



Homebase

deployment and commissioning guide

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Author : Lindsay Braine

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Indigo Stone International Ltd
The New Mill. New Mill Lane
Witney.
Oxon. OX29 9SX
UK
Tel: +44-(0) 1993-849000
Fax: +44-(0) 1993-849001
URL: <http://www.indigostone.com>



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1 Introduction

1.1 About this Guide

The document is designed to provide a framework of guidance and required processes for the deployment of a Homebase server solution. The framework includes advice and best practice collected from many source's experience in deploying a Homebase Server network. The framework also includes additional steps and checks that a deployment team can undertake to ensure that their Homebase server is correctly configured

1.1.1 Homebase Toolset Introduction

Homebase is a sophisticated product toolset that uses a server-based agent to profile the configuration data (sometimes referred to as the Server System State) to recover an operating system in the event of a disaster or to migrate one server's configuration to another server.

The server-based agents, Homebase Profiler and Homebase Discovery, can be configured to automatically transmit generated Profiles to a Homebase installation.

Homebase is the preferred secure repository for the receipt of server profiles.

Homebase provides a web interface that allows interrogation of stored profiles, either on an ad-hoc basis or for the production of regular management reports. Profiles can be compared against previous profiles, providing effective configuration and change management analysis for any server.

Profiles can be selected from the Homebase repository for use by the Homebase Recovery agent to recover or migrate a server to new hardware.

1.2 Purpose of the Guide

This guide is intended for the reader who wishes to gain an appreciation of issues to consider when deploying a Homebase server solution.

For all components in the Homebase product suite the associated users guide should be referred to for detailed information on configuration options.

This documents is not a replacement for the fuller functional description provided in the User Guide documents.

1.3 Typographical Conventions

This section explains the typographical conventions used in this guide.

Monospaced font This typeface is used for literal text, such as URLs, filenames, and command line instructions.

Italic font This typeface is used for emphasis, for new terms, and for text that you must substitute for actual values, such as placeholders in path names.

The greater-than symbol (>) is used as a separator when naming an item in a menu or sub-menu. For example, Object > New > User means that you should select the User item in the New sub-menu of the Object menu.

1.4 Homebase Supported Installation Platforms

Operating System Level	Additional notes
Windows 2000	x86 platforms
Windows 2003	x86 platforms
Redhat Linux 3	x86 platforms
Redhat Linux 4	x86 platforms

1.5 Homebase Agent Support Installation Platforms

Operating System Level	Additional notes
Windows XP	X86 platforms
Windows 2000	x86 platforms
Windows 2003	x86 platforms
AIX 5.1	
AIX 5.2	
AIX 5.3	
Solaris 8	SPARC
Solaris 9	SPARC
Solaris 10	SPARC
HP-UX11	PA-RISC
HP-UX11i	PA-RISC
VMWare	X86 platforms

1.6 Supported Internet Browsers

Browser Version	Additional notes
Internet Explorer 6.0+	
FireFox 1.5+	

2 Deployment Planning

Each corporate organisation planning a Homebase deployment will be unique. The organisational structure will be unique and any IT servers deployed to support the organisation will by necessity, also, be unique.

The Homebase software suite is straightforward and simple to commission, as items of software, but to ensure that the business requirement is being satisfied a level of planning activity for the deployment exercise is required.

The Homebase software suite is a distributed solution, and as such will require various IT stakeholders to be involved in any deployment planning. Example IT stakeholders might be: Network Administrators; Server System Operators, Network Security Planners etc.

Depending on the use that Homebase is being put to with the organisation different business stakeholders should be consulted as their objectives and needs out of a deployed Homebase solution.

Installing and configuring Homebase is, in most cases, a straightforward and simple affair. Any errors in configuration can either be corrected via a simple restart or, in some cases, can be corrected by altering the configuration directly in Homebase (normally not requiring a restart).

What this guide attempt to highlight are the some of the choices and some of the pitfalls in the deployment topology that any organisation should seek to adopt or avoid accordingly.

3 Deployment Guidance

3.1 Introduction

Critical to the success of deploying a Homebase solution within a business is understanding and planning for the deployment process.

The deployment plan should consider and make allowances for:

1. Understanding the Homebase profile repository.
2. The physical location of the servers to be covered by Homebase
3. The Homebase server agent to Homebase server communication protocol to be used
4. The location of any Homebase Proxy servers
5. The network connectivity required to support the Homebase deployment topology
6. The configuration of the Homebase servers
7. The configuration of Homebase server communication interfaces
8. The configuration of supporting IT services.
9. Business access to the Homebase servers

Each of these elements will have varying impact of the final solution in the deployment plan, depending on the choices the business makes. They are presented in no particular order, but represent a “logical flow” through the deployment process.

A brief overview of the Homebase deployment choices that is available in a Technical Blue Book, titled *Homebase Deployment Architectures*.

3.2 Understanding the Homebase profile repository

All profiles received, validated and accepted by a Homebase server are stored in a hierarchical repository. The determination of where a received profile is situated in the repository is based on information held with the license key of any Homebase Server agent.

The hierarchy is structured as follows:

[country] – [company] – [location] – [site]

For example, for a profile that is taken from a server located at the Indigo Stone head office at Witney in the United Kingdom the following would be a typical hierarchy entry:

[uk] – [indigostone] – [witney] – [headoffice]

All servers transmitting profiles from this site would be situated under the head office entry of the hierarchy.

When licensing a server to execute a Homebase agent installation it is critical that the correct location and site information is provided to the agent installation wizard. As this information is tied to the generated license key any error or change will require new licenses to be issued.

As profiles are received at the Homebase Server they are subject to alert rule checks, which, if activated, cause notifications to be transmitted to the relevant stakeholders.

It is important to define and implement a housekeeping policy for defining and removing unwanted profiles. It is also important to define housekeeping for removing saved alerts when they are no longer useful to keep. Alerts will expire after two months naturally within Homebase, but a more 'active' management approach may be preferred.

When alerts generate notifications to stakeholders they may indicate some corrective action being required. Defining a company procedure for actioning each different type of emailed alert (it is a good idea to prevent alert fatigue that may lead to important alerts being ignored)

3.3 Physical Location of Homebase Servers

Homebase servers are designed to be located with the Local Area Network of a corporate data centre. Each Homebase server located in such a site can be expected to handle all the profiles received from protected servers.

These profiles can selectively be replicated to another Homebase server, located at another site. Typically the replica would be located at a geographic remote location, for the master server, to provide a level of information redundancy.

All profiles received at a Homebase server are stored in their original form, as generated for the Homebase agent. Despite the high level of encryption provided on this corporate data, physical access to the Homebase server should be restricted and monitored.

3.4 Homebase Agent to Homebase Server Communication

The Homebase agent provides a number of protocols for the automatic transmission of Profiles to a Homebase Server.

The primary protocol is a security-hardened variant of FTP. The FTP variant provides a point-to-point real time connection between a Homebase agent and a Homebase server utilising the FTP protocol standard as described in RFC 959.

A secondary protocol, SMTP, is provided for extreme cases where the use of the FTP variant protocol is not possible. The SMTP protocol is considered to be less secure than the FTP protocol as, depending on the topology of deployed mail servers within the corporate network and outside on the Internet/WAN, the Homebase agent never talks directly to Homebase server.

The profile is transmitted to the nearest SMTP Mail Transport Agent (MTA) which is responsible for relaying that SMTP Email to the eventual destination Homebase.

While the profile is being relayed by successive MTA's the SMTP email may be stored, copied, replicated many times and will be subject to the variation of service quality provided by email servers.

For adhoc profile uploads the Homebase server provides, via its web interface, the ability for profiles to be uploaded on demand by an authorised user.

3.5 Planning for Homebase Proxy Server Deployment

In some data centres network subnetting is used to provide a level of security against data leakage across servers and it may be possible that a direct connection cannot be formed from the Homebase agent to the Homebase server.

In such cases, the Homebase Proxy Server can be deployed within the subnet to act as the 'collector' for Homebase agents deployed. The Homebase Proxy Server will form a point-to-point real time connection between a Homebase agent and a Homebase server and not store the transmitted profile in any way.

If a Homebase Proxy Server is deployed on a subnet it can be used to form a point-to-point connection between the Homebase agent and the Homebase Server when the SMTP protocol is selected, overcoming some of the concerns and issues associated with using SMTP and its reliance on third party mail servers.

3.6 Network Requirement Planning

The average Homebase agent profile size is approximately 3-5M in size. This size is provided as an average guide and will vary according to the size of the server that the agent is deployed to:

The Homebase agent features that can impact profile size are:

- [1] Excessive use of the Cataloguing feature
- [2] Excessive use of the Customer Collections feature
- [3] Large amounts of storage attached (Terabytes)
- [4] Large Active Directory deployments (Windows Only)

In almost all cases the server transmitting profiles only require 100MB connectivity with the Homebase server.

If the Homebase server it to provide by FTP and SMTP profile transmission capability separate network cards will allow a level of load balancing to occur across each interface. Some network cards also offer the possibility of teaming (virtual IP addresses) that provide a level of redundancy should a network card fail for any reason.

As the Homebase server interfaces will always provide a performance pinch-point a higher specification network adapter is recommended. Gigabit Ethernet

or FDDI type interfaces will provide improved network bandwidth and reduce the impact of the performance pinch point.

If the Homebase server is to store UNIX profiles for recovery purposes the performance of the network adapters will be critical to the performance of the recovery process. During UNIX recoveries the Homebase server's software repository is interrogated for software packages that are required to bring the UNIX server up to the required maintenance level.

The application of identified packages is constrained by the speed at which the packages can be streamed between the Homebase server and the Homebase recovery tool.

It is therefore recommended that the network adapters on each end of the network connection be of highest specification practical and that they are enabled to operate in Full Duplex mode.

3.7 Configuring the Homebase Server

The configuration of a Homebase server is described in detail in the Homebase User Guide, and it is not the responsibility of this document to repeat the information provided.

There are certainly critical steps that the reader's attention is drawn to:

[1] Always uninstall old Homebase 1st before installing new one and ensure the upgrade procedures provided in the Homebase User Guide is followed.

[2] Don't forget to stop and start the Homebase service in order for configuration changes to take effect.

[3] In some earlier version of Homebase (pre version 5.4) it is necessary to configure the FTP and SMTP interfaces – even if those interfaces are setup as inactive.

3.8 Configuring the Homebase Server communication interface

As indicated earlier the Homebase server provides several protocols for enabling the uploading of the profiles produced by the Homebase agents.

The primary protocol is a FTP variant.

When configuring the FTP service within Homebase a range of ports is required to be specified. These ports are used by the FTP protocol when it switches into passive mode working. Passive mode working means that the Homebase server never initiates a connection with the Homebase agent; rather it is the agent that always initiates all communications.

A port, from the range of ports specified, is used by the Homebase server to reply to a request from the Homebase agent. The request response instructs the Homebase agent as to which port the profile should be streamed to for the Homebase server to receive it successfully.

The port range specified should not conflict with any other services executing on the physical Homebase server.

As the number of servers transmitting profiles grows, so must the port range specified. Failure to increase the port range will cause Homebase agents to back-off transmission and, if configured to do so, retry at a later date.

It is also sensible for the Homebase agents to be scheduled to transmit profiles at slightly different times – as this will cause spikes in transmission loads across the networks and the Homebase server to be smoothed out.

4 Validating a Homebase Installation

In this section we provide some additional information that can be used to validate the configuration of your Homebase server deployment. This information is by no means exhaustive; rather it is provided to aid the deployment engineer in validating the configuration produced.

4.1 Installing the Software

Full and verbose information on the process that should be followed for an installation are provided in the various user guides that are available for each product.

We would strongly urge the reader to examine each of these guides in turn to fully understand the configuration options available.

Before the installation takes place it is recommended that any domain name (DNS) to be used to identify the Homebase server be pre-allocated and available through name resolution services.

While Homebase can be deployed and configured using IP addresses only, subsequent conversion to use of a domain name identity is not an easy or straightforward process.

4.2 Configure the Interfaces

Ensure that the protocol interfaces (FTP, SMTP) are fully configured, as presented in the user guides. Failure to do this step pre version 5.4 will cause Homebase to fail during start-up.

To validate that each protocol service has started correctly the following process can be used:

On the Homebase server, open a window containing a command line prompt. To test the FTP interface type:

```
telnet <server_ip_or_name> 21
```

The response seen should look something like this:

```
220-Homebase FTP Server
220-(c) Indigo Stone International Limited, 2005
220 Connected to server on: 25 April 2006 14:01:48 BST
```

Type `quit` to return to the command prompt (note that the quit command may not be echoed to the screen).

To test the SMTP interface type:

```
telnet < server_ip_or_name> 25
```

The response seen should look something like this :

```
220-Homebase SMTP Server
220-(c) Indigo Stone International Limited, 2005
220 Connected to server on: 25 April 2006 14:01:48 BST
```

Type `quit` to return to the command prompt (note that the quit command may not be echoed to the screen).

It is recommended that the commissioning engineer repeat the two validation tests on another server, one that is either expected to communicate with the Homebase server or should have network visibility of the Homebase server.

Failure of any of these two commands on a remote sever may indicate that there are network configuration setting changes required to enable a network path to be formed between the two servers.

4.3 Testing the Configuration

Ultimately to test the configuration selected, a Homebase agent should be configured to transmit a profile to the newly commissioned Homebase server.

This can only occur once the Homebase server interfaces have been configured (as described in previous sections) and the Homebase agent has been licensed (Unlicensed Homebase agents are fully functional expect for the automatic transmission to the Homebase server).

4.4 Before Recovery

Before recovery can take place of UNIX server the Homebase software repository must be loaded with the packages necessary to allow a server to rebuilt, no matter the hardware platform type.

This loading must occur for each operating system version that is required to be supported.

Full guidance on how this loading process takes places is provided in the Homebase user guide.

4.4 Examining Log Files

The Homebase server produces four log files that can be examined to provide detailed information on the functionality accessed by users and the server's performance.

All the log files can be located in `<Homebase Proxy installation directory>/ logs:`

```
- server.log
```

The `server.log` file provides a very verbose output of the functional execution of Homebase. The average administrator may find this information daunting, and will probably find the information in the `console.log` file much more useful.

```
- console.log
```

The `console.log` file provides high-level output on the functional execution of Homebase. The average system administrator may find this information useful if trying to determine whether Homebase is performing correctly.

- `error.log`

The `error.log` file provides a very verbose output of any errors that occur during the execution of Homebase. This log file should be monitored and, if information is shown that is giving concern, Indigo Stone should be contacted, together with a copy of the file.

From version 5.4 onwards 3 additional logs files are provided which provides information about the communication to and from Homebase by the Homebase server agents.

- `ftp-channel.log`

The `ftp-channel.log` file provides information on the connections made from Homebase agents (and Homebase Proxy servers) using the Homebase security-hardened version of the FTP protocol.

- `smtp-channel.log`

The `smtp-channel.log` file provides information on the connections made from Homebase agents (and Homebase Proxy servers or third party Email servers) using the SMTP protocol.

- `smtp-reply-channel.log`

The `smtp-reply-channel.log` file provides information on the connections made from Homebase to external email servers, used for the transmission of alerts and notifications.

5 Obtaining Help

In order to resolve problems that may arise with the use of the URM tool set, a helpdesk has been set up to track and manage problem resolution.

5.1 Contacting the Helpdesk

Via the Internet

The helpdesk can be accessed from the Indigo Stone web site at www.indigostone.com.

To enter the helpdesk, follow the Helpdesk Ticket link in the Contact Us Section. Fill in the various fields on the web form provided with as much detail as possible. Submit the enquiry and an Indigo Stone representative will contact you to assist in the resolution of the problem.

Alternatively, you may wish to use the live support facility. This is available at www.indigostone.com. Simply click on the live support link and you can chat to a helpdesk operator in real time.

Via email

To contact the helpdesk via email, please send an email to helpdesk@indigostone.com. The email should contain the following details:

- Customer Name
- Company Name
- Telephone number
- Problem/Issue (as much detail as possible)
- Priority of the issue (high, medium or low)
- Business Impact of the issue
- Hardware
- Operating System level
- Homebase software version (available from the Help panel)

Via telephone

A helpdesk ticket can be raised by telephone during normal working hours in the UK. The helpdesk number is +44 (0)1993 849000. The information categories listed above will be requested to help to fully document the issue.