Service Description

Dell ProDeploy Enterprise Suite:

ProDeploy Plus for Enterprise

Introduction

This document outlines the Service Description ("Service Description") for ProDeploy Plus for Enterprise (the "Service" or "Services").

This Service is part of Dell's ProDeploy Enterprise Suite ("ProDeploy Suite") which is available in multiple tiers: Basic Deployment, ProDeploy, and ProDeploy Plus (the "Service Tier" individually or the "Service Tiers" collectively). Enterprise solutions may include but are not limited to hardware platforms such as servers, storage, networking, and modular platforms (the "Hardware Platform") as well as associated enterprise software and hardware additions, upgrades, or data management ("Supplemental Deployment Services").

Dell is pleased to provide this Service in accordance with this Service Description. Your quote, order form or other mutually-agreed upon form of invoice or order acknowledgment (as applicable, the "Order Form") will include the name of the Service(s) and available service options that you purchased. For additional assistance or to request a copy of your service contract(s), contact Dell Technical Support or your sales representative.

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ProDeploy Plus Scope of Service

The Service provides for deployment activities of a Dell server, storage, or networking device during the hours outlined in the Service Hours section. The Scope of this Service is defined and limited to the description in the Service purchased as set forth more specifically in the corresponding Service Features and Service Feature Activities sections.

A Dell representative will contact the Customer to schedule this Service, allowing for at least a ten business day lead time prior to the start of the Service, based upon a mutually agreed to resource availability.

Note: A scheduled outage window will be required in case of an offline hardware upgrade.

Service Features

The following is a list and brief description of the Service Features included. Please note that the Service Features listed in this section may have a more detailed list of activities which can be found in the Service Feature Activities section in **Exhibit A**.

Onsite hardware installation

Technicians physically install hardware onsite according to customer specifications or Dell preferred practices.

Packaging materials disposal

Move used packaging materials to onsite trash and recycling facility or other designated onsite location.

Project management

The assigned Project Manager will guide you through the deployment process—from tracking your equipment through the factory to ensuring your site is prepared through transitioning you past deployment and into the support process.

Site readiness review and implementation planning

Project Manager reviews multi-point check list with customer to ensure overall site readiness and schedules deployment project. Examples of items include: confirming equipment delivery, power requirements, network connections are made, and verifying project timelines and site contacts.

Install and configure system software

Install operating system, drivers, firmware, virtualization software, hypervisors and Dell SupportAssist set up. Feature not tied to application workloads or enterprise software products.

System testing and verification

System deployment and configuration is tested by Dell and verified against documented requirements.

Configuration detail transfer to Dell technical support

Dell will capture all pertinent technical and configuration details from the newly deployed components and preload that information into Dell's technical support systems. In case of issues, this detail will enable Dell Technical Support services to more quickly identify root causes and speed problem resolution.

Product Orientation

The Delivery Engineer will complete a verbal product orientation session with the customer at the conclusion of the deployment. Product Orientation includes a basic review of product features and how to perform common tasks.

Project documentation

The Project Manager will provide close of engagement documents at the conclusion of the deployment. These documents include "as deployed" documentation and deployment verification report.

Technical Account Manager engagement for ProSupport Plus systems

For customers with ProSupport Plus, the assigned Technical Account Manager is engaged throughout the deployment project.

Tool driven environment reporting

Dell tools gather Customer environment details and generate reports with key insights into the environment. The report provides the customer and Dell a comprehensive overview of the environment.

Multivendor integration testing and switch replacement for networking

Provides easy transition from old network to new network and ensures new switches are integrated to existing 3rd party infrastructure such as Cisco, Broadcom, or HPE. Engineers with knowledge of both Dell and competitor's products perform interoperability testing to ensure all equipment works together seamlessly—integrating and operating within your heterogeneous network environment. As part of this feature, engineers may:

- Perform network discovery of Ethernet or Fibre Channel switches to analyze configuration settings
- Review multi-vendor topology and determine any incompatibilities that exist
- Redistribute protocols on newly installed devices, if required (e.g. Cisco EIGRP protocol to OSPF/BGP)
- Provide onsite cutover support, afterhours or on weekends, to mitigate risk during network transition
- Implement changes to remediate any incompatibilities
- Perform communication test between Dell and multi-vendor devices

Configuration assistance for up to 30 days after deployment

For up to 30 days after the deployment date, Dell will provide remote configuration assistance for the purchased Supported Products (as defined below) and components included with this Service. If you have configuration questions after the Dell deployment team has left your site, call Dell technical support for initial assistance. If more in-depth assistance is needed, Dell technical support will engage the appropriate team to schedule time to assist you with configuration support.

Training credits for Dell Education Services

As applicable, Dell provides you with training credits that can be used purchase training courses delivered by Dell Technologies Education Services or select third-parties. Dell Technologies Education Services services may be found on http://education.dellemc.com. For third-party offers please contact Dell Technologies Education Services or your sales representative.

Offer Structure

There are two types of service offers available: Primary Services and Add-on Services.

Primary Services are either associated with the deployment of a specific Hardware Platform recently purchased or for a Supplemental Deployment Service on a Hardware Platform. Primary services are identified on the Order Form as either Basic Deployment, ProDeploy, or ProDeploy Plus followed by <Hardware Platform Series> or <Base> followed by <additional identifiers> if necessary. For example, ProDeploy Plus Dell Storage ML Series 6010 5U Library.

Add-on Services are identified on the Order Form as "Add-on." Add-ons can be combined with any Primary Service within the same Service Tier. For example, a ProDeploy Plus Add-on Service can only be combined with a ProDeploy Plus Primary Service. Some Add-on Services may include a list of sub-service options and those sub-services will be chosen by the customer post sale or at the commencement of the project. Add-on Services can be purchased in multiple quantities to cover different sub-services or for multiple quantities of the same sub-service. For additional information about specific Add-on Services, please review **Exhibit B**.

Identifying the service purchased

Services are listed below in sections (the "Service Feature"). The activities in each Service Feature may be combined by Hardware Platform or segregated by Server, Storage, Networking Hardware Platforms, and if applicable, Supplemental Deployment Services. To identify the service you purchased, locate the ProDeploy Suite service on your Order Form and the corresponding Product Line, Group, Category, and Series. Each Service Feature section may include the Product Line, Group and/or Category of the service purchased to aid in identifying the scope of activities.

Product Line	Group	Category	Series
Storage	Backup	Tape Libraries	ML Series
			TL Series
	Storage	SAN/DAS Arrays	SC Series
			Unity XT Series
			MD/ME Series
		Disk Enclosures	SC Disk Series
			MD/ME Disk Series
		NAS	Unity SDNAS
			NX Series
Server	Servers	Rack	R Series C Series XE Series
		Tower	T Series
		Blade	M, XE74xx, MX or F Series
	Modular Platforms	Modular	M1000e, MX7000 or XE7100
		VRTX	VRTX
		FX	FX

Product Line	Group	Category	Series
Networking	Layer 3	L3 Fixed Port Switches	N Series
			S Series
		Chassis Switches	C Series
		Distributed Core Switches	Z Series
	Layer 2/3	Blade I/O	M, MX or FN Series
	Fibre Channel	FC switches	Connectrix
Networking	Software Defined	Big Switch Networks	Converged Cloud Fabric (CCF)
			DANZ Monitoring Fabric (DMF)
		Access Edge Platforms	Edge 6xx
			Edge 3x00
			Virtual Edge
	Wireless	Wireless Access Points	Ruckus
Solutions	Hyperconverged	VxRail	VxRail
		VxFlex	VxFlex Ready Node VxFlex Appliance
		VMware Cloud Foundation (VCF) on VxRail	VCF on VxRail
		XC Series	XC Series
		AX	AX
	Data Protection	Data Domain Appliances	DDxxx
		Data Protection Appliances	DP4xxx
		Data Protection Software	Data Protection Suite Data Domain Avamar PowerProtect

Service Quantities

A quantity of one Service is required on each Hardware Platform deployed. The Service is for one Dell Server, Storage, or Networking device as specifically identified on the Order Form up to the quantity purchased. Unless otherwise stated either on the order form, in the Service Quantity Exceptions, or in the Service Feature Activities, no other hardware devices will be deployed beyond the Hardware Platform recognized on the Service you purchased.

Service Quantity Exceptions

This table shows additional hardware devices that will be installed and/or configured when purchasing Services represented in the Category column. Limitations and exclusions may apply. See Service Feature Activities for more details on inclusions, exclusions, and customer responsibilities.

Product Line	Group	Category	Additional Hardware Installation	Additional Configuration
Storage	Block/File	SAN/DAS Arrays	HBA/NICs in up to 4 SAN attached hosts	Storage connectivity on up to 4 SAN attached hosts
Server	Modular Platforms	MX7000	Maximum quantity of blades or sleds	Up to 8 server blades or sleds

		M1000e VRTX FX	Maximum networking I/O hardware	Maximum storage blades or sleds (excludes PSM storage blades) Maximum networking I/O hardware
Networking	**Level 3**	Chassis Switches	2 C Series line cards	2 C Series line cards

Service Hours

A Dell representative will contact the Customer to schedule Service, allowing for a reasonable lead time prior to the start of the Service based upon mutually agreed upon resource availability. Subject to local law relating to weekly work hours, unless otherwise listed below, this Service will be performed Monday through Friday during normal Dell EMC Services business hours, which is from 8:00 AM to 6:00 PM Customer local time.

Country	Normal Dell Services business hours
Costa Rica, Denmark, El Salvador, Finland, Guatemala, Honduras, Norway, Panama, Puerto Rico, Rep. Dominicana, Sweden	8:00 AM to 5:00 PM
Australia, China, Hong Kong, Japan, Korea, Malaysia, New Zealand, Singapore, Taiwan, Thailand	9:00 AM to 5:00 PM
Argentina, France, India, Italy, Paraguay, Uruguay	9:00 AM to 6:00 PM
Bolivia, Chile	9:00 AM to 7:00 PM
Middle East	Sunday thru Thursday from 8:00 AM to 6:00 PM

Some ProDeploy and ProDeploy Plus activities may be performed outside of normal Dell business hours based upon Customer request and local regulations. Work will be performed in increments of up to 8 hours per day, unless mutually agreed to in advance with Dell. No activities shall take place during local, state and/or country holidays.

Delivery Methodologies

All Hardware Platform Service Tiers include onsite hardware installation of the physical equipment at Customer location (see *Onsite hardware installation* section for details of scope).

In the event the Customer location is inaccessible or unreachable, Dell will provide Customer with remote installation assistance. If the Customer elects to do the onsite hardware installation themselves, Customer is responsible for ensuring that all components of the solution are physically installed and interconnected per solution or published documentation. Phone technicians can provide instructions and information to Customers who choose to do the work themselves and/or perform configuration work remotely via web connect or other similar technologies. If web connect assistance is requested, Customer must provide appropriate network access and credentials to Dell to access the solution remotely and perform the work. Services delivered by onsite technicians will be scheduled with Customers to accommodate hardware availability, data center access, customer maintenance windows and technician availability.

For the ProDeploy Plus Service Tier, Dell, at Customer's discretion, will deliver services by sending field technicians onsite to do work at Customer locations and/or through phone based technicians who provide remote configuration. Some Add-on Services may be performed solely via phone technicians. The delivery method of ProDeploy and ProDeploy Plus Services will be discussed at the commencement of the project and any requested, proposed, or necessary changes will be addressed at that time.

Change Management

Service deliverables are defined in this Service Description that is reviewed with and signed off by the Customer and Dell. During the planning process, specific details related to the Customer environment are documented. Normally, these suffice to complete the project. In rare instances, changes to the solution integration plan are needed after it has been documented. In that case, the Change Management Process indicated below will govern

changes to the scope of service. Either party may request a permitted change in the Service Description by completing the Change Order Form provided by the Project Manager.

The receiving party will review the proposed Change Order and will (i) approve it, (ii) agree to further investigation, or (iii) reject it. Changes agreed pursuant to the Change Management Process will not be effective until mutually executed by both parties.

Service Exclusions

For the avoidance of doubt, the following activities are not included in the scope of this Service Description:

- Any services, tasks, or activities other than those explicitly described in the Service Feature Activities in **Exhibit A** and marked with a checkmark (✓) for the Service you purchased.
- All Excluded Services listed in **Exhibit A**
- All ProDeploy and ProDeploy Plus services have a planning component. This is designed to gather information about the Customer environment so that successful integration and deployment may take place. It is NOT a substitute for strategic assessment or design services. Those consultative services may be purchased from Dell separately.
- Activities related to the existing customer data center environment such as de/installation, re/configuration, connection, troubleshooting, etc.
- Custom scripting, coding, performance tuning or optimization.
- Installation of applications such as Microsoft Exchange, Microsoft IIS, Microsoft SQL Server, PostgreSQL, MySQL, Apache Web Server, etc.
- Installation or configuration of Software-Defined or Open Networking solutions except when explicitly described in the Service Feature Activities in Exhibit A or Exhibit B.
- Installation or configuration of unsupported products. All Dell- and Customer- supplied components will be validated as supported or not during the planning process. Note that in some instances, Dell may provide guidance for installation and configuration of non-supported products to be completed by the Customer.
- Routing of cabling between racks, or through walls, ceilings, floors, or between rooms.
- Racking of dense or heavy enclosures higher than 21u in a rack.
- Connection to Direct Current power supplies. A qualified electrician must perform all connections to DC power and to safety grounds.
- Planning and configuration of any feature listed as included for the product tier, but not supported on the specific model being deployed.

This Service Description does not confer on Customer any warranties which are in addition to the warranties provided under the terms of your master services agreement or Agreement, as applicable.

Service Specific Customer Responsibilities

As applicable, either prior to or during Dell's performance of the Services, Customer shall perform the following tasks:

- Promptly notifying Dell in writing of a) any changes Customer makes to its information technology environment that may impact Dell's delivery of the Services; and b) if Customer becomes aware that any of the conditions or assumptions made during planning are incorrect.
- Indicate to Dell in writing a person to be the single point of contact to ensure that all tasks can be completed within the specified time period. All Services communications will be addressed to this point of contact (the "Customer Contact"). The Customer Contact will have the authority to act for Customer in all aspects of the Service.
- Provide technical points-of-contact who have a working knowledge of the data center and enterprise components related to the solution integration ("Technical Contacts") as applicable.

- As required, provide documentation of Customer's existing infrastructure during the implementation planning phase.
- Make at least one technical contact, with system administration responsibilities, available and provide appropriate facility/site/system/information access privileges as a resource to Dell during the performance of this Service.
- **Note that some services require outages or downtime.** Dell will notify Customer during planning of downtime or outage requirements. Customer will arrange for maintenance windows to accommodate as needed.
- Ensure that field technicians have reasonable and safe access to the Project site, a safe working environment, adequate space and parking.
- Customer will not begin additional configuration or application installation until the project is completed.
- Inform Dell of all access issues and security measures and provide access to all necessary hardware and facilities.
  - o If any equipment that is part of the Service is 'protected' or in 'dark' areas, Customer will ensure that a resource is available to perform actions as needed for the Service (reboot, configuration, etc.) at the direction of the Dell engineer.
  - o Provide the Dell Engineer with credentials, passcodes, SSL certificates, etc. sufficient to complete the Service or provide a resource to enter such credentials as needed to complete the Service.
- When needed for physical installation
  - o Customer should provide carts, hand trucks, ladders, lifts, etc.
  - o Place any equipment to be racked in the immediate area of the rack into which it will be installed.
  - o Ensure that the required power outlets are installed and functional in the location of the hardware installation.
  - o Ensure that the required power distribution units ("PDUs") are installed and functional unless purchased with the Supported Product.
  - o Ensure any existing equipment repositioning is completed prior to arrival.
  - o Ensure any modifications needed to existing racks to accept Dell equipment is completed prior to arrival.
- Customer should document and be prepared to provide key system events and information relevant to Service delivery such as:
  - o Last successful controller failover.
  - o Last successful backup and recovery.
- For Customer supplied equipment and software:
  - o **Equipment and software are assumed to be in good working order and under valid service/maintenance contracts. Out of warranty or unsupported products will not be connected to or integrated with Dell solutions. If any impacted equipment or software is unsupported or not in working condition, Customer will notify Dell during the planning process.**
  - o Software media (OS, Application, etc.) available in the immediate area of the equipment on which it is to be installed.
  - o Provide software licenses.
  - o Hardware which will attach to the solution has minimum supported revision levels for hardware, software and firmware per appropriate support matrixes.
  - o Configure any hardware which will attach to the solution per solution recommendations or published best practices and standards.
  - o For upgrade or expansion services which require opening system chassis (e.g. adding hard drives, HBAs, NICs, memory, etc.) Customer shall demonstrate that systems are functional prior to service and either power down/take offline the system or direct Engineer to do so.
  - o For Services which require database connectivity, provide a suitable database or allow for included database software (e.g. MS SQL Express Edition) to be installed.
  - o For Services which require a supported operating system for software install (e.g. Microsoft Windows® for Dell Storage PS Series SANHQ) Customer will ensure that supported OS is available on appropriate equipment.
  - o For Networking Services, ensure that routing protocols (e.g. RIP, OSPF, BGP) are in working order prior to Service unless configuration of such protocols is part of Service.
- Ensure that an electrical branch circuit with the following characteristics is available:
  - o Grounded outlet and circuit breaker compatible with the solution that meets local electrical code.
  - o Required voltage and frequency.

- o   Solution compatible supply circuit, line fusing and wire size.
- Ensure that internet protocol network is setup to handle bandwidth requirements and that appropriate network drops are available.
- Coordinate, manage, and/or configure any 3rd party provided services (example: Internet service provider link reconfiguration or management of outside vendors)
- Ensure that telephone and high-speed internet access are available in the installation area (i.e. for software download, updates, connectivity testing, etc.) If such communications are not available for physical, technical or security reasons Customer will notify Dell during planning so the Engineer can plan accordingly. Note that without connectivity some Service deliverables may not be possible (e.g. 'phone home' testing).
- Ensure device connectivity within the Customer network and Firewall port configuration for connectivity external to the Customer network.
- For network switch replacement scenarios, any activities involving existing cabling is the responsibility of the customer. Customer must ensure existing cables are labeled, organized, and sufficient in length and capability to allow for switch replacement. Rework, reorganization, or relocation of existing cables are not in scope. Any cabling issues encountered during switch replacement are expected to be resolved by Customer.
- Ensure that all relevant data, applications, network configurations, policies, security configurations or potentially impacted infrastructure settings or data are backed up.
- Integration of DNS, LDAP or other directory services.
- Provide internet protocol and subnets for device and/or hosts.
- Provide acknowledgement that services have been performed.
- Complete a customer satisfaction survey.
- For modular platforms, ensure that with respect to the existing network equipment configuration:
    - o   Standards-based spanning tree protocol is configured on switches interfacing with Supported Products
    - o   IP addresses are provided to assign to Supported Products and/or VLANs, as needed, in advance
- For Networking deployments, provide the requested, including:
    - o   Ports and cabling availability
    - o   VLANs, IP addresses, or any other information required to configure the equipment
    - o   For wireless deployments, a diagram of the floor plan, in scale, in JPG or PNG format.
- For configuration detail transfer to Dell tech support:
    - o   When asked, Customer will permit the use of configuration detail capture tools or provide relevant configuration documents.
    - o   Ensure Dell deployment team have access to all necessary detail to create the as-deployed documents. NOTE: Changes to Customer's environment after deployment that occur without notice to Dell PM or EDT may lead to unsupported configurations.
- For installation and configuration of system software and server virtualization software for Storage:
    - o   Assist with directory services and/or DNS integration as needed.
    - o   Ensure the appropriate services are purchased for installation and configuration of any director class switch(es) is sold with the solution.
    - o   Setup and configuration of all suggested and required Virtual LANs (VLANs) for iSCSI, hypervisor management, VMotion, Live Migration, and other inter-connectivity on non-stand-alone/non Dell physical switches.
    - o   Ensure that the existing network environment is properly setup to handle the bandwidth requirements of all iSCSI hosts and that the appropriate network drops are in place prior to the commencement of service.
    - o   Ensure that a supported NOS with the supported Service Pack is installed and operational on each host connected to storage, if applicable.
    - o   Ensure that the non-Dell hosts being connected have the proper host bus adapters ("HBAs") installed, functional and at the proper revision levels.
- For Configuration Assistance of up to 30 days after deployment:
    - o   Customer will adhere to, and perform all activities related to, any and all customer change management requirements, maintenance windows, or stakeholder communications.
    - o   Customer will provide specific details on what configuration change needs to be made and what is expected to be accomplished with the change.
    - o   Customer will confirm permission to assist with, or execute, the configuration change.

- o Customer will be technically capable to perform the requested configuration changes under the guidance of a Dell representative.
        - o Customer will provide remote access to the components required to put the configuration change in place if requested by Dell.
    - For Technical Account Manager engagement for Customer Supported Product(s) entitled with ProSupport Plus service:
        - o Customer must have purchased ProSupport Plus for the corresponding Supported Product(s) and have been onboarded/started to engage account management services from their Dell Technical Account Manager.
    - For Tool-Driven Environment Reporting:
        - o Provide IP addresses and access credentials for all devices used in environment report.
        - o Permit device logs to be used by Dell offsite in order to generate the report.
    - Customer will assume all responsibility for any and all software licensing requirements. Technician will "accept" any and all electronic agreements on Customer's behalf that are a part of the installation process unless directed in writing by Customer otherwise.
    - If you purchased Supplemental Deployment Services, please consult the Supplemental Deployment Services descriptions in **Exhibit B** to review additional Customer responsibilities that apply to those Supplemental Deployment Services.

General Customer Responsibilities

Authority to Grant Access. Customer represents and warrants that it has obtained permission for both Customer and Dell to access and use the Supported Products, the data located thereon and all hardware and software components included therein, for the purpose of providing these Services. If Customer does not already have that permission, it is Customer's responsibility to obtain it, at Customer's expense, before Customer asks Dell to perform these Services.

Cooperate with Phone Analyst and On-site Technician. Customer will cooperate with and follow the instructions given by any Dell phone analyst or on-site technicians. Experience shows that most system problems and errors can be corrected over the phone as a result of close cooperation between the user and the analyst or technician.

On-site Obligations. Where Services require on-site performance, Customer will provide (at no cost to Dell) free, safe and sufficient access to Customer's facilities and the Supported Products, including ample working space, electricity, and a local telephone line. A monitor or display, a mouse (or pointing device), and a keyboard must also be provided (at no cost to Dell), if the system does not already include these items.

Maintain Software and Serviced Releases. Customer will maintain software and Supported Products at Dell-specified minimum release levels or configurations as specified on PowerLink for Dell | EMC Storage or EqualLogic™, or as specified on www.support.dell.com for additional Supported Products. Customer must also ensure installation of remedial replacement parts, patches, software updates or subsequent releases as directed by Dell in order to keep the Supported Products eligible for this Service.

Data Backup; Removing Confidential Data. Customer will complete a backup of all existing data, software and programs on all affected systems prior to and during the delivery of this Service. Customer should make regular backup copies of the data stored on all affected systems as a precaution against possible failures, alterations, or loss of data. In addition, Customer is responsible for removing any confidential, proprietary, or personal information and any removable media such as SIM cards, CDs, or PC Cards regardless of whether an on-site technician is also providing assistance. DELL WILL HAVE NO LIABILITY FOR:

- ANY OF YOUR CONFIDENTIAL, PROPRIETARY OR PERSONAL INFORMATION;
- LOST OR CORRUPTED DATA, PROGRAMS OR SOFTWARE;
- DAMAGED OR LOST REMOVABLE MEDIA;
- DATA OR VOICE CHARGES INCURRED AS A RESULT OF FAILING TO REMOVE ALL SIM CARDS OR OTHER REMOVABLE MEDIA INSIDE SUPPORTED PRODUCTS THAT ARE RETURNED TO DELL;
- THE LOSS OF USE OF A SYSTEM OR NETWORK;

- AND/OR FOR ANY ACTS OR OMISSIONS, INCLUDING NEGLIGENCE, BY DELL OR A THIRD-PARTY SERVICE PROVIDER.

Dell will not be responsible for the restoration or reinstallation of any programs or data. When returning a Supported Product or part thereof, Customer will only include the Supported Product or part which has been requested by the phone technician.

Third Party Warranties. These Services may require Dell to access hardware or software that is not manufactured by Dell. Some manufacturers' warranties may become void if Dell or anyone else other than the manufacturer works on the hardware or software. Customer will ensure that Dell's performance of Services will not affect such warranties or, if it does, that the effect will be acceptable to Customer. Dell does not take responsibility for third party warranties or for any effect that the Services may have on those warranties.

Dell Services Terms and Conditions

This Service Description is entered between you, the customer ("you" or "Customer"), and the Dell entity identified on your invoice for the purchase of this Service. This Service is provided subject to and governed by Customer's separate signed master services agreement with Dell that explicitly authorizes the sale of this Service. In the absence of such agreement, depending on Customer's location, this Service is provided subject to and governed by either Dell's Commercial Terms of Sale or the agreement referenced in the table below (as applicable, the "Agreement"). Please see the table below which lists the URL applicable to your Customer location where your Agreement can be located. The parties acknowledge having read and agree to be bound by such online terms.

Customer Location	Terms & Conditions Applicable to Your Purchase of Dell Services	
	Customers Purchasing Dell Services Directly From Dell	**Customers Purchasing Dell Services Through an Authorized Dell Reseller**
United States	www.dell.com/CTS	www.dell.com/CTS
Canada	www.dell.ca/terms (English) www.dell.ca/conditions (French-Canadian)	www.dell.ca/terms (English) www.dell.ca/conditions (French-Canadian)
Latin America & Caribbean Countries	Local www.dell.com country-specific website or www.dell.com/servicedescriptions/global.*	Local www.dell.com country-specific website or www.dell.com/servicedescriptions/global.*
Asia-Pacific-Japan	Local www.dell.com country-specific website or www.dell.com/servicedescriptions/global.*	Service Descriptions and other Dell service documents which you may receive from your seller shall not constitute an agreement between you and Dell but shall serve only to describe the content of Service you are purchasing from your seller, your obligations as a recipient of the Service and the boundaries and limitations of such Service. As a consequence hereof any reference to "Customer" in this Service Description and in any other Dell service document shall in this context be understood as a reference to you whereas any reference to Dell shall only be understood as a reference to Dell as a service provider providing the Service on behalf of your seller. You will not have a direct contractual relationship with Dell with regards to the Service described herein. For the avoidance of doubt any payment terms or other contractual terms which are by their nature solely relevant between a buyer and a seller directly shall not be applicable to you and will be as agreed between you and your seller.
Europe, Middle East, & Africa	Local www.dell.com country-specific website or www.dell.com/servicedescriptions/global.* In addition, customers located in France, Germany and the UK can select the applicable URL below: France: www.dell.fr/ConditionsGeneralesdeVente Germany: www.dell.de/Geschaeftsbedingungen	Service Descriptions and other Dell service documents which you may receive from your seller shall not constitute an agreement between you and Dell but shall serve only to describe the content of Service you are purchasing from your seller, your obligations as a recipient of the Service and the boundaries and limitations of such Service. As a consequence hereof any reference to "Customer" in this Service Description and in any other Dell service document shall in this context be understood as a reference to you whereas any reference to Dell shall only be understood as a reference to Dell as a service provider providing the Service on behalf of your seller. You will not have a direct contractual relationship with Dell with regards to the Service described herein. For the avoidance of doubt any payment terms or other contractual terms which are by their nature

UK: www.dell.co.uk/terms	solely relevant between a buyer and a seller directly shall not be applicable to you and will be as agreed between you and your seller.

Customer further agrees that by renewing, modifying, extending or continuing to utilize the Service beyond the initial term, the Service will be subject to the then-current Service Description available for review at www.dell.com/servicedescriptions/global.

To the extent that any terms of this Service Description conflict with any terms of the Agreement, the terms of this Service Description will prevail, but only to the extent of the specific conflict, and will not be read or deemed to replace any other terms in the Agreement which are not specifically contradicted by this Service Description.

By placing your order for the Services, receiving delivery of the Services, utilizing the Services or associated software or by clicking/checking the "I Agree" button or box or similar on the Dell.com website in connection with your purchase or within a Dell software or Internet interface, you agree to be bound by this Service Description and the agreements incorporated by reference herein. If you are entering this Service Description on behalf of a company or other legal entity, you represent that you have authority to bind such entity to this Service Description, in which case "you" or "Customer" shall refer to such entity. In addition to receiving this Service Description, Customers in certain countries may also be required to execute a signed Order Form.

Additional Terms & Conditions Applicable to the Services

1.   Supported Products. This Service is available on supported products which includes select Dell OptiPlex™, Latitude™, Inspiron™, Precision™, Vostro™, PowerEdge™, PowerVault™, PowerConnect™, Dell EqualLogic™, Dell Compellent™, Dell Force10, Dell Networking and Dell Storage systems which are purchased in a standard configuration ("**Supported Products**"). Supported Products are added regularly, so please contact your sales representative for the most up-to-date list of Services that are available on your Dell or non-Dell products. Each Supported Product is tagged with a serial number (the "**Service Tag**"). A separate service agreement must be purchased by Customer for each Supported Product. Please refer to the Service Tag on your Supported Product when contacting Dell for this Service.

2. Term of Service. This Service Description commences on the date listed on your Order Form and continues through the term ("**Term**") indicated on the Order Form. As applicable, the number of systems, licenses, installations, deployments, managed end points or end-users for which Customer has purchased any one or more Services, the rate or price, and the applicable Term for each Service is indicated on Customer's Order Form. Unless otherwise agreed in writing between Dell and Customer, purchases of Services under this Service Description must be solely for Customer's own internal use and not for resale or service bureau purposes.

3.   Important Additional Information

A. Rescheduling. Once this Service has been scheduled, any changes to the schedule must occur at least 8 calendar days prior to the scheduled date. If Customer reschedules this service within 7 days or less prior to the scheduled date, there will be a rescheduling fee not to exceed 25% of the price for the Services. Any rescheduling of the Service will be confirmed by Customer at least 8 days prior to commencement of the Service.

B. Payment for hardware purchased with installation & deployment services. Unless otherwise agreed to in writing, payment for hardware shall in no case be contingent upon performance or delivery of installation or deployment services purchased with such hardware.

C. Commercially Reasonable Limits to Scope of Service. Dell may refuse to provide Service if, in its opinion, providing the Service creates an unreasonable risk to Dell or Dell's Service providers or if any requested service is beyond the scope of Service. Dell is not liable for any failure or delay in performance due to any cause beyond its control, including Customer's failure to comply with its obligations under this Service Description. Service extends only to uses for which the Supported Product was designed.

D. Optional Services. Optional services (including point-of–need support, installation, consulting, managed, professional, support or training services) may be available for purchase from Dell and will vary by Customer location. Optional services may require a separate agreement with Dell. In the absence of such agreement, optional services are provided pursuant to this Service Description.

E. Assignment. Dell may assign this Service and/or Service Description to qualified third party service providers.

F. Cancellation. Dell may cancel this Service at any time during the Term for any of the following reasons:

- Customer fails to pay the total price for this Service in accordance with the invoice terms;

- Customer is abusive, threatening, or refuses to cooperate with the assisting analyst or on-site technician; or

- Customer fails to abide by all of the terms and conditions set forth in this Service Description.

If Dell cancels this Service, Dell will send Customer written notice of cancellation at the address indicated on Customer's invoice. The notice will include the reason for cancellation and the effective date of cancellation, which will be not less than ten (10) days from the date Dell sends notice of cancellation to Customer, unless local law requires other cancellation provisions that may not by varied by agreement. If Dell cancels this Service pursuant to this paragraph, Customer shall not be entitled to any refund of fees paid or due to Dell.

G. Geographic Limitations and Relocation. This Service will be delivered to the site(s) indicated on the Customer's invoice. This Service is not available at all locations. Service options, including service levels, technical support hours, and on-site response times will vary by geography and certain options may not be available for purchase in Customer's location, so please contact your sales representative for these details. Dell's obligation to supply the Services to relocated Supported Products is subject to various factors, including without limitations, local Service availability, additional fees, and inspection and recertification of the relocated Supported Products at Dell's then-current time and materials consulting rates.

H. Transfer of Service. Subject to the limitations set forth in this Service Description, Customer may transfer this Service to a third party who purchases Customer's entire Supported Product before the expiration of the then-current Term, provided Customer is the original purchaser of the Supported Product and this Service or Customer purchased the Supported Product and this Service from its original owner (or a previous transferee) and complied with all the transfer procedures available at www.support.dell.com. A transfer fee may apply. Please note that if Customer or Customer's transferee moves the Supported Product to a geographic location in which this Service is not available (or is not available at the same price), Customer or Customer's transferee may not have coverage or may incur an additional charge to maintain the same categories of support coverage at the new location. If Customer or Customer's transferee chooses not to pay such additional charge, the Service may be automatically changed to categories of support which are available at such price or a lesser price in such new location with no refund available.

I. Service Expiration Twelve Months After Purchase. EXCEPT TO THE EXTENT APPLICABLE LAW REQUIRES OTHERWISE AND OTHER THAN ANY APPLICABLE TRAINING CREDITS THAT YOU RECEIVE IN CONNECTION WITH YOUR PURCHASE OF THE SERVICE, YOU MAY USE THIS SERVICE ONE TIME DURING THE 12 MONTH PERIOD FOLLOWING THE DATE OF ORIGINAL PURCHASE ("EXPIRATION DATE"). THE ORIGINAL PURCHASE DATE IS DEFINED AS THE EARLIER OF THE DATE OF THE INVOICE FOR THE SERVICE OR ORDER CONFIRMATION FROM DELL. DELL'S DELIVERY OF THE SERVICE WILL BE DEEMED SATISFIED AFTER THE EXPIRATION DATE EVEN IF YOU DO NOT USE THE SERVICE.

<h1 style="text-align:center">Exhibit A
Service Features and Excluded Services</h1>

Service Feature Activities

✓   Represents the only activities included in Services purchased. Every other activity excluded.
×   Represents some activities excluded in Services purchased. This list is not intended to be exhaustive and is for guidance only.
◆   Represents activities Customer is to perform and may be necessary before some or all of the activities in the Included in Service section is performed.

Onsite Hardware Installation – Storage

	Storage				
	Backup		Block/File		
Included in Service	Tape Libraries	Disk Backup	SAN/DAS Arrays	Disk Enclosures	NAS
Unpack and inspect hardware	✓	✓	✓	✓	✓
Rack, mount, and/or position the product & components	✓	✓	✓	✓	✓
Install and route power cables	✓	✓	✓	✓	✓
Install and route data cables	✓	✓	✓	✓	✓
Print and apply labels to newly-installed cables	✓	✓	✓	✓	✓
Power on equipment	✓	✓	✓	✓	✓
Check for error lights; obvious issues	✓	✓	✓	✓	✓
Tape library shuttle test, if applicable	✓				
Update hardware's software or firmware, if applicable	✓	✓			
Install HBA/NIC adapters into up to 4 hosts for storage connectivity			✓		
Install HBA/NIC adapters			✓		
Install, route, and label host to storage connectivity cables			✓		
Excluded from Service	Backup		Block/File		
	Tape Libraries	Disk Backup	SAN/DAS Arrays	Disk Enclosures	NAS
Installation of server(s) or host(s)	×	×	×	×	×
Installation of HBAs and/or drivers into non-Dell servers	×	×	×	×	×
Installation or configuration of any networking switches (Ethernet or Fibre Channel)	×	×	×	×	×

Onsite Hardware Installation – Server

	Server				
	Servers		Modular Platforms		
Included in Service	Rack or Tower	Blade	Modular	VRTX	FX
Unpack and inspect hardware	✓	✓	✓	✓	✓
Rack, mount, and/or position the product & components	✓	✓	✓	✓	✓
Install solution specific chassis components	✓		✓	✓	✓

Included in Service	Servers		Modular Platforms		
	Rack or Tower	Blade	Modular	VRTX	FX
Install server blades, nodes, or sleds within a single enclosure, up to the capacity of the enclosure			✓	✓	✓
Install Ethernet or Fibre Channel chassis switches, IO aggregators, and components within a single enclosure, up to the capacity of the enclosure			✓	✓	✓
Update chassis switch firmware			✓	✓	✓
Install Customer-provided Dell-branded PDU(s), as needed for proper power configuration	✓		✓	✓	✓
Install and route power cables	✓		✓	✓	✓
Install and route data cables	✓		✓	✓	✓
Print and apply labels to newly-installed cables	✓	✓	✓	✓	✓
Power on equipment	✓	✓	✓	✓	✓
Confirm server boots, check for error lights and obvious issues	✓	✓	✓	✓	✓
Configure an IP address on CMC / iDRAC / iKVM	✓	✓	✓	✓	✓
Configure first time boot info	✓	✓	✓	✓	✓
Update drivers, firmware, and BIOS, including chassis firmware if applicable	✓	✓	✓	✓	✓
Apply Secure Component Verification when applicable	✓	✓	✓	✓	✓

Excluded from Service	Servers		Modular Platforms		
	Rack or Tower	Blade	Modular	VRTX	FX
Configuration as it relates to OS clustering, redundancy, or failover	✘	✘	✘	✘	✘
Data validations, migration, snapshots, or cloning	✘	✘	✘	✘	✘

Onsite Hardware Installation – Networking

Included in Service	Networking				
	Layer 3			Layer 2/3	Fibre Channel
	L3 Fixed Port Switches	Chassis Switches	Distributed Core Switches	Blade IO	FC Switches
Unpack and inspect hardware	✓	✓	✓	✓	✓
Remove old switch to be replaced (if applicable)	✓	✓	✓	✓	✓
Rack, mount, and/or position the product & components	✓	✓	✓	✓	✓
Install and route power cables	✓	✓	✓	✓	✓
Install and route data cables	✓	✓	✓	✓	✓
Print and apply labels to newly-installed cables within rack	✓	✓	✓	✓	✓
Power on equipment	✓	✓	✓	✓	✓
Check for error lights; obvious issues	✓	✓	✓	✓	✓
Update hardware's software or firmware	✓	✓	✓	✓	✓
Configure out-of-band management port	✓	✓	✓	✓	✓
Demonstrate switch or access point functionality	✓	✓	✓	✓	✓
Install HBA/NIC adapters into up to 4 hosts for storage connectivity					✓
Install, route, and label host to storage connectivity cables					✓

Excluded from Service	Layer 3			Layer 2/3	Fibre Channel
	L3 Fixed Port Switches	Chassis Switches	Distributed Core Switches	Blade IO	FC Switches
Network topology or performance assessment	✕	✕	✕	✕	✕
Rework, reorganization, or relocation of existing cables (Any cabling issues encountered during switch replacement are expected to be resolved by Customer)	✕	✕	✕	✕	✕

Onsite Hardware Installation – Big Switch Networks

Included in Service	Big Switch Networks		
	CCF/DMF Controller Appliance	CCF/DMF Controller VM	CCF/DMF Switch
Unpack and inspect hardware	✓		✓
Rack, mount, and/or position the product & components	✓		✓
Install and route power cables	✓		✓
Install and route data cables (Management, pSwitch, Inband)	✓		✓
Print and apply labels to newly-installed cables	✓		✓
Power on equipment	✓		✓
Check for error lights; obvious issues	✓		✓
Configure iDRAC port	✓		
Collect the Fabric Switch Identifier (Switch Management MAC Address)			✓

Excluded from Service	Big Switch Networks		
	CCF/DMF Controller Appliance	CCF/DMF Controller VM	CCF/DMF Switch
Network topology or performance assessment	✕	✕	✕

Onsite Hardware Installation – Access Edge Platforms

Included in Service	Access Edge Platforms		
	Edge 6xx	Edge 3x00	Virtual Edge
Unpack and inspect hardware	✓	✓	
Rack, mount, and/or position the product & components	✓	✓	
Install and route power cables	✓	✓	
Install and route data cables	✓	✓	
Print and apply labels to newly-installed cables	✓	✓	
Power on equipment	✓	✓	
Check for error lights; obvious issues	✓	✓	
Update hardware's software or firmware	✓	✓	
Configure out-of-band management port	✓	✓	
Demonstrate device functionality	✓	✓	✓

Excluded from Service	Access Edge Platforms		
	Edge 6xx	Edge 3x00	Virtual Edge
Network topology or performance assessment	✕	✕	✕
Onsite physical installation	✕		✕

Onsite Hardware Installation – Wireless

Included in Service	Wireless				
	Ruckus Controller	Ruckus Access Point	Ruckus Virtual DataPlane	Ruckus CloudPath	Ruckus SCI
Unpack and inspect hardware	✓				
Rack, mount, and/or position the product & components	✓				
Install and route power cables	✓				
Install and route data cables	✓				
Print and apply labels to newly-installed cables	✓				
Power on equipment	✓				
Check for error lights; obvious issues	✓				
Update hardware's software or firmware	✓	✓			
Configure out-of-band management port	✓	✓			
Demonstrate switch or access point functionality	✓	✓			

Excluded from Service	Wireless				
	Ruckus Controller	Ruckus Access Point	Ruckus Virtual DataPlane	Ruckus CloudPath	Ruckus SCI
Network topology or performance assessment	✕	✕	✕	✕	✕
Onsite physical installation of access points	✕	✕	✕	✕	✕

Onsite Hardware Installation – Solutions

Included in Service	Solutions			
	VxRail VxFlex	VCF on VxRail	XC & AX Series	Data Protection
Unpack and inspect hardware	✓	✓	✓	✓
Rack, mount, and/or position the product & components	✓	✓	✓	✓
Install and route power cables	✓	✓	✓	✓
Install and route data cables	✓	✓	✓	✓
Print and apply labels to newly-installed cables	✓	✓	✓	✓
Power on equipment	✓	✓	✓	✓
Confirm server boots, check for error lights and obvious issues	✓	✓	✓	✓
Configure an IP address on iDRAC	✓	✓	✓	✓
Excluded from Service	VxRail VxFlex	VCF on VxRail	XC & AX Series	Data Protection
Physical installation of any non-Dell branded hardware	✕	✕	✕	✕
Physical installation of components into any non-Dell branded hardware	✕	✕	✕	✕
Physical installation of associated network switches	✕	✕	✕	✕

Physical installation for software-only products				✕

Packaging Materials Disposal

Included in Service	Storage	Server	Networking	Solutions
Move used packaging materials to trash and recycling facility or other designated area within the immediate installation location	✓	✓	✓	✓

Excluded from Service	Storage	Server	Networking	Solutions
Disposal of installation packaging offsite	✕	✕	✕	✕
Disposal of packaging materials for wireless access points, analyzer, GMS			✕	

Project Management

Included in Service	Storage	Server	Networking	Solutions
Review the site environmental and technical readiness requirements	✓	✓	✓	✓
Confirm readiness review and installation dates and highlight dependencies on complete customer site readiness and product ship dates to meet the planned installation schedule.	✓	✓	✓	✓
Review any sub-service options with the customer and document the selection.	✓	✓	✓	✓
Integrate any Add-on Service with the Base Service.	✓	✓	✓	✓
Confirm deliverables and overall plan are reviewed and approved by the customer.	✓	✓	✓	✓
Customer to provide a contact to allow timelines and processes to be completed on schedule.	✓	✓	✓	✓
Schedule an outage window in the case of an offline hardware upgrade.	✓	✓	✓	✓
Ensure that the customer reviews and understands the site requirements.	✓	✓	✓	✓
Ensure that the customer reviews, accepts, and abides by the terms and conditions of the Service Description.	✓	✓	✓	✓

Excluded from Service	Storage	Server	Networking	Solutions
Onsite project management or planning	✕	✕	✕	✕

Site Readiness Review and Implementation Planning – Storage

	Storage				
	Backup		Block/File		
Included in Service	Tape Libraries	Disk Backup	SAN/DAS Arrays	Disk Enclosures	NAS
Review and obtain the site technical requirements with the customer	✓	✓	✓	✓	✓
Validate rack type, rail type, and space requirements	✓	✓	✓	✓	✓
Validate power requirements	✓	✓	✓	✓	✓
Validate network requirements	✓	✓	✓	✓	✓
Verify that the existing environment meets the minimum hardware and software requirements for the solution.	✓	✓	✓	✓	✓

	Tape Libraries	Disk Backup	SAN/DAS Arrays	Disk Enclosures	NAS
Create a valid design/implementation plan based on the customer's hardware and software configuration:	✓	✓	✓	✓	✓
Define/confirm that the configuration meets the minimum hardware and software requirements for the environment	✓	✓	✓	✓	✓
Plan any required software and/or firmware upgrades, if applicable	✓	✓	✓	✓	✓
Define and document cluster configuration					✓
Define and document network settings such as IP addresses, gateway, hostnames, SNMP, NTP, and DNS, if applicable	✓	✓	✓	✓	✓
Define the storage allocation and configuration:		✓	✓	✓	✓
Storage pools, volumes, and/or profiles			✓	✓	✓
SMB/NFS shares and quotas for up to 6 shares		✓			✓
Define Replay schedules for up to 4 volumes			✓	✓	✓
Planning for up to 4 SAN-attached hosts and 16 zones			✓		
Review the recommended iSCSI or FC best practice guidelines with the customer for any Non-Dell switches so the customer can properly configure the switches, if applicable	✓	✓	✓		✓
Define/confirm location to install and configure storage management software			✓		

	Backup		Block/File		
Excluded from Service	Tape Libraries	Disk Backup	SAN/DAS Arrays	Disk Enclosures	NAS
Planning for replication	✕		✕	✕	✕

Site Readiness Review and Implementation Planning – Server

	Server				
	Servers		Modular Platforms		
Included in Service	Rack or Tower	Blade	Modular	VRTX	FX
Software Install Planning	✓	✓	✓	✓	✓

Site Readiness Review and Implementation Planning – Networking

	Networking				
	Layer 3			Layer 2/3	Fibre Channel
Included in Service	L3 Fixed Port Switches	Chassis Switches	Distributed Core Switches	Blade IO	FC Switches
Planning of the deployment	✓	✓	✓	✓	✓
Layer 2 Features	✓	✓	✓	✓	
Design and planning for up to 100 VLANs per deployed switch	✓			✓	
Design and planning for up to 200 VLANs per deployed switch		✓	✓		
Layer 3 Features	✓	✓	✓	✓	
Design and planning for storage area network (Ethernet or Fibre Channel)	✓	✓	✓	✓	✓
Interoperability planning	✓	✓	✓	✓	✓
Identify devices, enabled features and configurations	✓	✓	✓	✓	✓

	Layer 3			Layer 2/3	Fibre Channel
	L3 Fixed Port Switches	Chassis Switches	Distributed Core Switches	Blade IO	FC Switches
Review devices and determine any incompatibilities that exist	✓	✓	✓	✓	✓
Review necessary changes required for customer's existing environment	✓	✓	✓	✓	✓
Switch replacement planning and network discovery to collect and analyze configuration settings of existing Ethernet or Fibre Channel switches to be replaced	✓	✓	✓	✓	✓
Creation of pre-deployment documentation	✓	✓	✓	✓	✓
Design port mapping plan (from-to) for the project	✓	✓	✓	✓	✓

	Layer 3			Layer 2/3	Fibre Channel
Excluded from Service	L3 Fixed Port Switches	Chassis Switches	Distributed Core Switches	Blade IO	FC Switches
Create documentation of the existing network topology	✘	✘	✘	✘	✘
Networking device migration activities	✘	✘	✘	✘	✘

Site Readiness Review and Implementation Planning – Converged Cloud Fabric (CCF)

	Converged Cloud Fabric (CCF)		
Included in Service	CCF Controller Appliance	CCF Controller VM	CCF Switch
Planning of the deployment	✓	✓	✓
Define and document network settings such as IP addresses, gateway, hostnames, SNMP, NTP, DNS, and syslog if applicable	✓	✓	✓
Design and planning for up to 200 segments per deployed controller	✓	✓	
Design and planning for up to 25 tenants per deployed controller	✓	✓	
Design and planning the of CCF with integration with a dynamic routing protocol	✓	✓	
Design and planning the insertion of one pair of services (Firewall or Load Balancer)	✓	✓	
Design and planning Multicast and QoS if required	✓	✓	
Design and planning the connections of up to 20 non-production server connections to CCF	✓	✓	
Design and planning for up to 10 segments per deployed switch			✓
Design and planning for up to 1 tenant per deployed switch			✓
Define the role of the switch in the Fabric			✓
Identify devices, enabled features and configurations	✓	✓	✓
Review devices and determine any incompatibilities that exist	✓	✓	✓
Review necessary changes required for customer's existing environment	✓	✓	✓
Creation of pre-deployment documentation	✓	✓	✓

	Converged Cloud Fabric (CCF)		
Excluded from Service	CCF Controller Appliance	CCF Controller VM	CCF Switch
Design of customer network	✘	✘	✘

Site Readiness Review and Implementation Planning - DANZ Monitoring Fabric (DMF)

Included in Service	DANZ Monitoring Fabric (DMF)		
	DMF Controller Appliance	DMF Controller VM	DMF Switch
Planning of the deployment	✓	✓	✓
Define and document network settings such as IP addresses, gateway, hostnames, SNMP, NTP, DNS, and syslog if applicable	✓	✓	✓
Identify scalability requirements	✓	✓	✓
Identify redundancy requirements	✓	✓	✓
Identify the location and number of TAPs or SPANs (mirrored production ports)			✓
Identity the expected traffic volume and patterns from each TAP/SPAN port			✓
Identify the number of tools and the location and type of tools			✓
Identify tools physical connectivity requirements			✓
Design and planning of inter-switch connectivity			✓
Design and planning of Filter and Delivery interface choices			✓
Design and planning Filter, Delivery and IP address Groups			✓
Design and planning of Policies			✓
Design and planning of VLAN manipulation modes if applicable			✓
Design and planning of Fabric Topology and policy path optimization			✓
Design and planning of Tunnel interfaces and L2-GRE tunnels (DMF Tunneling Switch only)			✓
Creation of pre-deployment documentation	✓	✓	✓

Excluded from Service	DANZ Monitoring Fabric (DMF)		
	DMF Controller Appliance	DMF Controller VM	DMF Switch
Design of customer network	✕	✕	✕

Site Readiness Review and Implementation Planning – Access Edge Platforms

Included in Service	Access Edge Platforms		
	Edge 6xx	Edge 3x00	Virtual Edge
Validate site readiness for the installation	✓	✓	✓
Validate virtual environment requirements, if applicable			✓
Validate physical space requirement, if applicable	✓	✓	
Validate power requirements	✓	✓	
Validate network requirements	✓	✓	✓
Validate license requirements	✓	✓	✓
Requirements Discovery	✓	✓	✓
Use cases discovery	✓	✓	✓
Technical and business requirements discovery	✓	✓	✓
Review of network topologies	✓	✓	✓
Review of current WAN network environment	✓	✓	✓
Implementation planning	✓	✓	✓
Review SD-WAN Edge implementation plan, if existing	✓	✓	✓

	Edge 6xx	Edge 3x00	Virtual Edge
Design the overlay routing between sites	✓	✓	✓
Design SD-WAN Edge profiles to match sites needs	✓	✓	✓
Design SD-WAN Hub configuration	✓	✓	✓
Define traffic segmentation	Up to 5 segments	Up to 5 segments	Up to 5 segments
Define firewall rules	Up to 20 rules / profile	Up to 20 rules / profile	Up to 20 rules / profile
Define business policies	Up to 10 policies/profile	Up to 10 policies/profile	Up to 10 policies/profile
Define High Availability/Cluster configuration	✓	✓	✓
Interoperability planning	✓	✓	✓
Identify integration requirements with existing firewall solutions	✓	✓	✓
Identify integration requirements with existing routing	✓	✓	✓
Identify integration requirements with private links (MPLS, Metro Ethernet, dark fiber)	✓	✓	✓
Review necessary changes required for customer's existing environment	✓	✓	✓
Creation of predeployment documentation	✓	✓	✓

	Access Edge Platforms		
Excluded from Service	Edge 6xx	Edge 3x00	Virtual Edge
Create documentation of existing network	✕	✕	✕
Plan the configuration of equipment on existing environment	✕	✕	✕
Plan for multi-country deployment, custom services available	✕	✕	✕

Site Readiness Review and Implementation Planning – Wireless

	Wireless				
Included in Service	Ruckus Controller	Ruckus Access Point	Ruckus Virtual DataPlane	Ruckus CloudPath	Ruckus SCI
Validate site readiness for the installation	✓	✓	✓	✓	✓
Validate virtual environment requirements, if applicable	✓		✓	✓	✓
Validate physical space requirement, if applicable	✓	✓			
Validate power requirements	✓	✓			
Validate network requirements	✓	✓			
Validate license requirements	✓	✓	✓	✓	✓
Planning of the deployment	✓	✓	✓	✓	✓
Device management protocols (SYSLOG, SNMP, Authentication)	✓	✓	✓	✓	✓
VLAN and IP Address planning	✓	✓	✓	✓	✓
Planning of access points locations based on customer provided floorplan, up to the number of APs defined on the service		✓			
Planning for Network Policies and SSIDs	✓	✓			
Planning for physical appliance deployment, if applicable	✓				
Planning for virtual appliance deployment, if applicable	✓		✓	✓	✓
Integration with Ruckus Controller		✓	✓	✓	✓
Creation of pre-deployment documentation	✓	✓	✓	✓	✓

Excluded from Service	Wireless				
	Ruckus Controller	Ruckus Access Point	Ruckus Virtual DataPlane	Ruckus CloudPath	Ruckus SCI
Create documentation of the existing network	✕	✕	✕	✕	✕
Creation of building drawing for floor plan	✕	✕	✕	✕	✕
Wireless site survey	✕	✕	✕	✕	✕

Site Readiness Review and Implementation Planning – Solutions

Included in Service	VxRail VxFlex	VCF on VxRail	AX Series	XC Series	Data Protection
Review and obtain the site technical requirements with the customer	✓	✓	✓	✓	✓
Validate rack type, rail type, and space requirements	✓	✓	✓	✓	✓
Validate power requirements	✓	✓	✓	✓	✓
Validate network requirements	✓	✓	✓	✓	✓
Verify that the existing environment meets the minimum hardware and software requirements for the solution.	✓	✓	✓	✓	✓
Create a valid implementation plan based on the customer's hardware and software configuration:	✓	✓	✓	✓	✓
Define/confirm that the configuration meets the minimum hardware and software requirements for the environment	✓	✓	✓	✓	✓
Define and document network settings such as IP addresses, gateway, hostnames, SNMP, NTP, and DNS, if applicable	✓	✓	✓	✓	✓
Define the new Dell switch configurations	✓	✓	✓	✓	✓
Verify if the customer will be using SCVMM and discuss the customer responsibility for SCVMM support.			✓		
Excluded from Service	VxRail VxFlex	VCF on VxRail	AX Series	XC Series	Data Protection
Upgrade of existing environment to support the new solution	✕	✕	✕	✕	✕
Create documentation of the existing network	✕	✕	✕	✕	✕
Define the environmental requirements including, heat output (BTUs), electrical draw (Amps), electrical circuits required, and uninterruptable power supply (UPS) and power distribution unit (PDU) requirements	✕	✕	✕	✕	✕

Install and Configure System Software – Storage

	Storage				
	Backup		Block/File		
Included in Service	Tape Libraries	Disk Backup	SAN/DAS Arrays	Disk Enclosures	NAS
Configure the storage system	✓	✓	✓	✓	✓
Assign serial numbers to storage controller(s), if applicable			✓		
Initialize the storage system		✓	✓		✓
Upgrade firmware/SCOS as required	✓	✓	✓		✓
Install any purchased license(s)		✓	✓	✓	

Included in Service	Storage				
	Backup		Block/File		
	Tape Libraries	Disk Backup	SAN/DAS Arrays	Disk Enclosures	NAS
Configure cluster					✓
Configure disks			✓	✓	
Configure storage pools, volumes, and/or profiles			✓	✓	✓
Configure SMB/NFS shares and quotas for up to 6 shares		✓			✓
Configure storage ports			✓		
Configure network settings such as IP addresses, gateway, hostnames, SNMP, NTP, and DNS, if applicable	✓	✓	✓		✓
Configure system settings, if applicable	✓	✓	✓		✓
Configure and test email alerts, phone home, CloudIQ and/or SupportAssist, if applicable	✓	✓	✓		✓
Verify backup host to file system or tape library connectivity, if applicable	✓				
Configure Replay schedules for up to 4 volumes			✓	✓	✓
Configure CIFS and/or CIFS Shares (6)		✓			
Add to existing AD or Workgroup, where applicable		✓			
Add OST Plug-In, where applicable		✓			
Configure the storage-related hardware according to the implementation plan	✓	✓	✓		✓
Configure Fibre Channel or iSCSI network connectivity on up to 4 existing storage attached hosts and 16 zones			✓		
Configure HBA/NIC adapters installed in hosts			✓		
Install/update drivers and firmware			✓		
Configure required adapter parameters such as timeout values			✓		
Configure network parameters, as required			✓		
Configure Boot from SAN (BFS) as required			✓		
Install and configure storage specific agents/software			✓		
Create and configure volumes/virtual disks			✓	✓	
Assign/map volumes/virtual disks to servers			✓	✓	
Partition and format assigned volumes/virtual disks			✓	✓	
Attach Hyper-V environment to SMB share					✓
Attach VMware environment to NFS export.					✓
Verify host to file system or share/export connectivity					✓
Install and configure storage management software on predetermined management station, if applicable			✓		
Attach to customer created database as required			✓		
Add storage systems			✓		
Integrate into directory services		✓	✓		✓
Install and configure storage management vCenter plug-in for existing virtualization environment managed via vCenter Server			✓		
Install and configure Thin Import and migration of up to 500GB Block data (SC Series only)			✓		
Dell PS storage systems as source, Dell SC or SCv storage system as target, Windows and VMWare only.			✓		
Controller hardware upgrade of Dell SC-Series array controllers			✓		

		Storage			
	Backup		**Block/File**		
Included in Service	Tape Libraries	Disk Backup	SAN/DAS Arrays	Disk Enclosures	NAS
Perform data-in-place controller hardware upgrade, including moving supported IO cards and/or installing new IO cards, as required.			✓		
Replace and upgrade controllers one at a time, according to plan			✓		
Verify host connectivity			✓		

	Backup		**Block/File**		
Excluded from Service	Tape Libraries	Disk Backup	SAN/DAS Arrays	Disk Enclosures	NAS
Configure the storage system					
Installation or configuration of any backup software	✕	✕	✕	✕	✕
Any integration with any non-Dell branded hardware	✕	✕	✕	✕	✕
Scripting of any kind	✕	✕	✕	✕	✕
Installation or configuration of replication	✕		✕	✕	✕
Multiple tape library, SAN/DAS Arrays, Disk Enclosures, or Dedicated NAS implementations (additional services are required)	✕	✕	✕	✕	✕
Installation and configuration of Network Attached Storage ("NAS") device(s)	✕	✕	✕	✕	
Installation of Windows Operating System or Microsoft SQL Server for the management system running the SAN management software	✕	✕	✕	✕	✕
Installation and configuration of the virtualization environment including the Hypervisor or management application such as SCVMM, WAC or vCenter Server	✕	✕	✕	✕	✕
Physical installation or OS/Hypervisor installation on storage attached hosts	✕	✕	✕	✕	✕
Network configuration outside of new host or new storage connectivity	✕	✕	✕	✕	✕
Performance tuning, system optimization, teaming/load balancing of network interface cards (NICs) or other similar activities.	✕	✕	✕	✕	✕
Installation or configuration of any networking switches (Ethernet or Fibre Channel)	✕	✕	✕	✕	✕
SC-Series controller hardware upgrade does not include data migration, adding drives, or moving drives from existing controllers. Upgrades requiring these services must be custom quoted.		✕			
Any required back end reconfiguration must be completed before controller hardware upgrade		✕			

Install and Configure System Software – Server

		Server			
	Servers		**Modular Platforms**		
Included in Service	Rack or Tower	Blade	Modular	VRTX	FX
Configuration of equipment (physical topology, firmware levels, IP address, running diagnostics)	✓	✓	✓	✓	✓
Enter the RAID utility and configure the local disks or chassis shared storage into one or more RAID logical unit number ("LUN") according to Dell supported Customer specifications	✓	✓	✓	✓	✓

Included in Service	Server				
	Servers		Modular Platforms		
	Rack or Tower	Blade	Modular	VRTX	FX
Create and assign Virtual Disks to servers that contain an operating system installed by Dell	✓	✓	✓	✓	✓
Verify server(s) are connected to the Virtual Disks assigned to the OS installed by Dell	✓	✓	✓	✓	✓
Configure chassis specific components for Modular Platforms			✓	✓	✓
Assign chassis PCIe slots as supported by product				✓	✓
Configure virtual switches				✓	✓
Configure Service Console IP address			✓	✓	✓
Install and configure Operating System or Hypervisor (maximum of 8 server nodes for Modular Platforms)	✓	✓	✓	✓	✓
Microsoft Windows	✓	✓	✓	✓	✓
Red Hat Linux	✓	✓	✓	✓	✓
SUSE Linux	✓	✓	✓	✓	✓
VMware vSphere	✓	✓	✓	✓	✓
Microsoft Hyper-V	✓	✓	✓	✓	✓
Install and configure system software on deployed server	✓	✓	✓	✓	✓
Dell Repository Manager	✓	✓	✓	✓	✓
Dell SupportAssist	✓	✓	✓	✓	✓
Dell OpenManage Server Administrator (OMSA)	✓	✓	✓	✓	✓
Dell OpenManage Enterprise (OME) single instance	✓	✓	✓	✓	✓
Configure OME to discover newly deployed devices, including OOB interfaces (iDRACs) on servers, and configure SNMP forwarding on those devices	✓	✓	✓	✓	✓
Installation of Windows Admin Center single instance and OpenManage Integration for Microsoft Windows Admin Center plug-in	✓	✓	✓	✓	✓
Attach Host to existing Dell EMC SAN – includes SC-Series, Unity XT and PowerVault	✓	✓	✓	✓	✓
For VMware vSphere and Microsoft Hyper-V, the following apply:	✓	✓	✓	✓	✓
Cluster creation	✓	✓	✓	✓	✓
Basic OS install to local storage using standard defaults	✓	✓	✓	✓	✓
Configuration of host connection to SAN	✓	✓	✓	✓	✓
Configuration of up to 5 volumes to the host or cluster	✓	✓	✓	✓	✓
Configuration of standard virtual networking: VMware Distributed Switch or Hyper-V Virtual Networking (2 switch independent native teams, 2 External Virtual Switches, 4 VM Network adapters with VLAN access)	✓	✓	✓	✓	✓
Creation of up to one Virtual Machine, with customer supplied media and license	✓	✓	✓	✓	✓
Installation and basic configuration of hypervisor manager (either vCenter Server, WAC or SCVMM)	✓	✓	✓	✓	✓
Configuration of VMotion or Live Migration	✓	✓	✓	✓	✓
Enable VMware High Availability and/or Distributed Resource Scheduler	✓	✓	✓	✓	✓
Networking partitioning (NPAR)	✓	✓	✓	✓	✓
DCB - data center bridging	✓	✓	✓	✓	✓
Relocate MX9116 from existing chassis to new chassis in the same group			✓		
Configuration of supported Layer 2 and Layer 3 features on Dell chassis based Ethernet Switches, as supported by product/solution.			✓	✓	✓

Included in Service	Server				
	Servers		Modular Platforms		
	Rack or Tower	Blade	Modular	VRTX	FX
Configure switches for stacking, as appropriate			✓	✓	✓
Configure Customer-provided internet protocol address, mask and gateway information, as appropriate			✓	✓	✓
Configure switch VLANs, as appropriate			✓	✓	✓
Configure switch link aggregations, as appropriate			✓	✓	✓
Configure switch DCB and FCoE protocols, as required			✓	✓	✓
Configure switch with static routes, RIP, OSPF, or BGP as appropriate			✓	✓	✓
Configure ISL on Dell chassis based Fibre Channel switches as Access Gateway or Subordinate mode			✓		
Configure zoning on Dell chassis based Fibre Channel switches			✓		
Visually verify via switch LED that there is link connectivity			✓	✓	✓
Provide advisory level assistance integrating chassis switch to existing top-of-rack infrastructure (ProDeploy only)			✓	✓	✓
Integrate chassis switch to top-of-rack infrastructure (ProDeploy Plus only)			✓	✓	✓
Demonstrate chassis switch functionality			✓	✓	✓
Excluded from Service	Servers		Modular Platforms		
	Rack or Tower	Blade	Modular	VRTX	FX
Advanced virtual networking (Switch Embedded Teaming, network QoS bandwidth allocation, and bandwidth reservation)	✕	✕	✕	✕	✕
Resource Pool creation	✕	✕	✕	✕	✕
Configuration of High Availability services (including vCenter, WAC, or SCVMM)	✕	✕	✕	✕	✕
Operating system clustering	✕	✕	✕	✕	✕
Creation of Virtual Templates	✕	✕	✕	✕	✕
P2V or V2V Migration	✕	✕	✕	✕	✕
Domain Controllers	✕	✕	✕	✕	✕
Configuration of Infiniband	✕	✕	✕	✕	✕
Configuration of Fibre Channel switches	✕	✕		✕	✕
Configuration of non-Dell chassis based Fibre Channel switches			✕		
Configuration of Dell chassis based Fibre Channel switches as Principal in existing fabric			✕		
Networking activities beyond chassis based switches	✕	✕	✕	✕	✕
Installation and configuration of multiple OME servers	✕	✕	✕	✕	✕
OME discovery and configuration of existing devices	✕	✕	✕	✕	✕
Configuration of OME advanced fee-based features	✕	✕	✕	✕	✕
Configuration of advanced features of vCenter, WAC, or SCVMM, unless otherwise noted	✕	✕	✕	✕	✕
vCenter, WAC, or SCVMM configuration for existing clusters/servers that are not covered by this Service	✕	✕	✕	✕	✕
Configuration of Open Manage Integration for VMWare VCenter	✕	✕	✕	✕	✕
Configuration of graphics processing units (GPUs), accellerators, or similar.	✕	✕	✕	✕	✕

Install and Configure System Software – Networking

Included in Service	Networking				
	Layer 3			Layer 2/3	Fibre Channel
	L3 Fixed Port Switches	Chassis Switches	Distributed Core Switches	Blade IO	FC switches
Layer-2 switching configuration	✓	✓	✓	✓	
Set up non-routable VLANs	✓	✓	✓	✓	
Implement up to 100 VLANs per deployed switch	✓			✓	
Implement up to 200 VLANs per deployed switch		✓	✓		
Set up Link Aggregation Groups	✓	✓	✓	✓	
Perform Firmware upgrades	✓	✓	✓	✓	
Perform Switch stacking	✓	✓	✓	✓	
Configuration for storage traffic	✓	✓	✓	✓	
iSCSI (Jumbo frames and flow control)	✓	✓	✓	✓	
DCB and FCoE	✓	✓	✓	✓	
Virtual Link Trunking (VLT) or Multi-Chassis Link Aggregation (MLAG)	✓	✓	✓	✓	
Configure AAA using TACACS or Radius	✓	✓	✓	✓	
Telemetry configuration on switch (not collector)	✓	✓	✓	✓	
Configure Spanning Tree, SNTP, SNMP, Syslog or SMTP	✓	✓	✓	✓	
Configure SmartFabric Services MX7000	✓	✓	✓	✓	
Configure SmartFabric Services for leaf and spine fabrics	✓	✓	✓	✓	
Deploy OpenManage Network Integration and connect to vCenter	✓	✓	✓	✓	
Layer-3 routing configuration	✓	✓	✓	✓	
Set up IPs on VLANs or Interfaces for routing	✓	✓	✓	✓	
Set up dynamic routing (RIP, OSPF or BGP basic configuration)	✓	✓	✓	✓	
Set up Multicasting (using IGMP and/or PIM)	✓	✓	✓	✓	
Set up Access Control statements	✓	✓	✓	✓	
Configure for first hop redundancy	✓	✓	✓	✓	
Set up QoS for dedicated Voice/Video VLANs	✓	✓	✓	✓	
Configure switch for an existing RIP, OSPF, or BGP environment	✓	✓	✓	✓	
Configuration of Dell EMC Storage Area Network (Ethernet or Fibre Channel)	✓	✓	✓	✓	✓
Configure connectivity to 4 hosts (up to 16 zones)					✓
Switch replacement activities as well as multivendor integration testing and connectivity is supported on the following 3rd party devices: • Ethernet devices: Cisco and HPE only • Fibre Channel devices: Cisco & Broadcom (Brocade) only	✓	✓	✓	✓	✓
Perform network discovery to collect and analyze configuration settings of existing Ethernet or Fibre Channel switches to be replaced (performed remotely)	✓	✓	✓	✓	✓
Design port mapping plan (from-to) for the project	✓	✓	✓	✓	✓
Provide onsite cutover support, during single maintenance window for each site, to mitigate risk during move from legacy infrastructure to next generation technology	✓	✓	✓	✓	✓

| **Included in Service** | Networking | | | | |
| | Layer 3 | | | Layer 2/3 | Fibre Channel |
	L3 Fixed Port Switches	Chassis Switches	Distributed Core Switches	Blade IO	FC switches
Redistribution of protocols on the newly installed devices as required, for example, Cisco EIGRP protocol to OSPF/BGP protocol	✓	✓	✓	✓	
Fibre Channel switch replacement limitations • For Brownfield switch scenarios (like-for-like vendor) covers up to 48 ports or 24 per fabric • In case of cross vendor replacement, for example, Cisco to Brocade, the number of zones is limited to 100 per switch and 500 per director					✓
Confirm the switch firmware is at the approved version, update as necessary, if applicable	✓	✓	✓	✓	✓
Configure and test email alerts and/or SupportAssist or CloudIQ	✓	✓	✓	✓	✓

| **Excluded from Service** | Layer 3 | | | Layer 2/3 | Fibre Channel |
	L3 Fixed Port Switches	Chassis Switches	Distributed Core Switches	Blade IO	FC switches
Scripting	✕	✕	✕	✕	✕
Web programming	✕	✕	✕	✕	✕
OSPF configuration beyond a single area	✕	✕	✕	✕	
Advanced BGP Path control	✕	✕	✕	✕	
Configuration of Infiniband interconnect modules				✕	
Advanced Network Migration activities: • Reconfiguration of Server, Storage, Firewall, Wireless controller, Access Points, Printers, Phones or other devices connected to network. • Modifying or removing existing IP addresses ranges • Remapping of existing IP addresses ranges for different VLAN IDs • Complex, multi-phased redesign or re-architecture • Redistribution of new network protocols beyond the newly installed devices • Policy Based Routing (PBR)	✕	✕	✕	✕	✕
Management of 3rd party activities (example: Internet service provider link reconfiguration or management of outside vendors)	✕	✕	✕	✕	✕
Performance testing or fine tuning optimization	✕	✕	✕	✕	✕
Proprietary features not supported by Dell EMC hardware	✕	✕	✕	✕	✕
Anything outside specific test plan created for customer	✕	✕	✕	✕	✕
Installation or configuration of host operating system, HBA, or multi-path	✕	✕	✕	✕	✕
Configuration of 3rd party Storage Area Network	✕	✕	✕	✕	✕
Installation and deployment of SAN management software (such as SANnav, Cisco DCNM, or others)	✕	✕	✕	✕	✕

Install and Configure System Software - Converged Cloud Fabric (CCF)

Included in Service	Converged Cloud Fabric (CCF)		
	CCF Controller Appliance	CCF Controller VM	CCF Switch
Initial configuration of a Converged Cloud Fabric (CCF) Controller	✓	✓	
Cluster Configuration of a pair of Converged Cloud Fabric (CCF) Controllers	✓	✓	
Perform Software upgrades, if applicable	✓		
Customizing access privileges to the Fabric including access controller list, users and AAA services (TACACS or Radius)	✓	✓	
Configuration for remote syslog servers	✓	✓	✓
Configuration of NTP servers and time zone	✓	✓	✓
Configuration of SNMP on CCF if SNMP monitoring of the Fabric is required	✓	✓	✓
Integration with an existing installation of one VMware vCenter	✓	✓	
Set up a dynamic routing protocol (RIP, OSPF or BGP basic configuration) and/or static routing	✓	✓	
Configure policies to insert one pair of services (Firewall or Load Balancer)	✓	✓	
Set up Multicast and QoS if needed	✓	✓	
Setup up to 20 non-production servers connections to CCF	✓	✓	
Implement up to 200 segments	✓	✓	
Implement up to 25 tenants	✓	✓	
Create a policy in the system tenant to deny traffic between two tenants	✓	✓	
Create a policy in a workload tenant to deny traffic between two segments	✓	✓	
Verify the switch is connected to the controllers			✓
Update the firmware on the switch if required (CPLD, ONIE)			✓
Configure the fabric role			✓
Implement up to 10 additional segments			✓
Implement up to 1 additional tenant			✓
Set up IPs on Segment Interfaces for the segments created	✓	✓	✓

Excluded from Service	Converged Cloud Fabric (CCF)		
	CCF Controller Appliance	CCF Controller VM	CCF Switch
Configuration of any other networking equipment that is not part of CCF	✗	✗	✗
Creating and executing user acceptance test plans	✗	✗	✗
Creating and executing design validation testing	✗	✗	✗
Physical and logical migration: planning, creating and testing procedure to move servers and services from existing infrastructures to Converged Cloud Fabric (CCF)	✗	✗	✗
Validation of the operation of internal applications	✗	✗	✗
Any additional software development/integration work on the tools and automation platforms that have not already been agreed upon	✗	✗	✗

Install and Configure System Software – DANZ Monitoring Fabric (DMF)

Included in Service	DANZ Monitoring Fabric (DMF)		
	DMF Controller Appliance	DMF Controller VM	DMF Switch
Initial configuration of a DANZ Montoring Fabric (DMF) Controller	✓	✓	
Cluster Configuration of a pair of DMF Controllers	✓	✓	
Perform Software upgrades if applicable	✓	✓	
Customizing access privileges to the Fabric including access controller list, users and AAA services (TACACS or Radius)	✓	✓	
Configuration for remote syslog servers	✓	✓	✓
Configuration of NTP servers and time zone	✓	✓	✓
Configuration of SNMP on DMF if SNMP monitoring of the Fabric is required	✓	✓	✓
Install Switch Light OS if applicable (pre-configured mode)			✓
Verify the switch is connected to the controllers			✓
Update the firmware on the switch if required (CPLD, ONIE)			✓
Configure the switch role			✓
Configure all Filter and Delivery interfaces with their associated interface groups			✓
Configure Filter, Delivery and IP address Groups			✓
Configure DMF policies			✓
Configure Tunnel interfaces and L2-GRE tunnels (DMF Tunneling Switch only)			✓

Excluded from Service	DANZ Monitoring Fabric (DMF)		
	DMF Controller Appliance	DMF Controller VM	DMF Switch
Configuration of any other networking equipment that is not part of DMF	✗	✗	✗
Creating and executing user acceptance test plans	✗	✗	✗
Creating and executing design validation testing	✗	✗	✗
Physical and logical migration: planning, creating and testing procedure to move servers and services from existing infrastructures to Big Monitoring Fabric	✗	✗	✗
Validation of the operation of internal applications	✗	✗	✗
Any additional software development/integration work on the tools and automation platforms that have not already been agreed upon	✗	✗	✗

Install and Configure System Software – Access Edge Platforms

Included in Service	Access Edge Platforms		
	Edge 6xx	Edge 3x00	Virtual Edge
Configuration	✓	✓	✓
Configure profiles according to plan			✓
Configure segments according to plan	✓	✓	
Configure firewall rules according to plan	✓	✓	
Configure business policies according to plan	✓	✓	✓
Configure the solution to integrate with up to one (1) VNF service or cloud security provider	✓	✓	✓

	Edge 6xx	Edge 3x00	Virtual Edge
SD-WAN Edge Implementation	✓	✓	✓
Add an edge device on the orchestrator and associate with a profile	✓	✓	✓
Customize the edge parameters to match the deployment site	✓	✓	✓
Activate the edge	✓	✓	✓
Validate with customer assistance the traffic flow for the site	✓	✓	✓

	Access Edge Platforms		
Excluded from Service	Edge 6xx	Edge 3x00	Virtual Edge
Configuration on existing devices	✕	✕	✕
Configure the VNF service or cloud security provider for the integration	✕	✕	✕
Changes on configuration on existing SD-WAN Edge devices	✕	✕	✕
Deployment of on premises SD-WAN Orchestrator and SD-WAN Gateway	✕	✕	✕

Install and Configure System Software – Wireless

	Wireless				
Included in Service	Ruckus Controller	Ruckus Access Point	Ruckus Virtual DataPlane	Ruckus CloudPath	Ruckus SCI
HiveManager virtual appliance deployment on VMware					
Ruckus Virtual SmartZone deployment on Vmware, Hyper-V, or KVM	✓				
Ruckus Virtual SmartZone-Dataplane deployment on Vmware, or KVM			✓		
Ruckus Cloudpath deployment on Vmware, or Hyper-V				✓	
Ruckus SmartCell Insight deployment on Vmware, or KVM					✓
Perform Initial Setup	✓	✓	✓	✓	✓
Install licenses	✓	✓	✓	✓	✓
Onboard access points on the controller, up to the number of APs defined on the service	✓	✓	✓		
Update access points firmware	✓	✓			
Floor Plan configuration	✓	✓			
Upload floor plans defined during the planning phase	✓	✓			
Indicate placement of deployed access points on the floor plan					
Wireless configuration	✓				
SSIDs configuration	✓				
Open Access authentication	✓				
Pre-Shared Key (PSK) Authentication	✓				
Private Pre-Shared Key (PPSK) Authentication					
Dynamic Pre-Shared Key (PPSK) Authentication	✓				
802.1x Authentication	✓				
Local Captive Web Portal configuration	✓				
Integration with Radius for wireless authentication	✓			✓	
Integration with Microsoft Active Directory for wireless authentication	✓			✓	
Configuration of DHCP for the wireless clients	✓				
Integrate with Ruckus Controller			✓	✓	✓

	Wireless				
Configure Authentication Workflow				✓	
Provide an overview of the tool and available reports					✓
Excluded from Service	Ruckus Controller	Ruckus Access Point	Ruckus Virtual DataPlane	Ruckus CloudPath	Ruckus SCI
Configuration of external captive portal server	✗			✗	
Configuration of license or certificate server	✗			✗	
Requesting or issuing certificates for wireless client authentication	✗			✗	
Integration with Hotspot service	✗				
Configuration of wireless mesh	✗				

Install and Configure System Software – Solutions

XC Series

Included in Service	XC Series
Validate Customer top of rack switch configuration meets the requirements for XC implementation. If required, configure up to two VLANs for the XC cluster on up to two Dell switches.	✓
Initialize cluster and assign all IP addresses	
Install supported hypervisor, as necessary	✓
Confirm Nutanix software is at the latest version, update as necessary	✓
Confirm component drivers and firmware are at latest supported version, update as necessary	✓
Create single storage container and Datastore	✓
For vSphere XC clusters, install vCenter if required. Register cluster nodes in vCenter.	✓
For Hyper-V XC clusters, register cluster nodes with an existing SCVMM server, as necessary.	✓
Add a node to an existing Nutanix cluster	✓
Configure and test SupportAssist	✓
Installation of a single SupportAssist console, and discovery of all installed nodes (via iDRAC)	✓

Excluded from Service	XC Series
Any configuration of non-Dell switches	✗
Acquisition or installation of Nutanix or VMware licenses	✗
Deployment of System Center, or integration into existing management platforms	✗
Installation, configuration, migration, or testing of VMs, hosts or other workloads	✗
Uplinks to existing customer networks	✗
Any configuration of client computers	✗
Configuration of client or VM networks	✗
Configuration of advanced networking (e.g., Distributed Virtual Switches) in the hypervisor	✗

VxRail

Included in Service	VxRail
Validate Customer Top of Rack switch configuration meets the requirements for VxRail implementation	✓
Initialize cluster and assign all IP addresses	✓

Install supported ESXi hypervisor, as necessary	✓
Confirm component drivers and firmware are at latest supported version, update as necessary	✓
Create vSAN Datastore	✓
Install vCenter if required, and add cluster nodes in vCenter	✓
Add a node to an existing VxRail cluster	✓
Enable Data-At-Rest-Encryption (DARE) on datastore, if required, and VMware approved KMS server is accessible	✓
Install customer-supplied VMware licenses for the VxRail cluster	✓
Perform VxRail EMC Secure Remote Services (ESRS) setup and verify that ESRS deployment and activation is successful	✓
Register Customer to receive product alerts	✓

Excluded from Service	VxRail
Switch configuration	✕
Acquisition of VMware licenses	✕
Installation, configuration, migration, or testing of VMs, hosts or other workloads	✕
Uplinks to existing customer networks	✕
Any configuration of client computers	✕
Configuration of client or VM networks	✕
Installation of a Key Management System (KMS)	✕
Stretched-cluster	✕

[VxFlex Appliance](#)

Included in Service	VxFlex Appliance
Validate Customer Top of Rack switch configuration meets the requirements for VxFlex Appliance. (Validate pre-requisites for VxFlex Manager to control host-facing ports are set.)	✓
Initialize cluster and assign all IP addresses	✓
Install VxFlex Manager on a provided management cluster or host	✓
Deploy VxFlex Appliance cluster via VxFlex Manager automation	✓
Install supported hypervisor, as necessary; configure VxFlex Manager for OS/Hypervisor installation	✓
Create and map VxFlex OS volumes	✓
Confirm component drivers and firmware are at latest supported version, update as necessary	✓
Add a node to an existing VxFlex Appliance cluster	✓
Setup VxFlex Appliance cluster for SRS (Secure Remote Services)	✓

Excluded from Service	VxFlex Appliance
Switch configuration	✕
Installation on hardware other than VxFlex Apppliance	
Acquisition of licenses	✕
Installation, configuration, migration, or testing of VMs, hosts or other workloads	✕
Uplinks to existing customer networks	✕

Any configuration of client computers	✖
Configuration of client or VM networks	✖

AX

Included in Service	AX
Validate Customer Top of Rack switch configuration meets the requirements for AX implementation	✓
Initialize cluster and assign all IP addresses	✓
Install supported OS, as necessary	✓
Confirm component drivers and firmware are at latest supported version, update as necessary	✓
Create Microsoft Failover Cluster	✓
Configure RDMA and network settings on each node	✓
Enable S2D; configure Storage Pools and virtual disks	✓
Install and configure Windows Admin Center (WAC) and the Dell OpenManage Plugin for WAC	✓
Configure the Azure Stack HCI cluster using an existing Microsoft System Center Virtual Manager (SCVMM) if applicable	✓
Add S2D Management Packs to existing System Center Operations Manager (SCOM) if applicable	✓
Add node to an existing AX cluster	✓
Installation of a single SupportAssist console, and discovery of all installed nodes (via iDRAC)	✓
Registration of the Azure Stack HCI cluster into Azure	✓

Excluded from Service	AX
Switch configuration	✖
Installation on hardware other than AX nodes	✖
Acquisition of licenses	✖
Installation, configuration, migration, or testing of VMs, hosts or other workloads	✖
Uplinks to existing customer networks	✖
Any configuration of client computers	✖
Configuration of client or VM networks	✖
Stretch Cluster Configuration	✖

VxFlex Ready Node

Included in Service	VxFlex Ready Node
Validate Customer Top of Rack switch configuration meets the requirements for VxFlex Ready Node.	✓
Initialize cluster and assign all IP addresses	✓
Install supported hypervisor or OS, as necessary on each node	✓
Confirm component drivers and firmware are at latest supported version, update as necessary	✓
Deploy VxFlex OS cluster	✓
Configure Ready Node VxFlex Data Clients (SDC)	✓
Create and map VxFlex OS volumes	

	VxFlex Ready Node
Add a node to an existing VxFlex Ready Node cluster	✓
Configure a single VxFlex Ready Node as a management server for a VxFlex Appliance environment.	
Setup VxFlex OS for SRS (Secure Remote Services)	✓

Excluded from Service	VxFlex Ready Node
Switch configuration	✗
Installation on hardware other than VxFlex Ready Nodes	
Acquisition of licenses	✗
Installation, configuration, migration, or testing of VMs, hosts or other workloads	✗
Uplinks to existing customer networks	✗
Any configuration of client computers	✗
Configuration of client or VM networks	✗

VCF on VxRail

Included in Service	VCF on VxRail
Validate Customer Top of Rack switch configuration meets the requirements for VCF on VxRail implementation	✓
Initialize cluster and assign all IP addresses	✓
Install supported ESXi hypervisor, as necessary	✓
Confirm component drivers and firmware are at latest supported version, update as necessary	✓
Create vSAN Datastore	✓
Install vCenter and add cluster nodes in vCenter	✓
Add a node to an existing VxRail cluster	✓
Enable Data-At-Rest-Encryption (DARE) on datastore, if required, and VMware approved KMS server is accessible	✓
Perform VxRail Secure Remote Services (SRS) setup and verify that SRS deployment and activation is successful	✓

Install components per VCF instance:
-   VCF Management Domain
-   NSX AVN Edge Cluster deployment for Management Domain
-   Workload Domain for a Consolidated Architecture or Standard Architecture
-   An NSX Edge Cluster for Workload Domain (with one Tier 0 and One Tier 1 Gateway) - VCF 4.x only
     -   2 or 4 Edge Nodes for the Workload Domain Edge Cluster
     -   A segment (Port Group) to test connectivity
	✓

Install customer-supplied VMware licenses for the VxRail cluster and VCF components	✓
Register Customer to receive product alerts	✓

Excluded from Service	VCF on VxRail
Any configuration of non-Dell EMC switches	✗
Acquisition of VMware licenses	✗
Installation, configuration, migration, or testing of VMs, hosts or other workloads	✗
Uplinks to existing customer networks	✗

Any configuration of client computers	✕
Configuration of client or VM networks	✕
Installation of a Key Management System (KMS)	✕
Custom Certificate replacement	✕
Advanced NSX network configuration and deployment of bare-metal Edge nodes, security-related add-ons, micro-segmentation, distributed firewalls etc.	✕
Deployment of vRealize Components	✕
vRA or vRO	✕
VMware Horizon Deployment	✕
VMware Tanzu Deployment	✕
Deployment of Workspace ONE Access	✕
Region B (DR site)	✕
Stretched-cluster	✕

PowerProtect DD Appliance (DD3300)

Included in Service	Data Domain Appliance
Perform initial Data Domain system configuration	✓
Verify and configure LAN connectivity	✓
Configure additional Data Domain software, if necessary	✓
Configure system administration for auto support and alerts	✓
Configure MTrees and quotas, if necessary	✓
Configure data movement policies on all applicable MTrees on Data Domain systems, if necessary	✓
Upgrade the Data Domain Operating Systems, as required	✓
Configure CIFS/NFS data access	✓
Assist Customer with CIFS/NAS integration into backup-application software	✓
Verify that Data Domain auto support and alerts are sending and submitting Customer Support ID information	✓
Update Data Domain asset information and documentation, and create Data Domain Customer Support accounts	✓

PowerProtect Data Domain (PP DD6900)

Included in Service	PP DD6900
Perform initial Data Domain system configuration	✓
Verify and configure LAN connectivity	✓
Configure additional Data Domain software, if necessary	✓
Configure system administration for auto support and alerts	✓
Configure MTrees and quotas, if necessary	✓
Configure data movement policies on all applicable MTrees on Data Domain systems, if necessary	✓
Upgrade the Data Domain Operating Systems, as required	✓
Configure CIFS/NFS data access	✓
Assist Customer with CIFS/NAS integration into backup-application software	✓

Included in Service	
Verify that Data Domain auto support and alerts are sending and submitting Customer Support ID information	✓
Update Data Domain asset information and documentation, and create Data Domain Customer Support accounts	✓

PowerProtect Data Domain (PP DD9400)

Included in Service	PP DD9400
Perform initial Data Domain system configuration	✓
Verify and configure LAN connectivity	✓
Configure additional Data Domain software, if necessary	✓
Configure system administration for auto support and alerts	✓
Configure MTrees and quotas, if necessary	✓
Configure data movement policies on all applicable MTrees on Data Domain systems, if necessary	✓
Upgrade the Data Domain Operating Systems, as required	✓
Configure CIFS/NFS data access	✓
Assist Customer with CIFS/NAS integration into backup-application software	✓
Verify that Data Domain auto support and alerts are sending and submitting Customer Support ID information	✓
Update Data Domain asset information and documentation, and create Data Domain Customer Support accounts	✓

PowerProtect Data Domain (PP DD9900)

Included in Service	PP DD9900
Perform initial Data Domain system configuration	✓
Verify and configure LAN connectivity	✓
Configure additional Data Domain software, if necessary	✓
Configure system administration for auto support and alerts	✓
Configure MTrees and quotas, if necessary	✓
Configure data movement policies on all applicable MTrees on Data Domain systems, if necessary	✓
Upgrade the Data Domain Operating Systems, as required	✓
Configure CIFS/NFS data access	✓
Assist Customer with CIFS/NAS integration into backup-application software	✓
Verify that Data Domain auto support and alerts are sending and submitting Customer Support ID information	✓
Update Data Domain asset information and documentation, and create Data Domain Customer Support accounts	✓

PowerProtect DP Appliance (DP4400)

Included in Service	Data Protection Appliance
Perform initial Integrated Data Protection Appliance system configuration	✓
Verify and configure LAN connectivity	✓
Deploy vCenter Server Appliance via Appliance Configuration Manager (ACM)	✓
Deploy Avamar Virtual Edition via Appliance Configuration Manager (ACM)	✓
Deploy Data Domain Virtual Edition via Appliance Configuration Manager (ACM)	✓

Included in Service	
Deploy Data Protection Advisor via Appliance Configuration Manager (ACM)	✓
Deploy Search via Appliance Configuration Manager (ACM)	✓
Deploy Cloud Disaster Recovery via Appliance Configuration Manager (ACM)	✓
Configure system administration for auto support and alerts	✓
Confirm the successful status of all IDPA components	✓
Confirm the successful import of IDPA integrated components into the Appliance Configuration Manager and Systems Manager	✓
Set up backup policies for VMware workloads via IDPA System Management (DPC) tool and launching the Avamar Proxy Deployment page 　Add vCenter in IDPA 2.2 or newer 　Discover and add virtual machine client 　Deploy proxy for performing virtual machine backups and restores 　Create a Dataset for a client 　Create a Backup Policy 　Initiate a backup via the Policy and review the Backup set for restore	✓
Test On-demand Backup for an Avamar Server of a test system (test server, desktop, or laptop) with a limited dataset size (1 VM and up to 5GB) to facilitate the demonstration of this functionality	✓
Test Data Restore of the test on-demand Backup (1 VM and up to 5GB)	✓
Verify that IDPA auto support and alerts are sending and submitting Customer Support ID information	✓
Create Customer Support accounts, if necessary	✓

PowerProtect DP Appliance (DP5900)

Included in Service	PP DP5900
Perform initial Integrated Data Protection Appliance system configuration	✓
Verify and configure LAN connectivity	✓
Deploy vCenter Server Appliance via Appliance Configuration Manager (ACM)	✓
Deploy Avamar Virtual Edition via Appliance Configuration Manager (ACM)	✓
Deploy Data Domain Virtual Edition via Appliance Configuration Manager (ACM)	✓
Deploy Data Protection Advisor via Appliance Configuration Manager (ACM)	✓
Deploy Search via Appliance Configuration Manager (ACM)	✓
Deploy Cloud Disaster Recovery via Appliance Configuration Manager (ACM)	✓
Configure system administration for auto support and alerts	✓
Confirm the successful status of all IDPA components	✓
Confirm the successful import of IDPA integrated components into the Appliance Configuration Manager and Systems Manager	✓
Set up backup policies for VMware workloads via IDPA System Management (DPC) tool and launching the Avamar Proxy Deployment page 　Add vCenter in IDPA 2.2 or newer 　Discover and add virtual machine client 　Deploy proxy for performing virtual machine backups and restores 　Create a Dataset for a client 　Create a Backup Policy 　Initiate a backup via the Policy and review the Backup set for restore	✓
Test On-demand Backup for an Avamar Server of a test system (test server, desktop, or laptop) with a limited dataset size (1 VM and up to 5GB) to facilitate the demonstration of this functionality	✓
Test Data Restore of the test on-demand Backup (1 VM and up to 5GB)	✓

Included in Service	
Verify that IDPA auto support and alerts are sending and submitting Customer Support ID information	✓
Create Customer Support accounts, if necessary	✓

PowerProtect DP Appliance (DP8400)

Included in Service	PP DP8400
Perform initial Integrated Data Protection Appliance system configuration	✓
Verify and configure LAN connectivity	✓
Deploy vCenter Server Appliance via Appliance Configuration Manager (ACM)	✓
Deploy Avamar Virtual Edition via Appliance Configuration Manager (ACM)	✓
Deploy Data Domain Virtual Edition via Appliance Configuration Manager (ACM)	✓
Deploy Data Protection Advisor via Appliance Configuration Manager (ACM)	✓
Deploy Search via Appliance Configuration Manager (ACM)	✓
Deploy Cloud Disaster Recovery via Appliance Configuration Manager (ACM)	✓
Configure system administration for auto support and alerts	✓
Confirm the successful status of all IDPA components	✓
Confirm the successful import of IDPA integrated components into the Appliance Configuration Manager and Systems Manager	✓
Set up backup policies for VMware workloads via IDPA System Management (DPC) tool and launching the Avamar Proxy Deployment page Add vCenter in IDPA 2.2 or newer Discover and add virtual machine client Deploy proxy for performing virtual machine backups and restores Create a Dataset for a client Create a Backup Policy Initiate a backup via the Policy and review the Backup set for restore	✓
Test On-demand Backup for an Avamar Server of a test system (test server, desktop, or laptop) with a limited dataset size (1 VM and up to 5GB) to facilitate the demonstration of this functionality	✓
Test Data Restore of the test on-demand Backup (1 VM and up to 5GB)	✓
Verify that IDPA auto support and alerts are sending and submitting Customer Support ID information	✓
Create Customer Support accounts, if necessary	✓

PowerProtect DP Appliance (DP8900)

Included in Service	PP DP8900
Perform initial Integrated Data Protection Appliance system configuration	✓
Verify and configure LAN connectivity	✓
Deploy vCenter Server Appliance via Appliance Configuration Manager (ACM)	✓
Deploy Avamar Virtual Edition via Appliance Configuration Manager (ACM)	✓
Deploy Data Domain Virtual Edition via Appliance Configuration Manager (ACM)	✓
Deploy Data Protection Advisor via Appliance Configuration Manager (ACM)	✓
Deploy Search via Appliance Configuration Manager (ACM)	✓
Deploy Cloud Disaster Recovery via Appliance Configuration Manager (ACM)	✓
Configure system administration for auto support and alerts	✓

Confirm the successful status of all IDPA components	✓
Confirm the successful import of IDPA integrated components into the Appliance Configuration Manager and Systems Manager	✓

Set up backup policies for VMware workloads via IDPA System Management (DPC) tool and launching the Avamar Proxy Deployment page
    Add vCenter in IDPA 2.2 or newer
    Discover and add virtual machine client
    Deploy proxy for performing virtual machine backups and restores
    Create a Dataset for a client
    Create a Backup Policy
    Initiate a backup via the Policy and review the Backup set for restore
	✓

Test On-demand Backup for an Avamar Server of a test system (test server, desktop, or laptop) with a limited dataset size (1 VM and up to 5GB) to facilitate the demonstration of this functionality	✓
Test Data Restore of the test on-demand Backup (1 VM and up to 5GB)	✓
Verify that IDPA auto support and alerts are sending and submitting Customer Support ID information	✓
Create Customer Support accounts, if necessary	✓

Data Protection Services Pre-Installation Review

Note: This service does not perform any deployment steps. This service includes only a discussion between the Dell team and the customer concerning what deploy options are available.

Included in Service	DPSPIR
Develop a high level deployment plan of application data protection components and services that the customer has ordered in the Dell Data Protection or PowerProtect software suite.	✓
Review and validate documents including questionnaires, qualifiers, sales order, statement of work, service briefs of offerings sold, and any other related technical documents provided by Presales	✓
Validate and document Customer environment requirements and Customer expectations	✓
Prepare a high level deployment plan of data protection components that are applicable to Customer environment	✓
Validates the required product licenses, services, and resource skill	✓
Identifies the additional solution components that the Customer must purchase	✓
Presents and explains to Customer the features, functionality, and integration of the purchased PowerProtect software components	✓
Presents to the Customer the added value-add of services purchased	
Addresses technical concerns of the Customer, if any, with regard to the PowerProtect software purchase	✓

[Data Domain Virtual Edition](#)

Included in Service	DDVE
This service includes the following components (not to exceed the listed values): Data Domain Virtual Edition Appliance: 1	✓

Perform the following Data Domain Virtual Edition (DDVE) configuration:
    Verify VMware and DDVE software requirements.
    Review vCenter or ESXi Server configuration settings.
    Verify the successful installation of the customer-installed DDVE virtual machine.
    Review DDVE configuration settings.
    Add additional VMware virtual disks to the virtual machine configuration settings.
	✓

Expand new storage into the Data Domain virtual appliance file system.	✓

Perform an initial Data Domain system configuration:
     Verify and Configure LAN connectivity.
     Configure Data Domain purchased software license, if necessary.
     Configure system administration for auto support and alerts.
     Configure MTrees and quotas, if necessary
	✓

Configure data movement policies on all applicable MTrees on Data Domain systems, if necessary.	✓
Demonstrate additional capacity is recognized by the Data Domain storage system.	✓
Verify that Data Domain auto support and alerts are sending and submitting Customer Support ID information.	✓
Configure CIFS/NFS data access.	✓
Assist the customer with CIFS/NAS integration into backup-application software.	✓
Configure replication on Data Domain Appliance.	✓

Data Domain Cloud Tier

Included in Service	DDCT

This service includes the following components (not to exceed the listed values):
     Number of cloud providers: 1
     Number of MTrees for cloud data movement policy: 1
	✓

Discuss cloud provider and certificates required for cloud enablement.	✓
Review Customer's Cloud Backup SLA.	✓
Complete solution design validation.	✓
Add Cloud Tier Capacity License.	✓
Add Storage to Cloud Tier.	✓
Add Cloud Certificates, Profiles and Units.	✓
Add MTrees to Data Movement Policy and Schedule Cloud Data Movement.	✓

Data Domain with High Availability

Included in Service	DDHA
Confirm identical hardware and IO SLIC locations in both designated Data Domain High Availability active and passive nodes.	✓
Relocate IOPS SLICs in High Availability passive nodes to match IOPS SLIC location in High Availability active nodes, if necessary	✓
Perform an installation of IOPS interconnect SLIC in designated IOPS slot in active and passive nodes.	✓
Provide assistance in racking and stacking the Data Domain passive node appliances.	✓
Connect LAN, Fiber, SAS, and power cables to the Data Domain passive node appliances.	✓
Configure and verify LAN, Fiber, SAS connectivity to the Data Domain passive node appliances.	✓
Perform a basic system configuration on passive nodes for High Availability cluster integration.	✓
Install purchased Data Domain High Availability software licenses.	✓
Perform High Availability configuration for two node clusters implementation.	✓
Perform a fail-over and fail-back test for verification of successful High Availability configuration.	✓
Register the Customer to receive product alerts.	✓
Verify Data Domain auto support and alerts, sending and submitting customer support ID information.	✓

Data Domain Management Center Configuration

Included in Service	DDMCC
Validate DDMC Installation and Configuration:	✓
Verify VMware and DDMC Software Requirements	✓
Review vCenter or ESXi Server Configuration Settings	✓
Review VMware Virtual Machine Configuration Settings	✓

Review DDMC Configuration Settings	✓
Configure the following DDMC settings:	✓
Join the DDMC system to Active Directory (AD), if necessary.	✓
Add DD managed systems to DDMC inventory	✓
Configure Groups	✓
Configure Local and AD Users and Roles	✓
Configure Reports, Notifications, and Properties	✓
Configure Dashboard Widgets and Tabs	✓

Data Domain Virtual Tape Library

Included in Service	DDVTL

This service includes the following components (not to exceed the listed values):
    Data Domain Appliances with TFL: 1
    Number of Data Domain fibre cards: 1
    VTLs to create: 1
	✓

Install Data Domain Fibre Channel card for SAN connectivity.	✓
Assist with SAN zoning recommendations for backup servers and Data Domain appliance.	✓
Configure the Data Domain system for VTL	✓
Assist customer in mounting VTL and loading device drivers on backup servers (Data Domain supported operating systems or hardware configurations only).	✓
Assist in configuring the backup server to allow connectivity and operation of VTL.	✓
Provide for NDMP connections via backup server client connectivity and protocol mount point destinations.	✓
Provide an exported VTL Configuration file for DD appliances with DDOS 5.5, or newer.	✓

Data Domain with IBM i Series

Included in Service	DDIBMI
Perform VTL Data Domain system configuration for IBM i integration at one location.	✓
Configure Data Domain purchased software license, if necessary.	✓
Configure data access for up to four LPARs.	✓
Demonstrate VTL is visible to the IBM i.	✓
Configure up to four VTL tape drives and single write/restore streams.	✓
Configure one MTree, if necessary.	✓
Configure Data Domain replication for up to four LPARs to a remote Data Domain appliance.	✓

Avamar with Data Domain Boost

Included in Service	AVDD

This service includes the following components (not to exceed the listed values):
    Avamar Clients: 1
    Avamar Oracle Plugins: 1
    Avamar Exchange Plugins: 1
    Avamar Microsoft SQL Plugins: 1
    Avamar Microsoft SharePoint Plugins: 1
    Avamar Domino Plugins: 1
    Avamar Servers Configured for use with Data Domain: 1
    Avamar application plug-ins with DD Boost: 1
	✓

Develop and document the Avamar client design and requirements.	✓
Develop and document a client, dataset, groups, and retention policy design and requirements.	✓
Develop and document the Avamar Application Plug-in solution design and requirements.	✓
Develop and document the Avamar and Data Domain integration design.	✓
Configure the Avamar system for use with the Data Domain as a target backup device.	✓

Configure datasets on the Avamar systems for client application plug-in utilizing DD Boost.	✓

Data Domain Boost with Symantec NBU

Included in Service	DDBT
This service consists of configuring DD Boost over Internet Protocol (IP), or DD Boost over Fiber Channel (FC) with software versions of DDOS 5.3 and NBU 7.x, or later, on one Data Domain appliance and on up to five NBU media servers.	✓
Verify one Data Domain appliance operating system is at supportability mode in order to integrate DD Boost.	✓
Assist with SAN zoning recommendations for DD Boost over FC considerations, if necessary.	✓
Install one DD HBA for DD Boost over FC connectivity, if necessary	✓
Configure DD Boost data access, which includes:	✓
Create one DD Boost user and logical storage unit.	✓
Configure end points, access groups, initiators and services, if necessary.	✓
Add up to one if group with dedicated interfaces, if necessary	✓
Install and register a DD Boost plug-in on up to five media servers.	✓
Configure DD Boost devices on up to five NBU media servers.	✓
Update Data Domain asset information and documentation, and create Data Domain customer support accounts.	✓

Data Protection Search

Included in Service	DPSI
This service includes the following components (not to exceed the listed values): Number of Index Master servers: 1 Number of Avamar application servers: 1 Number of NetWorker application servers: 1 Number of virtual machines: 1 Worker Node instances: 2 Index Data Node instances: 2	✓
Verify readiness of Data Protection Search Implementation including access, implementation procedure and hardware and software requirements.	✓
Install and configure Data Protection Search Index Master software.	✓
Install and configure Data Protection Search Index Data software.	✓
Install and configure Data Protection Search Worker software.	✓
Create and configure up to 4 indexes and 4 collection activities per data protection search environment.	✓
Configure Avamar servers.	✓
Configure NetWorker servers.	✓

Data Protection Advisor

Included in Service	DPA
This service includes the following components (not to exceed the listed values): Data Protection Advisor Collector Nodes: 1 Collection nodes: 1 Federated DPA servers: 1 Reports to be customized: 0.00 Analysis jobs: 1 Recoverability Agents: 1	✓
Verify requirements for the Data Protection Advisor implementation within the existing backup, recovery, and replication environments are detailed.	✓
Install and configure the DPA server software, creating a DPA server (instance) for supported backup software products.	✓
Configure and enable DPA licensed modules.	✓
Configure DPA Users and Roles.	✓

Install, configure, and implement DPA collectors on supported backup servers, host clients, and appliance nodes.	✓
Configure collector nodes for each appliance, application, or host type for data monitoring.	✓
Configure and validate database maintenance routines.	✓
Configure federated reporting	✓

RecoverPoint for Virtual Machines

Included in Service	RP4VMDP

This service includes the following components (not to exceed the listed values):
        Sites: 2
        Virtual machines that require protection: 1
        Virtual RecoverPoint Appliances (vRPAs): 4
        ESXi servers that host the vRPA cluster: 2
        ESXi servers that host protected VMs: 1
        Virtual RecoverPoint Appliance Clusters: 2
        vCenter servers: 2
        RecoverPoint for VM systems: 2
        ESXi servers that host replica VMs: 2
        Consistency Groups: 1
	✓

Validate prerequisites for RecoverPoint for Virtual Machines implementation including compatibility, licenses, credentials, data stores, and networks.	✓
Install and configure virtual RecoverPoint appliances.	✓
Install and connect vRPA clusters.	✓
Registers vCenter servers in RecoverPoint for VMs system.	
License, register, and enable support for RecoverPoint for VMs systems.	✓
Register data stores and ESXi clusters.	✓
Create RecoverPoint replicas of virtual machines.	✓
Create a consistency group and define replication policies.	✓
Monitor consistency groups initialization.	✓
Perform the required tests using the Test Plan.	✓
Complete solution implementation validation.	✓

Data Protection Central

Included in Service	DPCDPS
Verify that the environment meets all hardware and software requirements.	✓
Deploy and configure the Data Protection Central OVA.	✓
Add the customer's existing Data Domain and Avamar systems to DPC Systems Management.	✓
Add Data Protection Advisor server to DPC Systems Management.	✓
Add Data Protection Search server to DPC Systems Management.	✓
Perform tests to confirm successful DPC deployment and configuration.	✓
Create DPC Reports.	✓

Avamar Virtual Edition

Included in Service	AVE
Important! Running the Performance Assurance Tool (PAT) is optional, but it is recommended that the pre-sales benchmark testing must be completed on the customer's targeted ESX Server to ensure that it meets the acceptable minimum performance benchmark results.	✓

This service includes the following components (not to exceed the listed values):
        Avamar Servers: 1
        Avamar Data Nodes: 1
        Avamar Clients: 5
	✓

Avamar Plugins:	
Install and Configure Avamar Download Server software for Avamar support.	✓
Deploy Avamar Virtual Edition Servers within customer VMware environment.	✓
Install and configure Avamar Software and activate the Avamar Grid.	✓
Configures the Avamar System on an existing Secure Remote Services gateway.	✓
Configures Avamar local authentication.	✓
Install and Configure Avamar Application and Database Client Plug-ins.	✓
Complete the tests in the Test Plan and delivers the Test Plan to Customer.	✓
Complete solution implementation validation.	✓

NetWorker

Included in Service	NW

This service includes the following components (not to exceed the listed values):
    NetWorker servers: 1
    NetWorker clients: 10
    NetWorker auto changers enabled: 1
    NetWorker cluster client connections: 1
    NetWorker autochangers: 1
    NetWorker tape devices: 4
    Data Domain Boost devices: 4
    NetWorker Management Console servers: 1
    NetWorker disk backup options: 1
	✓

Validate that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Install NetWorker software on the NetWorker server.	✓
Install and configure NetWorker Management Console software.	✓
Install the License Server.	✓

Configure the following resources on the NetWorker server:
    NetWorker media pools
    NetWorker schedules
    NetWorker SaveGroups
	✓

Install NetWorker software on client servers.	✓

Configure the following device resources on the NetWorker server:
    NetWorker autochangers, including configuration of:
        Dynamic drive sharing
        Virtual tape libraries
    NetWorker stand-alone devices, including configuration of:
        NetWorker Data Domain Boost devices
        Advance file-type devices
	✓

Perform the tests in the Test Plan for Customer.	✓
Complete solution implementation validation.	✓

Avamar/Networker Backup Package

Included in Service	AVNWBUDP

This service kit package combines multiple services into one service kit. This service wraps four services into one service kit with one model code.
    ProDeploy for Avamar Virtual Edition
    ProDeploy for NetWorker
    ProDeploy for Data Protection Central
    ProDeploy for Data Protection Advisor
	✓

Avamar/Networker Plus Search Backup Package

Included in Service	AVNWSCHBUDP

This service kit package combines multiple services into one service kit. This service wraps five services into one service kit with one model code.
    ProDeploy for Avamar Virtual Edition
    ProDeploy for NetWorker
    ProDeploy for Data Protection Central
    ProDeploy for Data Protection Advisor
    ProDeploy for Data Protection Search
	✓

Networker for MS SQL

Included in Service	NMMSQL
This service includes the following components (not to exceed the listed values): Installation of NetWorker Module for Microsoft SQL Database Servers: 1	✓
Validate that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Install the NetWorker Module for Microsoft.	✓
Configure the NetWorker Server to use NetWorker Module for Microsoft for backing up Microsoft SQL Instances	✓
Perform the tests in the Test Plan for Customer.	✓
Complete solution implementation validation.	✓

Networker for MySQL

Included in Service	NMDAMS
This service includes the following components (not to exceed the listed values): Installation of NetWorker Module for MySQL Database Servers: 1	✓
Validate that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Install the NetWorker Module for Databases and Applications.	✓
Configure the NetWorker Server to use NetWorker Module for Databases and Applications for backing up MySQL.	✓
Perform the tests in the Test Plan for Customer.	✓
Complete solution implementation validation.	✓

Networker for Microsoft Exchange Server

Included in Service	NMMEX
This service includes the following components (not to exceed the listed values): Installation of NetWorker Module for Microsoft Exchange Mailbox Servers: 2	✓
Validate that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Install the NetWorker Module for Microsoft.	✓
Configure the NetWorker Server to use NetWorker Module for Microsoft for backing up Microsoft Exchange Mailbox Servers.	✓
Perform the tests in the Test Plan for Customer.	✓
Complete solution implementation validation.	✓

Cloud Adoption Package

Included in Service	PPCLOUDDP
This service offering provides the deployment and configuration of one of the following in-cloud virtual machine integrations: • Data Domain Virtual Edition (DDVE) with Avamar Virtual Edition (AVE). • Data Domain Virtual Edition (DDVE) with Networker Virtual Edition (NVE). • Data Domain Virtual Edition (DDVE) with PowerProtect Data Manager (PPDM). • Data Domain Virtual Edition (DDVE) with Data Domain Management Console (DDMC).	✓

Cloud Boost Appliance

Included in Service	CLOUDBSTDP

This service includes the following components (not to exceed the listed values): Number of CloudBoost Appliances: 1	✓
Validates that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Validates the VMware environment readiness for CloudBoost implementation.	✓
Deploys the CloudBoost image file into the VMware environment.	✓
Reviews and configures CloudBoost cache requirements.	✓
Completes powering on the CloudBoost virtual appliance.	✓
Performs network configuration of appliances.	✓

PowerProtect App Direct for Database Applications

Included in Service	PPAPPDBDP

This service includes the following components (not to exceed the listed values):
       Data Domain appliances with DD Boost: 1
         Database application servers (one of):
     DB2 databases: 1
     Oracle databases without SAP: 1
     SAP HANA Databases: 1
     SAP with Oracle Databases: 1
	✓

Validates that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Assists with SAN zoning recommendations for DD Boost over FC considerations, if necessary.	✓
Installs FC Target HBA(s) in DDR(s), if applicable.	✓

Configures the DDR(s) for DD Boost data access:
       Creates the DD Boost user(s) and logical storage unit(s).
       Configures end points, access croups, initiators, and services, as necessary.
       Adds the ifgroup(s) with dedicated interfaces, if necessary.
	✓

Installs and verifies the successful installation of the PowerProtect App Direct for Database Applications Agent software.	✓
Configures the PowerProtect App Direct for Database Applications Agent software.	✓
Configures the database backup parameters.	✓
Performs and verifies the successful database backup for Customer.	✓
Conducts basic Knowledge Transfer	✓

PowerProtect App Direct for Microsoft Applications

Included in Service	PPAPPMSDP

This service includes the following components (not to exceed the listed values):
       Data Domain appliances with DD Boost: 1
       Number of Microsoft Exchange IS Databases: 1
       Number of Microsoft SQL databases: 1
       Microsoft SQL database servers: 1
	✓

Validates that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Assists with SAN zoning recommendations for DD Boost over FC considerations, if necessary.	✓
Installs FC Target HBA(s) in DDR(s), if applicable.	✓

Configures the DDR(s) for DD Boost data access:
       Creates the DD Boost user(s) and logical storage unit(s).
       Configures end points, access croups, initiators, and services, as necessary.
       Adds the ifgroup(s) with dedicated interfaces, if necessary.
	✓

Installs and verifies the successful installation of the PowerProtect App Direct for Microsoft Applications Agent software.	✓
Configures the PowerProtect App Direct for Microsoft Applications Agent software.	✓
Configures the database backup parameters.	✓
Performs and verifies the successful database backup for Customer.	✓
Conducts basic Knowledge Transfer	✓

PowerProtect Cyber Recover 1 MTree

Included in Service	PPCYBER1MDP

This service includes the following components (not to exceed the listed values):
    Data Domain Appliances: 1
    MTrees:1
	✓

Installs Cyber Recovery software on management host.	✓
Configures Cyber Recovery policies to manage MTrees, to be replicated into the vault.	✓
Performs hardening of the Data Domain appliance in the customer's vault.	✓
Tests Cyber Recovery to verify operation.	✓

PowerProtect Cyber Recover 3 MTree

Included in Service	PPCYBER3MDP

This service includes the following components (not to exceed the listed values):
    Data Domain Appliances: 1
    MTrees:3
	✓

Installs Cyber Recovery software on management host.	✓
Configures Cyber Recovery policies to manage MTrees, to be replicated into the vault.	✓
Performs hardening of the Data Domain appliance in the customer's vault.	✓
Tests Cyber Recovery to verify operation.	✓

PowerProtect Cloud Disaster Recovery

Included in Service	PPCLOUDDRDP

This service includes the following components (not to exceed the listed values):
    Number of Data Domain: 1
    Avamar Servers: 1
    vCenters for confirmation: 1
    VMs to test PowerProtect Cloud Disaster Recovery to cloud environment: 1
    VMs to test PowerProtect Cloud Disaster Recovery to local environment: 1
	✓

Validates that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Deploys PowerProtect Cloud Disaster Recovery Add-on and Cloud Recovery Server.	✓
Registers Avamar server(s) with PowerProtect Cloud Disaster Recovery.	✓
Registers Data Domain appliance(s) with PowerProtect Cloud Disaster Recovery.	✓
Registers the VMware vCenter with PowerProtect Cloud Disaster Recovery.	✓
Configures Avamar to perform a backup to the cloud using PowerProtect Cloud Disaster Recovery.	✓
Performs a test of disaster recovery of a virtual machine to a cloud environment.	✓
Performs a test of disaster recovery of a virtual machine to a local environment.	✓

PowerProtect Data Manager

Included in Service	PPDATAMGRDP
	✓

This service is limited to the Data Manager configuration of:
  • Up to 3 protection policies.
  • Protectable assets, consisting of the following:
    ▪ Database application instances
    ▪ Virtual machines
  • Two sub-tenants of the system tenant.
  • Three users with assigned roles.
  • Confirmation of SRS configured through the Data Manager GUI.
Knowledge transfer of Data Manager functions and features, with additional knowledge transfer about SRS CloudIQ Portal connectivity	

	✓
Validates PowerProtect Data Manager installation and configuration.	✓
Configures PowerProtect Data Manager and discovers Data Manager assets.	✓
Organizes and assigns PowerProtect Data Manager assets.	✓
Creates and validates PowerProtect Data Manager protection plans with stages and assigns them to tenants and assets.	✓
Conducts Knowledge Transfer	✓

PowerProtect Software Package

Included in Service	PPPWRPROTDP
This service kit package combines multiple services into one service kit. This service wraps five services into one service kit with one model code. 　　　ProDeploy for PowerProtect Data Manager 　　　ProDeploy for PowerProtect App Direct for Database Application 　　　ProDeploy for PowerProtect App Direct for Microsoft Application 　　　ProDeploy for PowerProtect Storage Direct 　　　ProDeploy for PowerProtect Cloud Disaster Recovery 　　　ProDeploy for PowerProtect Cyber Recovery - 1 MTree 　　　ProDeploy for RecoverPoint for Virtual Machines	✓

PowerProtect Storage Direct

Included in Service	PPSTORDP
This service includes the following components (not to exceed the listed values): 　　　Data Domain Appliances:1 　　　PowerProtect Storage Direct application hosts:1 　　　VMAX Storage Arrays:1 　　　PowerProtect Storage Direct configuration files:1 　　　Database Instances for Backup:1 　　　XtremIO Storage Arrays: 1 　　　Database Instances for Restore Validation:1	✓
Uses VMAX and Data Domain subject matter experts (SMEs) for the creation of a PowerProtect Storage Direct high-level implementation plan.	✓
Uses VMAX and Data Domain SMEs for the creation of a server host and database instance high-level implementation plan.	✓
Uses XtremIO, RecoverPoint and Data Domain subject matter experts (SMEs) for the creation of a high-level implementation plan.	✓
Uses XtremIO, RecoverPoint, and Data Domain SMEs for the creation of a server host and database instance high-level integration plan.	✓
Conducts an implementation review meeting.	✓
Validates that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Assists with SAN zoning recommendations between the VMAX3 and the Data Domain appliance, if necessary.	✓
Verifies that the Data Domain operating system(s) is (are) at the supportability mode to successfully integrate with PowerProtect Storage Direct.	✓
Verifies physical fiber connections to the Data Domain appliance(s).	✓
Verifies physical fiber connections to the VMAX3.	✓
Configures Data Domain end points, access groups, initiators, and services, if necessary.	✓
Configures the Data Domain appliance to support the PowerProtect Storage Direct configuration.	✓
Confirms that appropriate licenses for PowerProtect Storage Direct enablement are applied.	✓
Confirms that appropriate services for PowerProtect Storage Direct enablement are enabled.	✓
Assists with SAN zoning recommendations between the XtremIO(s), RecoverPoint appliance(s) and the Data Domain appliance(s).	✓
Verifies Solutions Enabler host connectivity.	✓
Installs the PowerProtect Storage Direct file agent or database agent software on Customer's PowerProtect Storage Direct management host(s).	✓
Modifies the PowerProtect Storage Direct file agent or database agent configuration files.	✓

Performs an initial backup of the file or database instance.	✓
Confirms the replication is initialized, if appropriate.	✓
Performs the customer-approved PowerProtect Storage Direct file or database instance restore or recovery.	✓

Add-on for Avamar Single Node

Included in Service	AVSNBUDP
This service includes the following components (not to exceed the listed values): Avamar Servers: 1 Avamar Clients in design: 1 Avamar Oracle plugins: 1 Avamar DB2 plugins: 1 Avamar Exchange plugins: 1 Avamar Microsoft SQL plugins: 1 Avamar Microsoft SharePoint plugins: 1 Avamar Domino plugins: 1 Avamar Clients for implementation: 5	✓
Validates that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Registers Avamar hardware serial numbers.	✓
Installs and configures Avamar Download Server software for Avamar support.	✓
Installs and configures Avamar Software and activates the Avamar Grid.	✓
Configures Avamar IP addresses and host names for Customer's network.	✓
Configures Avamar remote management and monitoring network interface.	✓
Copies software packages to prepare Avamar Grid for implementation and configuration of Avamar features.	✓
Configures the ConnectEMC feature.	✓
Configures the Avamar System on an existing Secure Remote Services gateway.	✓
Configures Avamar Enterprise Authentication.	✓
Installs, configures, and activates Avamar client agents on any supported host platform.	✓
Installs Avamar Application Plug-in agents and configures agents for backup.	✓

Add-on for Avamar Multi-Node

Included in Service	AVMNBUDP
This service includes the following components (not to exceed the listed values): Avamar Servers: 1 Avamar Clients in design: 1 Avamar Oracle plugins: 1 Avamar DB2 plugins: 1 Avamar Exchange plugins: 1 Avamar Microsoft SQL plugins: 1 Avamar Microsoft SharePoint plugins: 1 Avamar Domino plugins: 1 Avamar Clients for implementation: 5	✓
Validates that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Registers Avamar hardware serial numbers.	✓
Installs and configures Avamar Download Server software for Avamar support.	✓
Installs and configures Avamar Software and activates the Avamar Grid.	✓
Configures Avamar IP addresses and host names for Customer's network.	✓
Configures Avamar remote management and monitoring network interface.	✓
Copies software packages to prepare Avamar Grid for implementation and configuration of Avamar features.	✓
Configures the ConnectEMC feature.	✓

Configures the Avamar System on an existing Secure Remote Services gateway.	✓
Configures Avamar Enterprise Authentication.	✓
Installs, configures, and activates Avamar client agents on any supported host platform.	✓
Installs Avamar Application Plug-in agents and configures agents for backup.	✓

Add-on for Cloud Boost Networker Integration

Included in Service	CBNWIG
This service includes the following components (not to exceed the listed values): 　　　Number of CloudBoost Appliances: 1 　　　Number of CloudBoost Provider Profiles: 1 　　　Number of NetWorker Backup Clones: 1	✓
Reviews and validates CloudBoost firewall requirements and changes.	✓
Validates the VMware environment readiness for CloudBoost implementation.	✓
Deploys the CloudBoost image file into the VMware environment.	✓
Reviews and configures CloudBoost cache requirements.	✓
Completes powering on the CloudBoost virtual appliance.	✓
Performs network configuration of appliances.	✓
Configures cloud storage profiles to support CloudBoost appliance.	✓
Configures CloudBoost Appliance as a storage node on the NetWorker server.	✓
Configures NetWorker backup clones for CloudBoost appliance.	✓

Add-on for DPA Federated Reporting

Included in Service	DPAFRDP
This service includes the following components (not to exceed the listed values): 　　　Federated DPA servers: 1	✓
Reviews and validates Customer requirements and planned use of DPA modules, features, and functions, ensuring that all are appropriately leveraged to give Customer greatest value.	✓
Validates that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Verifies that the requirements for the Data Protection Advisor implementation within the existing backup, recovery, and replication environments are detailed.	✓
Installs and configures the DPA server software, creating a DPA server (instance) for supported backup software products.	✓
Configures and enables DPA licensed modules.	✓
Configures DPA Users and Roles.	✓
Installs, configures, and implements DPA collectors on supported backup servers, host clients, and appliance nodes.	✓
Configures collector nodes for each appliance, application, or host type for data monitoring.	✓
Configure federated reporting.	✓
Configures and validates database maintenance routines.	✓
Configures the DPA environment with the existing Secure Remote Services environment.	✓

PowerProtect DD - Base

Included in Service	PPDDIBDP
This service includes the following components (not to exceed the listed values): 　　　PowerProtect DD9900 appliances: 1	✓
Configures replication on PowerProtect DD Appliance.	✓
Performs an initial PowerProtect DD system configuration.	✓
Verifies and configures LAN connectivity.	✓
Configures additional PowerProtect DD software, if necessary.	✓
Configures system administration for auto support and alerts.	✓

Included in Service	
Configures MTrees and quotas, if necessary.	✓
Configures data movement policies on all applicable MTrees on PowerProtect DD systems, if necessary.	✓
Upgrades the PowerProtect DD operating systems, as required.	✓
Configures CIFS/NFS data access.	✓
Assists Customer with CIFS/NAS integration into backup-application software.	✓

PowerProtect DD Pre-Racked System

Included in Service	PPDDPHDP
This service includes the following components (not to exceed the listed values): PowerProtect DD pre-racked system racks: 1	✓
Performs an initial PowerProtect DD system configuration.	✓
Verifies and configures LAN connectivity.	✓
Configures additional PowerProtect DD software, if necessary.	✓
Configures MTrees and quotas, if necessary.	✓
Configures system administration for auto support and alerts.	✓
Verifies that PowerProtect DD auto support and alerts are sending and submitting Customer Support ID information.	✓
Configures CIFS/NFS data access.	✓

PowerProtect DD System Controller Upgrade

Included in Service	PPDDCUUP

This service includes the following components (not to exceed the listed values):
    DD system controller upgrades: 1
    PowerProtect DD9900 appliances: 1
	✓

Upgrades the PowerProtect DD operating systems, as required.	✓
Validates that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Performs a system controller upgrade for the PowerProtect DD appliances.	✓
Verifies the successful upgrade of the PowerProtect DD system controller.	✓
Verifies that PowerProtect DD auto support and alerts are sending and submitting Customer Support ID information.	✓
Updates PowerProtect DD asset information and documentation and creates PowerProtect DD Customer Support accounts.	✓
Upgrades the PowerProtect DD operating systems, as required.	✓

PowerProtect DD Code Upgrade

Included in Service	PPDDCCHX
This service includes the following components (not to exceed the listed values): PowerProtect DD operating system upgrade on existing PowerProtect DD appliances: 2	✓
Downloads PowerProtect DD operating system updates to the customer's environment.	✓
Upgrades the DDOS to the most recent GA release on exisiting PowerProtect DD Appliances	✓
Verifies that PowerProtect DD auto support and alerts are sending and submitting Customer Support ID information.	✓
Updates PowerProtect DD asset information and documentation, and creates PowerProtect DD Customer Support accounts.	✓

PowerProtect DD Installation for DS Expansion

Included in Service	PPDDDSXHX
This service includes the following components (not to exceed the listed values): PowerProtect DS expansion shelves: 1	✓
Installs and configures PowerProtect DD expansion shelves.	✓
Applies an ELMS PowerProtect DD shelf capacity license.	✓

Expands new storage into the PowerProtect DD Appliance file system.	✓
Demonstrates additional capacity is recognized by PowerProtect DD storage system.	✓

PowerProtect DD Installation for ES Expansion

Included in Service	PPDDESXHX
This service includes the following components (not to exceed the listed values): PowerProtect ES expansion shelves: 1	✓
Installs and configures PowerProtect ED expansion shelves.	✓
Applies an ELMS PowerProtect ED shelf capacity license.	✓
Expands new storage into the PowerProtect DD Appliance file system.	✓
Demonstrates additional capacity is recognized by PowerProtect DD storage system.	✓

PowerProtect DD Installation for Storage Expansion Disk Packs

Included in Service	PPDDDSPHX

This service includes the following components (not to exceed the listed values):
        Number of DS shelves targeted for Disk Pack installation: 1
        Number of DS Disk Packs to install: 3
	✓

Validates that the equipment is on site at the appropriate location with power and cable requirements met.	✓
Installs PowerProtect DD DS disk storage pack into functional DS shelf(s)	✓
Applies an ELMS PowerProtect DD shelf capacity license.	✓
Confirms disk storage packs are recognized by DDOS.	✓
Adds disk storage packs to the active storage tier and cloud storage tier.	✓
Expands new storage into the PowerProtect DD Appliance file system.	✓
Demonstrates additional capacity is recognized by PowerProtect DD storage system.	✓

Unity Unified Snapshots

Included in Service	UXSNAP

This service includes the following components (not to exceed the listed values):
        LUNs for Snapshot: 20
        File Systems for Snapshot: 20
	✓

Implement the Dell EMC Unity Snapshot feature configuring Snapshot sessions, meeting Customer requirements.	✓

Unity Antivirus

Included in Service	UXAVDP
This service includes the following components (not to exceed the listed values): File Systems for Antivirus: 1	✓
Perform configuration on the Antivirus Engine and Domain Controller	✓
Implement the Dell EMC Unity Antivirus, meeting customer requirements.	✓

Unity Cloud Tiering Software

Included in Service	CTASWDP

This service includes the following components (not to exceed the listed values):
        Cloud Tiering Appliance(s): 2
        Cloud Tiering Appliance Virtual Edition(s): 2
        Total shares and exports: 4
        Archive policies: 4
	✓

Install and configure the Cloud Tiering Appliance(s).	✓
Import and configure the Cloud Tiering Appliance Virtual Edition software.	✓
Configure the supported primary storage to utilize the software.	✓

Configure the supported destination (cloud provider or target storage) to utilize the repository for archiving.	✓
Configure the defined Cloud Tiering Appliance callback daemon.	✓
Configure secondary callback services for HA configuration.	✓
Define pre-existing file systems for archival using Cloud Tiering Appliance archive policies (CIFS or NFS), by working with the Customer.	✓
Work with the Customer to define data migration policies for file systems.	✓
Configure archiving policies for defined file systems for archiving.	✓
Review archive policy criteria and schedule requirements with the Customer.	✓
Configure the archiving expression.	✓
Configure the schedule per the Customer's requirements.	✓

Advanced OpenManage and SupportAssist

Included in Service	OMESA
This Service includes the following components: • Installation and configuration of OpenManage Enterprise • Discovery and configuration of up to 100 devices • Installation and configuration of SupportAssist Enterprise (SAE) • Installation and configuration of Repository Manager (RM) • Configuration of OpenManage Mobile application (OMM) The Add-on Service includes ONE of the following: • Installation of a secondary OME appliance, discovery and configuration of up to 100 devices OR • Discovery and configuration of up to 400 devices	✓
Deploy OME virtual appliance • Configure discovery ranges and perform device discoveries • Configure SNMP settings on discovered devices • Configure inventory scheduling • Configure and update Repository Manager catalog Configure and test SAE if applicable	✓
Apply firmware and driver updates as needed using online or repository manager catalog • Configure a default Warning and Critical Email Alert Action	✓
Demonstrate configuration of SNMP trap forwarding and filtering	✓
Demonstrate how to detect and manage configuration drift of a device	✓
Create and Deploy up to 2 Device Configuration Templates when applicable	✓
Deploy Network ISO Image for Bare Metal Deployment when applicable	✓
Help the customer install and setup OpenManage Mobile application (optional)	✓
Provide a list of undiscovered devices and possible reason of discovery failure	✓
Excluded from Service	**OMESA**
Upgrade of existing OME environment to support the new solution	✕
Configuration or troubleshooting of any networking or firewall issues on customer environment that's preventing any device discovery	✕
Configuration of OME Stateless Deployment and Virtual IO pools	✕
Installation of OpenManage Server Administration (OMSA) software	✕
Configuration on non-Dell equipment	✕
Product training – must be purchased separately	✕
Any activities other than those specifically noted in this Service Description	✕

System Testing and Validation

Included in Service	Storage	Server	Networking	Solutions
Capture equipment status and configuration report	✓	✓	✓	✓
Create Dell Support request to update configuration information.	✓	✓	✓	✓
Verify that server components have network connectivity to customer network (assigning IP address).		✓		
Perform basic verification tests (ping, traceroute, show commands).			✓	✓
Test basic product failover capability, if applicable.	✓	✓	✓	✓
Verify configuration aligns with the design	✓	✓	✓	✓
Excluded from Service	**Storage**	**Server**	**Networking**	**Solutions**
Performance testing or benchmarking	✗	✗	✗	✗

Configuration Detail Transfer to Dell Technical Support

Included in Service	Storage	Server	Networking	Solutions
Relevant engagement or technical details tied to the Dell components installed during the engagement. This could include items such as design documents, customer contact information, and detail capture or other documents detailing configuration.	✓	✓	✓	✓
A copy of design documents (including, SID, NDW, EOE. CAF and verification report) will be logged to the support tool by your deployment team ensuring support have access to your as deployed configuration for future reference	✓	✓	✓	✓
Excluded from Service	**Storage**	**Server**	**Networking**	**Solutions**
Awareness of any customer changes post deployment that are not project managed by Dell	✗	✗	✗	✗

Project Documentation with Product Orientation

Included in Service	Storage	Server	Networking	Solutions
Orientation about the product(s) deployed and configured	✓	✓	✓	✓
Common management tasks, if applicable	✓	✓	✓	✓
Best practices	✓	✓	✓	✓
Reference materials, if available	✓	✓	✓	✓
As-deployed documentation	✓	✓	✓	✓
Excluded from Service	**Storage**	**Server**	**Networking**	**Solutions**
Customer Training	✗	✗	✗	✗
Custom documentation	✗	✗	✗	✗

Technology Service Manager (TSM) engagement for ProSupport Plus systems

Included in Service	Storage	Server	Networking	Solutions
Your dedicated TSM will be notified of the upcoming deployment on systems with ProSupport Plus or other TSM-entitled warranties	✓	✓	✓	✓

	Storage	Server	Networking	Solutions
TSM and Project Manager will share any relevant information as needed to ensure awareness of critical risk factors during deployment and assist with future account and environment management	✓	✓	✓	✓
Excluded from Service	**Storage**	**Server**	**Networking**	**Solutions**
TSM notification on non ProSupport Plus (or other non-TSM entitled) warranty systems	✗	✗	✗	✗
TSM responsibility for any aspect of the deployment	✗	✗	✗	✗

Tool Driven Environment Reporting

Included in Service	**Storage**	**Server**	**Networking**	**Solutions**
Physical Servers	✓	✓		✓
Host name, operating system, service tag, NTP, and DNS	✓	✓		✓
CPU, memory, disk type & capacity, firmware, and CPU & memory utilization	✓	✓		✓
Host name, model, slot layout, module layout, and firmware versions	✓	✓		✓
NIC model & quantity, driver versions, NIC link status, VLAN detail, and IP addresses	✓	✓		✓
RAID configuration, disk space, adapter, mount point/drive letter	✓	✓		✓
Disk space, mount point/drive letter, array & volume names, multipath software versions & configuration policy	✓	✓		✓
Hypervisors (vSphere and Hyper-V)	✓	✓		✓
Host grouping, hypervisor manager version & build, licensing	✓	✓		✓
Virtual switch detail, uplink NICs, NIC teaming	✓	✓		✓
Volume/datastore detail and file system type	✓	✓		✓
Virtual machine list and HA/DRS status	✓	✓		✓
Virtual Workloads	✓	✓		✓
Operating system version/build/patch and CPU & memory utilization	✓	✓		✓
Host, datacenter, cluster, power state, and VMware tools installed	✓	✓		✓
Number of virtual NICs and network connections	✓	✓		✓
Number of virtual hard disks, hard disk size, and RDMs	✓	✓		✓
SAN Switches	✓	✓		✓
Model, number & type of ports, operating system version, host name, stacking detail	✓	✓		✓
Link state & speed, configuration, end device detail	✓	✓		✓
Speed/duplex, VLAN/LAG membership, MTU, and port mode	✓	✓		✓
Storage Arrays	✓	✓		✓
Model, number and type of ports, operating system version, host name, and raw/used/available capacity	✓	✓		✓
Controller details including I/O card detail, port status, memory capacity	✓	✓		✓
Enclosure details including model, number of disks, and backend connectivity detail	✓	✓		✓
Disk details including model, size, type (SSD/HDD), spindle & bus speed, and enclosure slot location	✓	✓		✓
Volume details including name, size, RAID protection, and assigned servers	✓	✓		✓
Ethernet and Fibre Channel switches			✓	
Switch name, model, and firmware version			✓	
Configured protocols			✓	

	Storage	Server	Networking	Solutions
VLAN configuration			✓	
Port channel and LAG configurations			✓	
Switch port status and configuration			✓	
Layer 2 and Layer 3 topology report			✓	
Switch neighbors			✓	
Full switch configuration files			✓	
Access points			✓	

Excluded from Service	Storage	Server	Networking	Solutions
Non-Dell branded hardware	✗	✗	✗	✗
Devices not connected to the deployed device	✗	✗	✗	✗
Devices not supported by the environmental reporting tool	✗	✗	✗	✗

Multivendor Integration Testing for Networking

	Networking					
	Layer 3			Layer 2/3	Fibre Channel	Wireless
Included in Service	L3 Fixed Port Switches	Chassis Switches	Distributed Core Switches	Blade IO	FC Switches	Wireless Access Points
Interoperability, Implementation, Integration and Testing of the multi-vendor switch directly connected to the new Dell EMC device	✓	✓	✓	✓	✓	✓
Identify devices, enabled features and configurations	✓	✓	✓	✓	✓	✓
Review devices and determine any incompatibilities that exist	✓	✓	✓	✓	✓	✓
Implement changes to remediate any incompatibilities	✓	✓	✓	✓	✓	✓
Perform communication test between Dell and Multi-Vendor devices	✓	✓	✓	✓	✓	✓
Supported devices include Dell EMC, Cisco, HPE, and Broadcom (Brocade) networking products	✓	✓	✓	✓	✓	✓

	Layer 3			Layer 2/3	Fibre Channel	Wireless
Excluded from Service	L3 Fixed Port Switches	Chassis Switches	Distributed Core Switches	Blade IO	FC Switches	Wireless Access Points
Reconfiguration of advanced features not specific to interoperability	✗	✗	✗	✗	✗	✗
Redesign of the customer's network environment.	✗	✗	✗	✗	✗	✗
Firewalls are not included as part of the interoperability implementation	✗	✗	✗	✗	✗	✗

Configuration Assistance for up to 30 Days after Deployment

Included in Service	Storage	Server	Networking	Solutions
A contact number for the customer to call with configuration assistance requests	✓	✓	✓	✓
A priority queue for first level assistance which will advise the customer on how to execute needed configuration changes	✓	✓	✓	✓
If first level assistance is not able to quickly resolve the assistance request the a member of the deployment team who implemented the environment will be scheduled to contact the customer to assist	✓	✓	✓	✓

	Storage	Server	Networking	Solutions
The deployment team member, or another appropriate technically qualified personnel, will work to guide the customer on making needed configuration changes or remotely access the environment to perform configuration changes. The specifics of who will be engaged depends on technical qualifications, schedule availability, access permissions, and severity of request.	✓	✓	✓	✓

Excluded from Service	Storage	Server	Networking	Solutions
Non-Dell technical components or components not included in the current deployment engagement	✗	✗	✗	✗
Assistance with missing, wrong, or defective components as these will be handled by the normal technical support process	✗	✗	✗	✗
Outage situations or high severity situations as these will be handled by the normal technical support process	✗	✗	✗	✗
Onsite configuration assistance	✗	✗	✗	✗
Immediate response time or 24x7 availability of the deployment team who performed the initial service.	✗	✗	✗	✗

Training Credits for Dell Education Services

Customers who purchase the Services for use with select Supported Products may receive DT Services Education Services Training Credits ("Training Credits"). Check your Order Form to confirm whether your purchase of the Services includes a ProDeploy Plus Training Credits SKU, and to determine how many Training Credits you receive with your purchase of the Services.

Training Credits are a flexible way to purchase training courses offered by Dell Technologies Education Services ("Dell"). Training courses are offered in a variety of formats: On-Demand training, Virtual Classroom training and Live Classroom training at a location open to any customer or at a customer site. A list of available training courses can be found at education.dellemc.com .

Training Credits should be redeemed in the country in which they are purchased, but may also be redeemed outside the country in which they are purchased on a case by case basis as determined by Dell. In order to redeem Training Credits outside the country in which they are purchased, contact Dell Technologies Education Services or your sales representative.

The duration of the term during which you can use the Training Credits to purchase Dell Technologies Education Services training courses is twelve (12) months from the date of your purchase of the Training Credits. All training courses redeemed against the Training Credits must be scheduled and delivered prior to expiration of your applicable 12 month period from the date of purchase of the Services on the Order Form, except to the extent applicable law requires otherwise. After you purchase your Training Credits, Dell will provide a monthly balance report of your Training Credits and a 90 day notice for any expiring Training Credits. If you have questions about the expiration of your Training Credits, contact Dell or your sales representative. Dell's obligations to provide Dell Technologies Education Services training to you in return for the Training Credits you purchase will be deemed satisfied after the 12 month period following the date of your purchase of the Training Credits, even if you do not use the Training Credits to purchase any Dell Technologies Education Services training. If the Training Credits expire, you will not receive a refund for the purchase of the Training Credits.

Your purchase of Training Credits may be used for training provided by Dell Technologies Education Services, and in some limited instances for certain third party training. Contact Education Services or your sales representative for more information about qualifying third party training offerings.

Exhibit B
Supplemental Deployment Services

Supplemental Deployment Services are additional deployment services which complement a new deployment or supplement an already deployed Dell Hardware Platform. Supplemental Deployment Services are sold as either an Add-on to an existing ProDeploy Enterprise Suite offer or as a standalone offer. The Order Form will include the name of the service(s) and available service options purchased.

Each Supplemental Deployment Service includes project management, pre-deployment planning, implementation, post-deployment, exclusions, and customer responsibilities as outlined below.

Project Management
1. If the Supplemental Deployment Service contains sub-service options, Customer will notify Project Manager the sub-service option(s) selected up to the quantity purchased for each Supplemental Deployment Service.
2. If the Supplemental Deployment Service is purchased as an Add-On Service, integrate the activities within the Supplemental Deployment Service with the Primary Service.
3. If the Supplemental Deployment Service is purchased as a Primary Service, the following will be performed:
   a. Review the site environmental and technical readiness requirements.
   b. Schedule an outage window, if necessary.
   c. Confirm readiness review and installation dates and highlight dependencies on complete customer site readiness and product ship dates to meet the planned installation schedule.
   d. Confirm deliverables and overall plan are reviewed and agreed to by customer.
   e. Customer to provide a contact to allow timelines and processes to be completed on schedule.
   f. Ensure that the customer reviews, accepts and abides by the terms and conditions of this Add-on Service.

Pre-Deployment Planning
- Review and obtain the site technical requirements with the Customer, as applicable.
  a. Power
  b. Networking
  c. Rack space
  d. Software and licensing
- Verify that the existing configuration meets the minimum hardware and software requirements, if applicable.
- Create a valid implementation plan based on the Customer's hardware and software configuration.
- Define/confirm that the configuration meets the minimum hardware and software requirements for the environment.
- Perform any Additional Pre-Deployment Planning as identified in the specific Supplemental Deployment Service.

Implementation
- Perform implementation as outlined in the specific Supplemental Deployment Service.

Post-Deployment
- Project documentation with Product Orientation
- System testing and verification

Exclusions
- Any activities other than those specifically noted in the Supplemental Deployment Services section.
- Any specific Supplemental Deployment Services exclusions.
- Service Exclusions as outlined in the Terms and Conditions section.

Customer Responsibilities
- Any specific Supplemental Deployment Services customer responsibilities.

- All Service Specific Customer Responsibilities as outlined in the Terms and Conditions section.
- All General Customer Responsibilities as outlined in the Terms and Conditions section.

Add or Upgrade Storage Hardware Component

This Supplemental Deployment Service provides for the installation and/or configuration of a storage hardware component. This Supplemental Deployment Service is defined and limited to the description and quantity in the Supplemental Deployment Service purchased.

This Supplemental Deployment Service includes **one (1)** of the following installation and configuration sub-services as identified by the capitalized letters A-G:

A. Add or upgrade memory ("RAM") in an existing single or dual controller Dell storage system.

Implementation
1. Upgrade storage system software/firmware, if required, to support new hardware.
2. Label any interconnect cables that will be removed or replaced during the upgrade process.
3. Install and configure the RAM as per the installation instructions.
4. Verify the product has been successfully upgraded and there is storage array connectivity.

B. Add or upgrade up to four (4) tape drives or I/O blades to a single Dell storage tape library (excludes Expansion Module "EM" for ML Series).

Implementation
1. Install additional tape drive(s)
   i. Install the tape drive(s) as per the included instructions.
   ii. Upgrade the library and/or drive firmware, as needed.
2. Install I/O blade(s):
   i. Upgrade the library firmware, as needed.
   ii. Install the I/O blade as per the included instructions.
3. Label and Cable the drives to the new I/O blade(s):
4. Connect the blades to the fabric(s), as per the design.
5. Configure the I/O blade(s) as per the design.
6. Configure (re-zone) the switches as per the design.
7. Validate that the hosts show the tape drives as functioning devices.

C. Add or upgrade up to four (4) supported I/O cards into a single existing Dell storage system.

Implementation
1. Upgrade storage system software/firmware if required, to support new hardware.
2. Label any interconnect cables that will be removed or replaced during the upgrade process.
3. Install and configure the I/O card as per the installation instructions.
4. Verify the product has been successfully upgraded and there is storage array connectivity.

D. Add or upgrade up to two (2) supported HBAs into a single existing Dell server.

Implementation
1. Install the HBA(s) and update firmware and driver(s).
2. Install, route, and label all the host to array connectivity cables.
3. Configure the host.
   i. Modify zones or iSCSI connections as needed on the switch fabrics.
   ii. Create and/or assign up to 3 volumes.
4. Verify host to LUN connectivity.
5. Power cycle the host to ensure proper boot cycle.

E. Add up to forty-two (42) disks into a Dell storage system (excludes enclosure installation or disk replacement).

Implementation
1. Upgrade storage system software/firmware, if required, to support new hardware.
2. Install and configure the new disks, as per the plan:
    i. Create or Expand Storage Pools or Profiles, as necessary.
    ii. Create or Expand Volumes (Does not include changes to the file system on hosts):
        (a) Assign volumes to the appropriate storage profile and/or hosts.
        (b) Create volume replay schedules as necessary.
        (c) Verify storage connectivity.

Exclusions
- Physical installation of server(s).
- Installation or configuration of any network switch(es).
- Installing cables external to the rack.
- De-installation or re-installation of product(s) or application(s).
- Clustering of the servers.
- Installation of Network Operating System ("NOS").
- Installation of HBAs or NICs into non-Dell hardware.
- Installation of any component or driver into a non-Dell device.
- Installation of any product into an unsupported rack.
- Any configuration/re-configuration of tape backup software.
- Any activities to existing Ethernet or Fibre Channel networks or non-Dell switches.
- Adding expansion module "EM" to ML Series tape library.

Add or Upgrade Storage Software Component

This Supplemental Deployment Service provides for the installation and configuration of a storage software component. This Supplemental Deployment Service is defined and limited to the description and quantity in the Supplemental Deployment Service purchased.This Supplemental Deployment Service includes **one (1)** of the following installation and configuration sub-services as identified by the capitalized letters A-G:

A. Implementation of Dell Auto Snapshot Manager ("ASM") or Replay Manager on one (1) existing SAN-attached host with integration into one (1) of the following: Microsoft SQL, Microsoft Exchange, Microsoft Hyper-V, Oracle or VMware ESX.

Additional Pre-Deployment Planning
1. Validate available space on array to accommodate snapshots/replays.
2. Verify the storage array and host environment is at the supported interoperability levels.
3. Define ASM or Replay Manager configuration:
    i. Applications
    ii. Jobs
    iii. Schedules

Implementation
4. Prepare the host, as per the design:
    i. Verify HIT Kit software and update as necessary.
    ii. Install/Upgrade Dell Replay Manager software as necessary.
    iii. Install licensing for Dell Replay Manager feature.
5. Create ASM or Replay Manager jobs as per the design.
6. Show/test the configuration.

Customer Responsibilities
- Provide detailed information regarding the hosts that will be running ASM or Replay Manager, including details about the OS, applications and service packs along with information relating to the data to be replicated, such as mailboxes and databases.
- Ensure VMware Virtual Center and VMware ESX systems are running supported versions.

B. Implementation of Application Protection Manager ("APM") for Oracle.

Additional Pre-Deployment Planning
1. Outline APM Requirements

Implementation
2. Install APM Explorer
3. Install one agent to Oracle host for testing
4. Add and connect APM Orchestrator

Customer Responsibilities
- All Oracle tasks outside of installation of one agent for testing
- Scheduling, scripting or documentation for Disaster recovery
- Working with more than one host for the purpose of testing / demonstration

C. Implementation of SAN management vCenter plug-in.

Implementation
1. Import the virtual appliance.
2. Power on and configure.
3. Test and confirm functionality.

D. Implementation of VMware ESX or Microsoft Hyper-V on one (1) existing server for use in a new Dell Storage Area Network ("SAN").

Additional Pre-Deployment Planning
1. Define the server, storage and virtual machine allocation.

Implementation
2. Install VMware ESX: (Install latest major code release as per the plan).
3. Install Microsoft Windows Server: (Install latest major code release as per the plan).
   i. Enable the Hyper-V role.
4. Configure servers:
   (a) Configure virtual networking.
   (b) Configure vMotion or Live Migration, as applicable.
5. Connect Dell storage:
   (a) Configure storage connections, as needed.
   (b) Configure and assign storage per the plan.

Customer Responsibilities
- Locate OS certificates and register them online in order to generate the appropriate license keys.
- Setup and configuration of all suggested and required Virtual LANs (VLANs) for iSCSI, management network, vMotion, Live Migration, and other inter-connectivity on non-stand-alone physical switches.
- Load any patches or updates that may have been released subsequently after this Service is complete.

E. Installation and configuration of VMware vCenter Server or Microsoft SCVMM.

Additional Pre-Deployment Planning
1. Discuss vCenter Server or SCVMM basic functionality and best practices.
2. Determine if a database resource ("DBA") will be available during the installation portion of this Service, if connecting to an existing SQL database for vCenter or SCVMM, and schedule as appropriate.
3. Determine the vCenter or SCVMM server requirements and storage allocations:
   i. If not a virtual appliance, define Microsoft Windows® server for hypervisor manager.
   ii. Define Active Directory integration plan for the hypervisor manager.
4. Define server, storage, and virtual machine allocation.

Implementation
5. Either create a new VM to serve as the vCenter Server or SCVMM Server, or use a physical server supplied by the customer.

6. Optionally, import the vCenter Server Virtual Appliance and configure with the embedded database, per the plan.
7. Install and configure the hypervisor management application per the plan.

Customer Responsibilities
- Locate OS certificates and register them online in order to generate the appropriate license keys.
- Make certain that a fully functioning and supported Microsoft Windows based server is installed and available for the installation of the vCenter or SCVMM software, if applicable.
- Provide all applicable licenses for vSphere, vCenter and Microsoft Windows.
- Ensure that a supported version of Microsoft SQL Server or Oracle database is available and operational prior to this Service being executed. For vCenter Server only, if no enterprise database will be available, the included SQL Express Edition can be deployed.
- Setup and configuration of all suggested and required Virtual LANs (VLANs) for iSCSI, management network, VMotion, Live Migration, and other inter-connectivity on non-stand-alone physical switches.
- Load any patches or updates that may have been released subsequently after this Service is complete.
- Troubleshoot any database connectivity issue during vCenter or SCVMM install.
- Ensure that an existing Microsoft Active Directory is available for the SCVMM server, if applicable.

F. Implementation of up to four (4) additional Application Agents into a BPR solution.

Implementation
1. Install the application module.
2. Configure any necessary settings on the application and the application module component.
3. Perform a test backup to ensure that both the application module and the application behave as appropriate for the functionality provided using a limited set of data (100MB or less).

Customer Responsibilities
- Make certain that any installation, re-installation or upgrade of CommVault® software is completed and functional prior to the delivery of this sub-service.
- Ensure that the installation requirements and installation pre-requisites, as defined in the manuals provided for this CommVault® component, have been met prior to the start of the installation activity.

G. Upgrade of firmware on one (1) existing Dell Storage array.

Implementation
1. Verify that storage array is at minimum supported software version.
   i. Upgrade array software.
   ii. Upgrade array management software on a single Windows-based system.
   iii. Verify that product has successfully been upgraded.

Exclusions
- Reconfiguration, re-implementation, or reallocation of volumes on existing nodes.
- Services of any kind relating to replication.
- Creating of any Virtual Machines or virtual templates.
- Creation or configuration of vCenter Resource Pools.
- Advanced HA or DRS configuration.

Replication Services for Dell Storage

This Supplemental Deployment Service provides for the implementation of replication between two supported* Dell Storage systems. This Supplemental Deployment Service is defined and limited to the description and quantity in the Supplemental Deployment Service purchased.

* Note: Replication between every storage system is not supported. Please consult with your Dell sales representative to determine if replication between your storage systems is available. Supported replication between storage systems includes, but may not be limited to:

- MD Series SAN to MD Series SAN
- ME Series SAN to ME Series SAN
- PS Series to PS Series
- PS Series to SC Series
- SC Series to SC Series
- SC Series to PS Series
- FS7XXX to FS7XXX
- FS8XXX to FS8XXX

Implementation
1. Configure replication on the source and target storage systems, as set forth in the implementation plan:
   a. Establish replication relationship between two supported* storage products.
   b. Setup and configure replication of up to four volumes.
   c. Enable and configure SC Series Live Volume (block only).
      i. Convert replicated volume to Synchronous Mode and enable auto-failover on test volume.
      ii. Test manual failover (only for net new Storage Centers).
   d. Utilize single host with connectivity to two (2) Live Volume licensed Storage Centers. Conduct end-to-end replication demonstration on a small (100MB) volume.

Customer Responsibilities
- Provide detailed information regarding the replication environment, including details about the operating system ("OS"), applications and Service packs along with information relating to the data to be replicated.
- Provide site to site IP link and operational communications links (with proper cables, routers as needed and connectors) and proper port count between the two storage systems.
- Obtain a valid Remote Replication license, if applicable.
- Provide network infrastructure capable of supporting the bandwidth requirements of replication.

Exclusions
- Disaster recovery design and planning.
- Integration of replication software into any host-based application.
- OS level stretch or geo-cluster configuration.
- Replication via the Portable Volume or Manual Transfer Utility features.
- Waiting for all replication pairs to finish initial synchronization state.

Treatment of Protected Health Information, Personal Data, Confidential, Proprietary or Sensitive Data on Customer Systems

Customer warrants and represents that prior to providing Dell access to any Customer equipment which has been used for processing and/or storage of health information subject to privacy laws in the Customer's location ("Protected Health Information" or "PHI"), personal data or personally identifiable information subject to privacy laws in the Customer's location ("personal data"), or other confidential, proprietary or sensitive data, all PHI, personal data or other confidential, proprietary or sensitive data has been rendered unusable, unreadable or indecipherable to unauthorized individuals through the use of a technology or methodology required by the privacy laws in Customer's location. Customer shall be responsible for confirming compliance and any updates to guidance from the appropriate governmental entity on how to secure PHI, personal data or other confidential, proprietary or sensitive data in order to render it unusable, unreadable, or indecipherable, to unauthorized individuals and will comply with any applicable guidance as it relates to PHI, personal data or other confidential, proprietary or sensitive data found on equipment or materials submitted to Dell.

Add Additional Host to Dell Storage

This Supplemental Deployment Service provides for the configuration of the specified number of additional hosts connected to Dell Storage. This Supplemental Deployment Service is defined and limited to the description in the Supplemental Deployment Service purchased.

Additional Pre-Deployment Planning
1. Define the storage volumes and server assignments.
2. Discuss the recommended local area network (LAN) configurations for new iSCSI hosts with the Customer.
3. Discuss the recommended configurations for all hosts with the Customer, if applicable:
   a. Define additional zones for Fibre Channel switches.
   b. Define port and vLAN configuration for iSCSI switches.

Implementation
4. Configure network connectivity for existing SAN-attached host.
   a. Physical installation of Host Bus Adapters (HBA) or Network Interface Cards ("NIC") into Dell servers only, as necessary.
   b. Install, route, and label host to storage connectivity cables.
   c. Install/update drivers and firmware. On non-Dell hardware, ensure that the Customer updates as necessary.
   d. Configure network parameters as required.
   e. Configure supported Multi-Path I/O ("MPIO") and failover software.
   f. Configure supported switches sold by Dell, as necessary, for host connectivity.
   g. Assign/map volumes/virtual disks to servers.
   h. Partition and format assigned volumes/virtual disks.
5. If purchased as an Add-on Service to a supported ProDeploy Plus Storage Hardware Platform, one additional host will be added to the defined host limit for the Service Feature Data Migration analysis and recommendation, if applicable.

Exclusions
- Physical installation of server(s).
- Installing cables external to the rack.
- De-installation or re-installation of product(s) or application(s).
- Clustering of the servers.
- Installation of Networking Operating System ("NOS").
- Installation of HBAs or NICs into non-Dell hardware.
- Any remediation

Implementation of Software Defined Storage

This Supplemental Deployment Service provides for the installation and configuration of software-defined storage as an add-on to an existing ProDeploy Plus server offer. This Supplemental Deployment Service is defined and limited to the description and quantity in the Supplemental Deployment Service purchased.

A. Implementation of VMware Virtual SAN ("vSAN"):

Additional Pre-Deployment Planning
1. Verify the equipment list to ensure it matches the supported hardware for the solution.
2. Review the customer-completed vSAN survey questionnaire and ensure that all required information is documented.
3. Validate vSAN-specific network switch settings in customer existing environment.
   i. If network deployment services are sold in conjunction with this service, include the vSAN-specific settings.
4. If required, validate Remote Office Branch Office (ROBO) topology and configuration

Implementation
1. Validate vSAN-specific network switch settings.
2. Perform the additional host configuration steps, including:
   i. Virtual switch configuration.
   ii. NTP, DNS, routing, etc.
3. Configure disk groups on new nodes to be added to the vSAN datastore.
4. Add nodes to the cluster.
5. Validate functionality.

Customer Responsibilities
- Complete the vSAN survey questionnaire provided by Project Manager
- All equipment must meet implementation requirements for vSAN per the VMware Compatibility Guide:
  https://www.vmware.com/resources/compatibility/search.php?deviceCategory=vsan
- For ROBO implementations, the Dell EMC recommendation for the required witness is the VMware Virtual Witness Appliance which must be hosted on a ESX 5.5 or higher cluster and accessible from the datacenter hosting the ROBO implementation.
-

Exclusions
- vSAN stretched cluster.

B. Implementation of Microsoft Azure Stack HCI:

Additional Pre-Deployment Planning
1. Deliver the Microsoft Azure Stack HCIsurvey questionnaire to the customer in advance of a planning session.
2. Upon receipt of the returned survey, schedule the planning session.
3. Verify the equipment list to ensure it matches the supported hardware for the solution.
4. Review the returned, customer-completed S2D survey questionnaire and ensure that all required information is documented.
5. Verify if the customer will be using SCVMM and discuss the possibility if it's supported or not.
6. Provide the Customer documentation about S2D-specific network settings for Customer existing environment.
   i. If network deployment services are sold in conjunction with this service, include the S2D-specific settings.

Implementation
1. Verify with the customer that Microsoft Azure Stack HCI-specific network switch settings have been applied
   i. If network deployment services are sold in conjunction with this service, validate the Microsoft Azure Stack HCI-specific settings
2. Perform initial configuration of Microsoft Server 2016/2019 Datacenter hosts
   i. Install and configure necessary roles and features
3. Configure Microsoft System Center Virtual Manager (SCVMM) if applicable
4. Perform the additional configuration steps, including:
   i. Configure Switch Embedded Teaming (SET)
   ii. Create Microsoft Failover Cluster
   iii. Enable S2D
   iv. Enable Network Quality of Service (QoS) on each cluster node if applicable
   v. Configure RDMA settings on each cluster node
5. Configure Storage Pools and virtual disks
6. Add nodes to the cluster
7. Validate functionality
8. Add S2D Management Packs to existing System Center Operations Manager (SCOM) if applicable
9. Install and configure Windows Admin Center for Windows 2019 and the Dell OpenManage Plugin for Microsoft Windows Admin Center

Customer Responsibilities
- Complete the S2D survey questionnaire provided by Project Manager
- All nodes must be Dell EMC Microsoft Storage Spaces Direct Ready Nodes (S2DRN) and all equipment must comply with implementation of Microsoft Azure Stack HCIguidance per the Dell EMC Microsoft S2DRN Support Matrix:
  http://en.community.dell.com/techcenter/extras/m/white_papers/20443714

Exclusions
- S2D Cluster configuration among nodes not in the same datacenter.
- Expanding a 2-node cluster.

Implementation of VxRail Stretched-cluster

This Supplemental Deployment Service provides for the configuration of a single VxRail Stretched-cluster as an add-on to an existing ProDeploy or ProDeploy Plus VxRail deployment offer, and is defined and limited to the description and quantity in the Supplemental Deployment Service purchased.

A. Implementation of VxRail Stretched-cluster, per node:

Additional Pre-Deployment Planning
1. Review the customer-completed VxRail survey questionnaire and ensure that all required information is documented.
2. Validate Stretched-cluster-specific network configuration in customer existing environment.
3. Verify the witness and all nodes can be configured from the primary location.

Implementation
1. Validate Stretched-cluster-specific network switch settings.
2. Deploy and configure the vSAN virtual witness appliance, or physical witness host as applicable.
3. Configure static routes between hosts in the data sites and the witness.
4. Configure Fault Domains & Stretched Cluster.
5. Configure Advanced parameters on hosts for Stretched-cluster as applicable.
6. Create one Host Group for the Preferred site, and one for the Secondary site.
7. Create one VM Group for the Preferred site and one for the Secondary site.
8. Create two temporary VMs for testing.
    i. Operating system install is not necessary for these test VMs; the test will be to confirm the virtual disk component placement.
9. Create one VM/Host Rule for the Preferred site, and one for the Secondary site.
10. Configure vSphere HA Admission Control and vSphere HA Isolation Settings for Stretched-cluster.
11. Configure up to one Optional VM Storage Policy Affinity Rule, as applicable.
12. Confirm successful Virtual SAN Health Check for the Stretched Cluster.
13. Verify the VM/Host rules function as expected.
14. Provide overview of the VM/Host Rule feature.

Customer Responsibilities
- Complete the VxRail survey questionnaire provided by Project Manager.
- Facilitate necessary configuration modifications on the new cluster in vCenter, if leveraging a customer supplied/existing vCenter Server.
    i. Also facilitate rectifying any vCenter issues with expired certificates or 3rd party certificates as needed, if leveraging a customer supplied/existing vCenter Server.
- Upgrade of vCenter to supported level as needed prior to the deployment, if leveraging a customer supplied/existing vCenter Server.
- Provide Stretched-cluster requirements, such as:
    i. A witness site with appropriate hardware, software, and networking. A dedicated witness host is required for each Stretched Cluster.
    ii. Deployment and supportability is bound to the requirements outlined by VMware and the Dell EMC VxRail Stretched Clusters Planning Guide.
        (a) In case of any discrepancies between those posted guides and listed here, the posted guides prevail.
        (b) Some highlights:
            (i) VSAN communication between the data sites over stretched Layer 2 (L2).
            (ii) Additionally L2 networking is required for management and vMotion.
            (iii) VSAN communication between the data sites and the witness site is routed over Layer 3.
            (iv) Data Site to Data Site Network Latency or RTT < 5msec.
            (v) Data Site to Witness Network Latency or RTT < 200msec.

(vi) Data Site to Data Site Bandwidth: For most workloads, VMware recommends a minimum of 10Gbps or greater bandwidth between sites.

Exclusions
- Performance testing.
- Custom host naming and/or IP addressing which may not be handled via VxRail Manager.