the DS8000. See also *pseudo host* and *access-any mode*.

**field replaceable unit (FRU)**

An assembly that is replaced in its entirety when any one of its components fails. In some cases, a field replaceable unit might contain other field replaceable units. (GC)

**FIFO** See *first-in-first-out*.

**File Transfer Protocol (FTP)**

In TCP/IP, an application protocol used to transfer files to and from host computers. See also *Transmission Control Protocol/Internet Protocol*.

**firewall**

A protection against unauthorized connection to a computer or a data storage system. The protection is usually in the form of software on a gateway server that grants access to users who meet authorization criteria.

**first-in-first-out (FIFO)**

A queuing technique in which the next item to be retrieved is the item that has been in the queue for the longest time. (A)

**fixed-block architecture (FBA)**

An architecture for logical devices that specifies the format of and access mechanisms for the logical data units on the device. The logical data unit is a block. All blocks on the device are the same size (fixed size). The subsystem can access them independently.

**fixed-block device**

An architecture for logical devices that specifies the format of the logical data units on the device. The logical data unit is a block. All blocks on the device are the same size (fixed size); the subsystem can access them independently. This is the required format of the logical data units for host systems that attach with a SCSI or fibre-channel interface. See also *fibre channel* and *small computer systems interface*.

**FlashCopy**

An optional feature of the DS8000 that can make an instant copy of data, that is, a point-in-time copy of a volume.

**FlashCopy relationship**

A mapping of a FlashCopy source volume and a FlashCopy target volume that allows a point-in-time copy of the source volume to be copied to the target volume. FlashCopy relationships exist from the time that you initiate a FlashCopy operation until the storage unit copies all data from the source volume to the target volume or until you delete the FlashCopy relationship, if it is persistent.

**FRU** See *field replaceable unit*.

**FTP** See *File Transfer Protocol*.

**full duplex**

See *duplex*.

**fuzzy copy**

A function of the Global Copy feature wherein modifications to the primary logical volume are performed on the secondary logical volume at a later time. The original order of update is not strictly maintained. See also *Global Copy*.

**G**

**GB** See *gigabyte*.

**GDPS** See *Geographically Dispersed Parallel Sysplex*.

**Geographically Dispersed Parallel Sysplex (GDPS)**

A zSeries multisite application-availability solution.

**gigabyte (GB)**

A gigabyte of storage is  $10^9$  bytes. A gigabyte of memory is  $2^{30}$  bytes.

**Global Copy**

An optional capability of the DS8000 remote mirror and copy feature that maintains a fuzzy copy of a logical volume on the same DS8000 or on another DS8000. In other words, all modifications that any attached host performs on the primary logical volume are also performed on the secondary logical volume at a later point in time. The original order of update is not strictly maintained. See also *Remote Mirror and Copy* and *Metro Mirror*.

**Global Mirror**

An optional capability of the DS8000 remote mirror and copy feature that provides a 2-site extended distance remote copy. Data that is written by the host to the storage unit at the local site is automatically maintained at the remote site. See also *Metro Mirror* and *Remote Mirror and Copy*.

**group** In DS8000 documentation, a nickname for two different kinds of groups, depending on the context. See *disk pack* or *Copy Services server group*.

**H**

**HA** See *host adapter*.

**HACMP**

See *High-Availability Cluster Multi-Processing*.

**hard disk drive (HDD)**

1) A storage medium within a storage server used to maintain information that the storage server requires.

2) A mass storage medium for computers that is typically available as a fixed disk (such as the disks used in system units of personal computers or in drives that are external to a personal computer) or a removable cartridge.

**hardware service manager (HSM)**

An option on an AS/400 or iSeries host that enables the user to display and work with system hardware resources and to debug input-output processors (IOP), input-output adapters (IOA), and devices.

**HCD** See *Hardware Configuration Data*.

**HDA** See *head and disk assembly*.

**HDD** See *hard disk drive*.

**hdisk** An AIX term for storage space.

**head and disk assembly (HDA)**

The portion of an HDD associated with the medium and the read/write head.

**heartbeat**

A status report sent at regular intervals from the DS8000. The service provider uses this report to monitor the health of the call home process. See also *call home*, *heartbeat call home record*, and *remote technical assistance information network*.

**heartbeat call home record**

Machine operating and service information sent to a service machine. These records might include such information as feature code information and product logical configuration information.

**hierarchical storage management**

1) A function in storage management software, such as Tivoli Storage Management or Data Facility Storage Management Subsystem/MVS (DFSMS/MVS), that automatically manages free space based on the policy that the storage administrator sets.

2) In AS/400 storage management, an automatic method to manage and distribute data between the different storage layers, such as disk units and tape library devices.

**High-Availability Cluster Multi-Processing (HACMP)**

Software that provides host clustering, so that a failure of one host is recovered by moving jobs to other hosts within the cluster.

**high-speed link (HSL)**

A hardware connectivity architecture that links system processors to system input/output buses and other system units.

**home address**

A nine-byte field at the beginning of a track that contains information that identifies the physical track and its association with a cylinder.

**hop** Interswitch connection. A hop count is the number of connections that a particular block of data traverses between source and destination. For example, data traveling from one hub over a wire to another hub traverses one hop.

**host** See *host system*.

**host adapter**

A physical subunit of a storage server that provides the ability to attach to one or more host I/O interfaces.

**host name**

The Internet address of a machine in the network. The host name can be entered in the host definition as the fully qualified domain name of the attached host system, such as *mycomputer.city.company.com*, or

as the subname of the fully qualified domain name, for example, mycomputer. See also *host system*.

**host processor**

A processor that controls all or part of a user application network. In a network, the processing unit in which the data communication access method resides. See also *host system*.

**host system**

A computer, either of the mainframe (for example, zSeries) or of the open-systems type, that is connected to the DS8000. zSeries hosts are connected to the DS8000 through ESCON interfaces. Open-systems hosts are connected to the DS8000 by SCSI or fibre-channel interfaces.

**hot plug**

Pertaining to the ability to add or remove a hardware facility or resource to a unit while power is on.

**HSL** See *high-speed link*.

**HSM** See *hierarchical storage management or Hardware Service Manager*.

**I**

**i5/OS** The IBM operating system that runs the IBM i5/OS and e(logo)Server i5 server families of servers.

**IBM e(logo)server**

The IBM brand name for a series of server products that are optimized for e-commerce. The products include the iSeries, pSeries, xSeries, and zSeries.

**IBM product engineering (PE)**

The third-level of IBM service support. Product engineering is composed of IBM engineers who have experience in supporting a product or who are knowledgeable about the product.

**IBM Serial Storage adapter**

A physical adapter based on the IBM Serial Storage architecture. IBM Serial Storage adapters connect disk drive modules to DS8000 clusters.

**IBM TotalStorage**

The brand name used to identify storage products from IBM, including the IBM TotalStorage DS8000. See also *IBM*

*TotalStorage DS8000 and IBM TotalStorage DS Storage Manager*.

**IBM TotalStorage DS8000**

A member of the IBM TotalStorage Resiliency Family of storage servers and attached storage devices (disk drive modules). The DS8000 delivers high-performance, fault-tolerant storage and management of enterprise data, affording access through multiple concurrent operating systems and communication protocols. High performance is provided by multiple symmetrical multiprocessors, integrated caching, RAID support for the disk drive modules, and disk access through a high-speed serial storage architecture interface.

**IBM TotalStorage DS CLI**

The command-line interface (CLI) that is specific to the DS8000.

**IBM TotalStorage DS Storage Manager (DS Storage Manager)**

Software with a Web-browser interface for configuring the DS8000.

**IBM TotalStorage Enterprise Storage Server Network (ESSNet)**

A private network providing Web browser access to the Enterprise Storage Server. IBM installs the ESSNet software on an IBM workstation called the IBM TotalStorage ESS Master Console, supplied with the first ESS delivery.

**IBM TotalStorage Management Console (MC)**

An IBM workstation that acts as the focal point for configuration, Copy Services management, and maintenance for the DS8000. It includes a Web browser that provides links to the user interface, including the DS Storage Manager and the DS8000 Copy Services.

**IBM TotalStorage Multipath Subsystem Device Driver (SDD)**

Software that is designed to support the multipath configuration environments of the DS8000. The SDD resides in a host system with the native disk device driver.

**IBM TotalStorage Resiliency Family**

A set of hardware and software features and products, as well as integrated software and services that are available on the IBM TotalStorage DS8000 and the



IBM TotalStorage Enterprise Storage Server, Models 750 and 800.

**image** See *storage image*.

**IML** See *initial microcode load*.

**implicit allegiance**

In Enterprise Systems Architecture/390, a relationship that a control unit creates between a device and a channel path when the device accepts a read or write operation. The control unit guarantees access to the channel program over the set of channel paths that it associates with the allegiance.

**initial microcode load (IML)**

The action of loading microcode for a computer into that computer's storage.

**initial program load (IPL)**

The action of loading software into a computer, typically an operating system that controls the computer.

**initiator**

A SCSI device that communicates with and controls one or more targets. Contrast with *target*.

**i-node** The internal structure in an AIX operating system that describes the individual files in the operating system. It contains the code, type, location, and owner of a file.

**input/output (I/O)**

Pertaining to (a) input, output, or both or (b) a device, process, or channel involved in data input, data output, or both.

**input/output configuration data set**

A configuration definition built by the I/O configuration program (IOCP) and stored on disk files associated with the processor controller.

**interleave**

To automatically create two striped partitions across the drives in a RAID-5 array, both of which use the count-key-data (CKD) record format.

**Internet Protocol (IP)**

In the Internet suite of protocols, a protocol without connections that routes data through a network or interconnecting networks and acts as an intermediary between the higher protocol layers and the physical network. The upper layer supports one or more logical protocols (for

example, a SCSI-command protocol and a zSeries command protocol). Refer to ANSI X3.230-199x. The IP acronym is the IP in TCP/IP. See also *Transmission Control Protocol/Internet Protocol*.

**invalidate**

To remove a logical data unit from cache memory because it cannot support continued access to the logical data unit on the device. This removal might be the result of a failure within the storage server or a storage device that is associated with the device.

**I/O** See *input/output*.

**I/O adapter (IOA)**

An input-output adapter on the PCI bus.

**IOCDs**

See *input/output configuration data set*.

**IOCP** See *I/O Configuration Program*.

**I/O Configuration Program (IOCP)**

A program that defines to a system all the available I/O devices and channel paths.

**I/O device**

An addressable read and write unit, such as a disk drive device, magnetic tape device, or printer.

**I/O interface**

An interface that enables a host to perform read and write operations with its associated peripheral devices.

**I/O Priority Queuing**

A facility in the Workload Manager of zSeries that enables the system administrator to set priorities for queueing I/Os from different system images. See also *multiple allegiance* and *parallel access volume*.

**I/O processor (IOP)**

Controls input-output adapters and other devices.

**I/O sequential response time**

The time an I/O request is queued in processor memory waiting for previous I/Os to the same volume to complete.

**IOSQ** See *I/O sequential response time*.

**IP** See *Internet Protocol*.

**IPL** See *initial program load*.

## **iSeries**

An IBM e(logo)server product that emphasizes integration. It is the successor to the AS/400 family of servers.

## **J**

### **Java Virtual Machine (JVM)**

A software implementation of a central processing unit (CPU) that runs compiled Java code (applets and applications). (GC)

**JVM** See *Java Virtual Machine*.

## **K**

**KB** See *kilobyte*.

### **key field**

The second (optional) field of a count key data record. The key length is specified in the count field. The key length determines the field length. The program writes the data in the key field and uses the key field to identify or locate a given record. The subsystem does not use the key field.

### **kilobyte (KB)**

1) For processor storage, real, and virtual storage, and channel volume,  $2^{10}$  or 1024 bytes.

2) For disk storage capacity and communications volume, 1000 bytes.

### **Korn shell**

Interactive command interpreter and a command programming language.

**KPOH** See *thousands of power-on hours*.

## **L**

**LAN** See *local area network*.

### **last-in first-out (LIFO)**

A queuing technique in which the next item to be retrieved is the item most recently placed in the queue. (A)

**LBA** See *logical block address*.

**LCU** See *logical control unit*.

### **least recently used (LRU)**

1) The algorithm used to identify and make available the cache space that contains the least-recently used data.

2) A policy for a caching algorithm that chooses to remove from cache the item that has the longest elapsed time since its last access.

**LED** See *light-emitting diode*.

**LMC** See *licensed machine code*.

### **licensed machine code (LMC)**

Microcode that IBM does not sell as part of a machine, but licenses to the customer. LMC is implemented in a part of storage that is not addressable by user programs. Some IBM products use it to implement functions as an alternate to hard-wired circuitry.

**LIFO** See *last-in first-out*.

### **light-emitting diode (LED)**

A semiconductor chip that gives off visible or infrared light when activated.

### **link address**

On an ESCON interface, the portion of a source or destination address in a frame that ESCON uses to route a frame through an ESCON director. ESCON associates the link address with a specific switch port that is on the ESCON director. Equivalently, it associates the link address with the channel subsystem or control unit link-level functions that are attached to the switch port.

### **link-level facility**

The ESCON hardware and logical functions of a control unit or channel subsystem that allow communication over an ESCON write interface and an ESCON read interface.

### **local area network (LAN)**

A computer network located on a user's premises within a limited geographic area.

### **local e-mail**

An e-mail configuration option for storage servers that are connected to a host-system network that does not have a domain name system (DNS) server.

### **logical address**

On an ESCON interface, the portion of a source or destination address in a frame used to select a specific channel-subsystem or control-unit image.

**logical block address (LBA)**

The address assigned by the DS8000 to a sector of a disk.

**logical control unit (LCU)**

See *control-unit image*.

**logical data unit**

A unit of storage that is accessible on a given device.

**logical device**

The facilities of a storage server (such as the DS8000) associated with the processing of I/O operations directed to a single host-accessible emulated I/O device. The associated storage is referred to as a logical volume. The logical device is mapped to one or more host-addressable units, such as a device on a zSeries I/O interface or a logical unit on a SCSI I/O interface, such that the host initiating I/O operations to the I/O-addressable unit interacts with the storage on the associated logical device.

**logical partition (LPAR)**

For zSeries, a set of functions that create the programming environment in which more than one logical partition (LPAR) is established on a processor. An LPAR is conceptually similar to a virtual machine environment except that the LPAR is a function of the processor. Also, the LPAR does not depend on an operating system to create the virtual machine environment.

**logical path**

1) The relationship between a channel image and a control-unit image that designates the physical path to be used for device-level communications between these images. The logical path is established as part of the channel and control-unit initialization procedures by the exchange of link-level frames.

2) With the Remote Mirror and Copy feature, the relationship between a source logical subsystem (LSS) and a target LSS that is created over a physical path through the interconnection fabric that is used for Remote Mirror and Copy functions. An LSS is a primary control unit, which performs the functions of a channel image.

**logical subsystem (LSS)**

A topological construct that consists of a

group of up to 256 logical devices. A DS8000 can have up to 16 CKD-formatted logical subsystems (4096 CKD logical devices) and also up to 16 fixed-block logical subsystems (4096 fixed-block logical devices). The logical subsystem facilitates configuration of the DS8000 and might have other implications relative to the operation of certain functions. There is a one-to-one mapping between a CKD logical subsystem and a zSeries control-unit image.

For zSeries hosts, a logical subsystem represents a logical control unit (LCU). Each control-unit image is associated with only one logical subsystem. See also *control-unit image*.

**logical unit**

In open systems, a logical disk drive.

**logical unit number (LUN)**

In the SCSI protocol, a unique number that is used on a SCSI bus to enable it to differentiate between separate devices, each of which is a logical unit.

**logical volume**

The storage medium that is associated with a logical disk drive. A logical volume typically resides on one or more storage devices. The DS8000 administrator defines this unit of storage. The logical volume, when residing on a RAID-formatted array, is spread over the drives in the array.

**logical volume manager (LVM)**

A set of system commands, library routines, and other tools that allow the user to establish and control logical volume storage. The LVM maps data between the logical view of storage space and the physical disk drive module.

**longitudinal redundancy check (LRC)**

1) A method of error checking during data transfer that involves checking parity on a row of binary digits that are members of a set that forms a matrix. Longitudinal redundancy check is also called a longitudinal parity check.

2) A mechanism that the DS8000 uses for locating errors. The LRC checks the data as it progresses from the host, through the DS8000 controller, into the device adapter, and to the array.



**longwave laser adapter**

A connector that is used between a host and the DS8000 to support longwave fibre-channel communication.

**loop** The physical connection between a pair of device adapters in the DS8000. See also *device adapter*.

**LPAR** See *logical partition*.

**LRC** See *longitudinal redundancy check*.

**LRU** See *least recently used*.

**LSS** See *logical subsystem*.

**LUN** See *logical unit number*.

**LVM** See *logical volume manager*.

**M****machine level control (MLC)**

A database that contains the EC level and configuration of products in the field.

**machine reported product data (MRPD)**

Product data gathered by a machine and sent to a destination such as an IBM support server or RETAIN. These records might include such information as feature code information and product logical configuration information.

**mainframe**

A computer, usually in a computer center, with extensive capabilities and resources to which other computers may be connected so that they can share facilities. (T)

**maintenance analysis procedure (MAP)**

A hardware maintenance document that gives an IBM service representative a step-by-step procedure for tracing a symptom to the cause of a failure.

**management console**

See *IBM TotalStorage Management Console*.

**Management Information Base (MIB)**

1) A collection of objects that can be accessed by means of a network management protocol. (GC)

2) The MIB record conforms to the Open Systems Interconnection (OSI) standard defined by the International Organization for Standardization (ISO) for the exchange of information. See also *simple network management protocol*.

**MAP** See *maintenance analysis procedure*.

**master storage unit**

The physical unit that controls the creation of consistency groups in a Global Mirror session. The master storage unit sends commands to subordinate storage units. A storage unit can be a master for only one Global Mirror session. Contrast with *subordinate storage unit*.

**maximum consistency group drain time**

The value in seconds that indicates the maximum time that writes from the local site are delayed to the remote site while the current consistency group is being formed at the remote site. When this time is exceeded, the current attempt to form a consistency group is ended and another attempt is started. If this time is exceeded five times, this maximum time is ignored on the next attempt to form a consistency group. The default value is the larger of four minutes or two times the consistency group interval time if this value is set to zero.

**maximum coordination time**

The value in milliseconds that indicates the maximum time that is allowed for host I/O to be delayed during the coordination of the primary volumes of an Global Mirror session. The default is 50 milliseconds if this value is set to zero.

**MB** See *megabyte*.

**MC** See *IBM TotalStorage Management Console*.

**MCA** See *Micro Channel architecture*.

**MDM** See *Multiple Device Manager*.

**mean time between failures (MTBF)**

1) A projection of the time that an individual unit remains functional. The time is based on averaging the performance, or projected performance, of a population of statistically independent units. The units operate under a set of conditions or assumptions.

2) For a stated period in the life of a functional unit, the mean value of the lengths of time between consecutive failures under stated conditions. (I) (A)

**medium**

For a storage unit, the disk surface on which data is stored.

**megabyte (MB)**

1) For processor storage, real and virtual storage, and channel volume,  $2^{20}$  or 1 048 576 bytes.

2) For disk storage capacity and communications volume, 1 000 000 bytes.

**Metro Mirror**

A function of a storage server that maintains a consistent copy of a logical volume on the same storage server or on another storage server. All modifications that any attached host performs on the primary logical volume are also performed on the secondary logical volume. See also *Remote Mirror and Copy* and *Global Copy*.

**MES** See *miscellaneous equipment specification*.

**MIB** See *management information base*.

**Micro Channel architecture (MCA)**

The rules that define how subsystems and adapters use the Micro Channel bus in a computer. The architecture defines the services that each subsystem can or must provide.

**Microsoft Internet Explorer (MSIE)**

Web browser software manufactured by Microsoft.

**migration**

The replacement of a system or subsystem with a different type of system or subsystem, such as replacing a SCSI host adapter with a fibre-channel host adapter. In the context of data migration regarding the DS8000, the transfer of data from one storage unit to another, such as from a 3390 to the DS8000.

**MIH** See *missing-interrupt handler*.

**mirrored pair**

Two units that contain the same data. The system refers to them as one entity.

**mirroring**

In host systems, the process of writing the same data to two disk units within the same auxiliary storage pool at the same time.

**miscellaneous equipment specification (MES)**

IBM field-installed change to a machine.

**missing-interrupt handler (MIH)**

An MVS and MVS/XA facility that tracks

I/O interrupts. MIH informs the operator and creates a record whenever an expected interrupt fails to occur before a specified elapsed time is exceeded.

**MLC** See *machine level control*.

**mobile solutions terminal (MoST)**

The mobile terminal used by service personnel.

**mode conditioning patch cable**

A cable that converts a single-mode signal from a longwave adapter into a light signal that is appropriate for multimode fibre. Another mode conditioning patch cable is required at the terminating end of the multimode fibre to convert the signal back to a single-mode signal for a longwave adapter.

**Model 100**

A 2105 Model 100, often simply referred to as a Mod 100, is an expansion enclosure for the Enterprise Storage Server. See also *2105*.

**MoST** See *mobile solutions terminal*.

**MRPD** See *machine reported product data*.

**MSA** See *multiport serial adapter*.

**MSIE** See *Microsoft Internet Explorer*.

**MTBF** See *mean time between failures*.

**Multipath Subsystem Device Driver**

See *IBM TotalStorage DS8000 Multipath Subsystem Device Driver*.

**multiple allegiance**

A DS8000 hardware function that is independent of software support. This function enables multiple system images to concurrently access the same logical volume on the DS8000 as long as the system images are accessing different extents. See also *extent* and *parallel access volumes*.

**Multiple Device Manager (MDM)**

A component of the IBM TotalStorage Productivity Center that allows administrators to configure, manage, and monitor the performance of SAN storage devices from a single console.

**multiple relationship FlashCopy**

An option of the DS8000 that creates backup copies from one source to multiple

targets by simultaneously establishing multiple FlashCopy relationships.

**multiple virtual storage (MVS)**

Implies MVS/390, MVS/XA, MVS/ESA, and the MVS element of the zSeries operating system.

**multiplex**

The action of transmitting simultaneously.

**multiport serial adapter (MSA)**

An adapter on the IBM TotalStorage Management Console that has multiple ports to which aDS8000 can be attached.

**multiprocessor**

A computer that includes two or more processors that have common access to a main storage. For the DS8000, the multiprocessors operate in parallel.

**MVS** See *multiple virtual storage*.

**N**

**name server**

A server that stores names of the participating DS8000 clusters.

**Netfinity**

IBM Intel-processor-based server; predecessor to the IBM xSeries server.

**Netscape Navigator**

Web browser software manufactured by Netscape.

**network manager**

A program or group of programs that is used to monitor, manage, and diagnose the problems of a network. (GC)

**node** The unit that is connected in a fibre-channel network. A DS8000 is a node in a fibre-channel network.

**non-RAID**

A disk drive set up independently of other disk drives and not set up as part of a disk pack to store data using the redundant array of disks (RAID) data-stripping methodology.

**nonremovable medium**

A recording medium that cannot be added to or removed from a storage device.

**nonvolatile storage (NVS)**

Memory that stores active write data to avoid data loss in the event of a power loss.

**NVS** See *nonvolatile storage*.

**O**

**octet** In Internet Protocol addressing, one of the four parts of a 32-bit integer presented in dotted decimal notation. See also *dotted decimal notation*.

**OEMI** See *original equipment manufacturer's information*.

**open system**

A system whose characteristics comply with standards made available throughout the industry and that therefore can be connected to other systems complying with the same standards. Applied to the DS8000, such systems are those hosts that connect to the DS8000 through SCSI or FCP protocols. See also *small computer system interface* and *fibre-channel protocol*.

**organizationally unique identifier (OUI)**

An IEEE-standards number that identifies an organization with a 24-bit globally unique assigned number referenced by various standards. OUI is used in the family of 802 LAN standards, such as Ethernet and Token Ring.

**original equipment manufacturer's information (OEMI)**

A reference to an IBM guideline for a computer peripheral interface. The interface uses ESA/390 logical protocols over an I/O interface that configures attached units in a multidrop bus topology.

**OS/390**

The IBM operating system that includes and integrates functions that many IBM software products (including the MVS operating system) previously provided for the IBM S/390 family of enterprise servers.

**OUI** See *organizationally unique identifier*.

**P**

**panel** The formatted display of information that appears on a display screen.

**parallel access volume (PAV)**

An advanced function of the DS8000 that enables OS/390 and z/OS systems to issue concurrent I/O requests against a count key data logical volume by

associating multiple devices of a single control-unit image with a single logical device. Up to eight device addresses can be assigned to a PAV. The PAV function enables two or more concurrent write operations to the same logical volume, as long as the write operations are not to the same extents. See also *extent*, *I/O Priority Queueing*, and *multiple allegiance*.

**parity** A data checking scheme used in a computer system to ensure the integrity of the data. The RAID implementation uses parity to re-create data if a disk drive fails.

**path group**

In zSeries architecture, a set of channel paths that are defined to a control unit as being associated with a single logical partition (LPAR). The channel paths are in a group state and are online to the host. See also *logical partition*.

**path group identifier**

In zSeries architecture, the identifier that uniquely identifies a given logical partition (LPAR). The path group identifier is used in communication between the LPAR program and a device. The identifier associates the path group with one or more channel paths, thereby defining these paths to the control unit as being associated with the same LPAR. See also *logical partition*.

**PAV** See *parallel access volume*.

**PCI** See *peripheral component interconnect*.

**PDU** See *protocol data unit*.

**PE** See *IBM product engineering*.

**peripheral component interconnect (PCI)**

An architecture for a system bus and associated protocols that supports attachments of adapter cards to a system backplane.

**persistent FlashCopy**

A state where a FlashCopy relationship remains indefinitely until the user deletes it. The relationship between the source and target volumes is maintained after a background copy completes.

**physical path**

A single path through the I/O interconnection fabric that attaches two units. For Copy Services, this is the path from a host adapter on one DS8000

(through cabling and switches) to a host adapter on another DS8000.

**pinned data**

Data that is held in cache until either an error condition is corrected and it can be moved to disk storage or until the data is discarded by a host command. Pinned data conditions can only occur on an ESS Model 800 during fast-write or dual-copy functions.

**point-in-time copy**

A FlashCopy option that creates an instantaneous view of original source data at a specific moment in time.

**point-to-point connection**

A fibre-channel topology that enables the direct interconnection of ports. See also *arbitrated loop* and *switched fabric*.

**port**

A physical connection on a host adapter to the cable that connects the DS8000 to hosts, switches, or another DS8000. The DS8000 uses SCSI and ESCON host adapters that have two ports per adapter, and fibre-channel host adapters that have one port. See also *ESCON*, *fibre channel*, *host adapter*, and *small computer system interface*.

**POST** See *power-on self test*.

**power-on self test (POST)**

A diagnostic test that servers or computers run when they are turned on.

**predictable write**

A write operation that can cache without knowledge of the existing format on the medium. All write operations on FBA DASD devices are predictable. On CKD DASD devices, a write operation is predictable if it does a format write operation for the first data record on the track.

**primary control unit**

The DS8000 to which a Remote Mirror and Copy primary device is physically attached.

**processor complex**

A partition of a storage server that is capable of performing all defined functions of the storage server. Multiple processor complexes provide redundancy.

**product engineering**

See *IBM product engineering*.

**program**

On a computer, a generic term for software that controls the operation of the computer. Typically, the program is a logical assemblage of software modules that perform multiple related tasks.

**program-controlled interruption**

An interruption that occurs when an I/O channel fetches a channel command word with the program-controlled interruption flag on.

**program temporary fix (PTF)**

A temporary solution to, or bypass of, a problem diagnosed by IBM as the result of a defect in a current unaltered release of a licensed program. (GC)

**promote**

To add a logical data unit to cache memory.

**protected volume**

In AS/400, a disk storage device that is protected from data loss by RAID techniques. An AS/400 host does not mirror a volume configured as a protected volume, while it does mirror all volumes configured as unprotected volumes. The DS8000, however, can be configured to indicate that an AS/400 volume is protected or unprotected and give it RAID protection in either case.

**protocol data unit (PDU)**

A unit of data specified in the protocol of a given layer and consisting of protocol control information for the layer and, possibly, user data for the layer.

**pSeries**

The product name of an IBM e(logo)server product that emphasizes performance. It is the successor to the RS/6000 family of servers.

**pseudo host**

A host connection that is not explicitly defined to the DS8000 and that has access to at least one volume that is configured on the DS8000. The FiconNet pseudo host icon represents the FICON protocol. The EsconNet pseudo host icon represents the ESCON protocol. The pseudo host icon labelled Anonymous represents hosts connected through the FCP protocol. *Anonymous host* is a commonly used synonym for *pseudo host*.

The DS8000 adds a pseudo host icon only when it is set to access-any mode. See also *access-any mode*.

**PTF** See *program temporary fix*.

**PV Links**

Short for Physical Volume Links, an alternate pathing solution from Hewlett-Packard that provides for multiple paths to a volume, as well as static load balancing.

**R**

**R0** See *track-descriptor record*.

**rack** See *enclosure*.

**RAID** See *redundant array of independent disks*. RAID is also commonly expanded to redundant array of *inexpensive* disks. See also *array*.

**RAID 5**

A type of RAID that optimizes cost-effective performance while emphasizing use of available capacity through data striping. RAID 5 provides fault tolerance for up to two failed disk drives by distributing parity across all the drives in the array plus one parity disk drive. The DS8000 automatically reserves spare disk drives when it assigns arrays to a device adapter pair (DA pair). See also *device adapter*, *RAID 10*, and *redundant array of independent disks*.

**RAID 10**

A type of RAID that optimizes high performance while maintaining fault tolerance for up to two failed disk drives by striping volume data across several disk drives and mirroring the first set of disk drives on an identical set. The DS8000 automatically reserves spare disk drives when it assigns arrays to a device adapter pair (DA pair). See also *device adapter*, *RAID 5*, and *redundant array of independent disks*.

**random access**

A mode of accessing data on a medium in a manner that requires the storage device to access nonconsecutive storage locations on the medium.

**rank** One or more arrays that are combined to create a logically contiguous storage space.



**redundant array of independent disks (RAID)**

A methodology of grouping disk drives for managing disk storage to insulate data from a failing disk drive.

**refresh FlashCopy target volume**

An option (previously called *incremental FlashCopy*) of the DS8000 that creates a point-in-time data copy without copying an entire volume for each point-in-time copy.

**Remote Mirror and Copy**

A feature of a storage server that constantly updates a secondary copy of a logical volume to match changes made to a primary logical volume. The primary and secondary volumes can be on the same storage server or on separate storage servers. See also *Global Mirror*, *Metro Mirror* and *Global Copy*.

**remote technical assistance information network (RETAIN)**

The initial service tracking system for IBM service support, which captures heartbeat and call-home records. See also *support catcher* and *support catcher telephone number*.

**REQ/ACK**

See *request for acknowledgment and acknowledgment*.

**request for acknowledgment and acknowledgment (REQ/ACK)**

A cycle of communication between two data transport devices for the purpose of verifying the connection, which starts with a request for acknowledgment from one of the devices and ends with an acknowledgment from the second device. The REQ and ACK signals help to provide uniform timing to support synchronous data transfer between an initiator and a target. The objective of a synchronous data transfer method is to minimize the effect of device and cable delays.

**reserved allegiance**

For zSeries, a relationship that is created in a control unit between a device and a channel path, or path group, when the device completes a Sense Reserve command. The allegiance causes the control unit to guarantee access (that is, busy status is not presented) to the device. Access is over the set of channel paths that are associated with the

allegiance; access is for one or more channel programs until the allegiance ends.

**RETAIN**

See *remote technical assistance information network*.

**S**

**S/390** IBM enterprise servers based on Enterprise Systems Architecture/390 (ESA/390). *S/390* is the currently accepted shortened form of the original name *System/390*.

**S/390 storage**

Storage arrays and logical volumes that are defined as connected to S/390 servers. This term is synonymous with count-key-data storage.

**SAID** See *system adapter identification number*.

**SAM** See *sequential access method*.

**SAN** See *storage area network*.

**SBCON**

See *Single-Byte Command Code Sets Connection*.

**screen**

The physical surface of a display device upon which information is shown to users.

**SCSI** See *small computer system interface*.

**SCSI device**

A disk drive connected to a host through an I/O interface using the SCSI protocol. A SCSI device is either an initiator or a target. See also *initiator* and *small computer system interface*.

**SCSI-FCP**

Synonym for fibre-channel protocol, a protocol used to transport data between an open-systems host and a fibre-channel adapter on an DS8000. See also *fibre-channel protocol* and *small computer system interface*.

**SCSI host systems**

Host systems that are attached to the DS8000 with a SCSI interface. Such host systems run on UNIX, i5/OS, Windows NT, Windows 2000, or Novell NetWare operating systems.

**SCSI ID**

A unique identifier assigned to a SCSI

device that is used in protocols on the SCSI interface to identify or select the device. The number of data bits on the SCSI bus determines the number of available SCSI IDs. A wide interface has 16 bits, with 16 possible IDs.

**SDD** See *IBM Subsystem Multipathing Device Driver*.

**secondary control unit**

The DS8000 to which a Remote Mirror and Copy secondary device is physically attached.

**self-timed interface (STI)**

An interface that has one or more conductors that transmit information serially between two interconnected units without requiring any clock signals to recover the data. The interface performs clock recovery independently on each serial data stream and uses information in the data stream to determine character boundaries and inter-conductor synchronization.

**sequential access**

A mode of accessing data on a medium in a manner that requires the storage device to access consecutive storage locations on the medium.

**sequential access method (SAM)**

An access method for storing, deleting, or retrieving data in a continuous sequence based on the logical order of the records in the file.

**serial connection**

A method of device interconnection for determining interrupt priority by connecting the interrupt sources serially.

**server** A host that provides certain services to other hosts that are referred to as clients.

A functional unit that provides services to one or more clients over a network. (GC)

**service boundary**

A category that identifies a group of components that are unavailable for use when one of the components of the group is being serviced. Service boundaries are provided on the DS8000, for example, in each host bay and in each cluster.

**service clearance**

The area that is required to open the service covers and to pull out components for servicing.

**service information message (SIM)**

A message sent by a storage server to service personnel through an zSeries operating system.

**service personnel**

A generalization referring to individuals or companies authorized to service the DS8000. The terms *service provider*, *service representative*, and *IBM service support representative (SSR)* refer to types of service personnel. See also *service support representative*.

**service processor**

A dedicated processing unit that is used to service a storage unit.

**service support representative (SSR)**

Individuals or a company authorized to service the DS8000. This term also refers to a service provider, a service representative, or an IBM service support representative (SSR). An IBM SSR installs the DS8000.

**SES** SCSI Enclosure Services.

**session**

A collection of volumes within a logical subsystem that are managed together during the creation of consistent copies of data. All volumes in a session must transfer their data successfully to the remote site before the increment can be called complete.

**SFP** Small form factor pluggables.

**shared storage**

Storage that is configured so that multiple hosts can concurrently access the storage. The storage has a uniform appearance to all hosts. The host programs that access the storage must have a common model for the information on a storage device. The programs must be designed to handle the effects of concurrent access.

**shortwave laser adapter**

A connector that is used between host and DS8000 to support shortwave fibre-channel communication.

**SIM** See *service information message*.

**Simple Network Management Protocol (SNMP)**

In the Internet suite of protocols, a network management protocol that is used to monitor routers and attached networks. SNMP is an application layer protocol. Information on devices managed is defined and stored in the application's Management Information Base (MIB). (GC) See also *management information base*.

**simplex volume**

A volume that is not part of a FlashCopy, XRC, or PPRC volume pair.

**Single-Byte Command Code Sets Connection (SBCON)**

The ANSI standard for the ESCON I/O interface.

**small computer system interface (SCSI)**

A standard hardware interface that enables a variety of peripheral devices to communicate with one another. (GC)

**smart relay host**

A mail relay or mail gateway that has the capability to correct e-mail addressing problems.

**SMIT** See *System Management Interface Tool*.

**SMP** See *symmetrical multiprocessor*.

**SNMP** See *Simple Network Management Protocol*.

**SNMP agent**

A server process that resides on a network node and is responsible for communicating with managers regarding that node. The node is represented as a managed object, which has various fields or variables that are defined in the appropriate MIB.

**SNMP manager**

A managing system that runs a managing application or suite of applications. These applications depend on Management Information Base (MIB) objects for information that resides on the managed system. Managers generate requests for this MIB information, and an SNMP agent on the managed system responds to these requests. A request can either be the retrieval or modification of MIB information.

**software transparency**

Criteria applied to a processing

environment that states that changes do not require modifications to the host software in order to continue to provide an existing function.

**source device**

One of the devices in a dual-copy or remote-copy volume pair. All channel commands to the logical volume are directed to the source device. The data on the source device is duplicated on the target device. See also *target device*.

**spare** A disk drive on the DS8000 that can replace a failed disk drive. A spare can be predesignated to allow automatic dynamic sparing. Any data preexisting on a disk drive that is invoked as a spare is destroyed by the dynamic sparing copy process.

**spatial reuse**

A feature of serial storage architecture that enables a device adapter loop to support many simultaneous read/write operations. See also *serial storage architecture*.

**SSID** See *subsystem identifier*.

**SSR** See *service support representative*.

**stacked status**

For zSeries, the condition when the control unit is in a holding status for the channel, and the last time the control unit attempted to present the status, the channel responded with the stack-status control.

**stage operation**

The operation of reading data from the physical disk drive into the cache.

**staging**

To move data from an offline or low-priority device back to an online or higher priority device, usually on demand of the system or on request of the user.

**standard volume**

A volume that emulates one of several zSeries volume types, including 3390-2, 3390-3, 3390-9, 3390-2 (3380-track mode), or 3390-3 (3380-track mode), by presenting the same number of cylinders and capacity to the host as provided by the native zSeries volume type of the same name.

**STI** See *self-timed interface*.



**storage area network**

A network that connects a company's heterogeneous storage resources.

**storage capacity**

The amount of data that a storage medium can hold; usually expressed in kilobytes, megabytes, or gigabytes.

**storage complex**

A configuration of one or more storage units that is managed by a management console.

**storage device**

A physical unit that provides a mechanism to store data on a given medium such that it can be subsequently retrieved. See also *disk drive module*.

**storage extent**

The minimum contiguous range of storage on a physical storage device, array, or rank that can be allocated to a local volume

**storage image**

A partitioning of a storage unit that provides emulation of a storage server with one or most storage devices that provides storage capability to a host computer. You can configure more than one storage image on a storage unit.

**storage server**

A physical unit that manages attached storage devices and provides an interface between them and a host computer by providing the function of one or more logical subsystems. The storage server can provide functions that the storage device does not provide. The storage server has one or more clusters.

**storage unit**

A physical unit that consists of a storage server that is integrated with one or more storage devices that provide storage capability to a host computer.

**storage unit identifier**

A unique identifier for a storage unit that consists of a manufacturer, a model number, a type number, a plant of manufacture, and a sequence number.

**striping**

A technique that distributes data in bit, byte, multibyte, record, or block increments across multiple disk drives.

**subagent**

An extension to an SNMP agent that permits a user to dynamically add, or in some cases replace, additional management variables in the local MIB, thereby providing a means of extending the range of information that network managers can access. See also *agent*.

**subchannel**

A logical function of a channel subsystem associated with the management of a single device.

**subordinate storage unit**

The physical unit that receives commands from the master storage unit and is specified when a Global Mirror session is started. The subordinate storage unit forms consistency groups and performs other Global Mirror processing. A subordinate storage unit can be controlled by only one master storage unit. Contrast with *master storage unit*.

**subsystem identifier (SSID)**

A number that uniquely identifies a logical subsystem within a computer installation.

**support catcher**

See *catcher*.

**support catcher telephone number**

The telephone number that connects the support catcher server to the DS8000 to receive a trace or dump package. See also *support catcher* and *remote technical assistance information network*.

**switched fabric**

A fibre-channel topology in which ports are interconnected through a switch. Fabric switches can also be interconnected to support numerous ports on a single network. See also *arbitrated loop* and *point-to-point connection*.

**symmetrical multiprocessor (SMP)**

An implementation of a multiprocessor computer consisting of several identical processors configured in a way that any subset of the set of processors is capable of continuing the operation of the computer. The DS8000 contains four processors set up in SMP mode.

**synchronous write**

A write operation whose completion is indicated after the data has been stored on a storage device.

**System/390**

See *S/390*.

**system adapter identification number (SAID)**

The unique identification number that is automatically assigned to each DS8000 host adapter for use by Copy Services.

**System Management Interface Tool (SMIT)**

An interface tool of the AIX operating system for installing, maintaining, configuring, and diagnosing tasks.

**System Modification Program**

A program used to install software and software changes on MVS systems.

**T**

**TAP** See *Telocator Alphanumeric Protocol*.

**target** A SCSI device that acts as a subordinate to an initiator and consists of a set of one or more logical units, each with an assigned logical unit number (LUN). The logical units on the target are typically I/O devices. A SCSI target is analogous to a zSeries control unit. See also *small computer system interface*.

**target device**

One of the devices in a dual-copy or remote-copy volume pair that contains a duplicate of the data that is on the source device. Unlike the source device, the target device might only accept a limited subset of data. See also *source device*.

**TB** See *terabyte*.

**TCP/IP**

See *Transmission Control Protocol/Internet Protocol*.

**Telocator Alphanumeric Protocol (TAP)**

An industry standard protocol for the input of paging requests.

**terabyte (TB)**

- 1) Nominally, 1 000 000 000 000 bytes, which is accurate when speaking of bandwidth and disk storage capacity.
- 2) For DS8000 cache memory, processor storage, real and virtual storage, a terabyte refers to 2<sup>40</sup> or 1 099 511 627 776 bytes.

**terminal emulator**

A function of the management console that allows it to emulate a terminal.

**thousands of power-on hours (KPOH)**

A unit of time used to measure the mean time between failures (MTBF).

**time sharing option (TSO)**

An operating system option that provides interactive time sharing from remote terminals.

**TotalStorage**

See *IBM TotalStorage*.

**TPF** See *transaction processing facility*.

**track** A unit of storage on a CKD device that can be formatted to contain a number of data records. See also *home address*, *track-descriptor record*, and *data record*.

**track-descriptor record (R0)**

A special record on a track that follows the home address. The control program uses it to maintain certain information about the track. The record has a count field with a key length of zero, a data length of 8, and a record number of 0. This record is sometimes referred to as R0.

**transaction processing facility (TPF)**

A high-availability, high-performance IBM operating system, designed to support real-time, transaction-driven applications. The specialized architecture of TPF is intended to optimize system efficiency, reliability, and responsiveness for data communication and database processing. TPF provides real-time inquiry and updates to a large, centralized database, where message length is relatively short in both directions, and response time is generally less than three seconds. Formerly known as the Airline Control Program/Transaction Processing Facility (ACP/TPF).

**Transmission Control Protocol (TCP)**

A communications protocol used in the Internet and in any network that follows the Internet Engineering Task Force (IETF) standards for internetwork protocol. TCP provides a reliable host-to-host protocol between hosts in packet-switched communications networks and in interconnected systems of such networks. It uses the Internet Protocol (IP) as the underlying protocol.

**Transmission Control Protocol/Internet Protocol (TCP/IP)**

- 1) A combination of data-transmission

protocols that provide end-to-end connections between applications over interconnected networks of different types.

2) A suite of transport and application protocols that run over the Internet Protocol. (GC) See also *Internet Protocol* and *Transmission Control Protocol*.

**transparency**

See *software transparency*.

**TSO** See *time sharing option*.

**turbo processor**

A faster multiprocessor that has six processors with common access to the main storage.

**U**

**UFS** UNIX filing system.

**Ultra-SCSI**

An enhanced small computer system interface.

**unconfigure**

To delete the configuration.

**unit address**

For zSeries, the address associated with a device on a given control unit. On ESCON interfaces, the unit address is the same as the device address. On OEMI interfaces, the unit address specifies a control unit and device pair on the interface.

**unprotected volume**

An AS/400 term that indicates that the AS/400 host recognizes the volume as an unprotected device, even though the storage resides on a RAID-formatted array and is, therefore, fault tolerant by definition. The data in an unprotected volume can be mirrored. Also referred to as an *unprotected device*.

**upper-layer protocol**

The layer of the Internet Protocol (IP) that supports one or more logical protocols (for example, a SCSI-command protocol and an ESA/390 command protocol). Refer to ANSI X3.230-199x.

**UTC** See *Coordinated Universal Time*.

**V**

**virtual machine facility**

A virtual data processing machine that appears to the user to be for the exclusive

use of that user, but whose functions are accomplished by sharing the resources of a shared data processing system. An alternate name for the VM/370 IBM operating system.

**vital product data (VPD)**

Information that uniquely defines the system, hardware, software, and microcode elements of a processing system.

**VM** The root name of several IBM operating systems, such as VM/XA, VM/ESA, VM/CMS, and z/VM. See also *virtual machine facility*.

**volume**

For zSeries, the information recorded on a single unit of recording medium. Indirectly, it can refer to the unit of recording medium itself. On a nonremovable-medium storage device, the term can also indirectly refer to the storage device associated with the volume. When multiple volumes are stored on a single storage medium transparently to the program, the volumes can be referred to as logical volumes.

**volume group**

A collection of either physical or logical volumes.

**volume label**

A unique identifier that a user assigns to a logical volume.

**VPD** See *vital product data*.

**VSE/ESA**

An IBM operating system, the letters of which represent virtual storage extended/enterprise systems architecture.

**W**

**weight distribution area**

The area that is required to distribute the weight of the storage unit.

**worldwide node name (WWNN)**

A unique 64-bit identifier for a host that contains a fibre-channel port. See also *worldwide port name*.

**worldwide port name (WWPN)**

A unique 64-bit identifier associated with a fibre-channel adapter port. It is assigned in an implementation- and

protocol-independent manner. See also *worldwide node name*

**write hit**

A write operation in which the requested data is in the cache.

**write penalty**

The performance impact of a classical RAID-5 write operation.

**WWNN**

See *worldwide node name*.

**WWPN**

See *worldwide port name*.

**X****xSeries**

The product name of an IBM e(logo)server product that emphasizes industry-standard server scalability and self-managing server technologies. It is the successor to the Netfinity family of servers.

**Z****z/Architecture**

An IBM architecture for mainframe computers and peripherals. The IBM e(logo)server zSeries family of servers

uses the z/Architecture architecture. It is the successor to the S/390 and 9672 family of servers. See also *iSeries*.

**z/OS** An operating system for the IBM e(logo)server product line that supports 64-bit real storage.

**z/OS Global Mirror**

A function of a storage server that assists a control program to maintain a consistent copy of a logical volume on another storage unit. All modifications of the primary logical volume by any attached host are presented in order to a single host. The host then makes these modifications on the secondary logical volume. This function was formerly called extended remote copy or XRC.

**zSeries**

An IBM e(logo)server family of servers that emphasizes near-zero downtime.

IBM enterprise servers based on z/Architecture.

**zSeries storage**

Storage arrays and logical volumes that are defined in the DS8000 as connected to zSeries servers.





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