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Hitachi Dynamic Replicator - Scout Quick Start Guide

Hitachi Data Systems

MK-98DF8214-00

Contents

Conventions

Keywords, command buttons and other such fields are enclosed in " " while being bold, for example, to denote 

"**Next**" is used

Inputs for commands and Variables are shown in *Italics*
File names and paths are shown in **bold**
Commands are shown in **`Courier new font`**
Mandatory keywords and arguments are enclosed within < >.
Optional arguments are enclosed in [ ]

Notes:

Contain suggestions or tips.

Caution:

Contains critical information

References

Although this document been designed sequentially, you may choose to skip to sections that are of interest. Other documents which you may want to refer are

- **Installation guide**: For pre-requisites, installation steps etc
- **Administration guide** for Scout components, protection, and recovery operations through CX UI and cdpcli.
- **Troubleshooting guide**: for possible issues and workarounds

If your requirement is specific to applications like Exchange, SQL server, Oracle etc then please refer the solution documents.

Scope of document

This document is for quick reference and intended for experienced users

Target audience

This document is intended for Hitachi Dynamic Scout administrators, Hitachi Dynamic partners, sales, and engineering teams.

1 Introduction to Scout

Scout suite is application-aware business continuity solution that combines enterprise-class disaster recovery and advanced continuous data protection (CDP) - in a single product. Whether you are concerned about email, databases or unstructured files, Scout is ideally suited for implementing consolidated real time backups and remote replication based on CDP technology. CDP technology provides the capability to rollback/rewind the system to prior point in time instantly without any data copies or restores. Change of the data is captured at block level of volumes in the system making it very efficient in terms of keeping the target system in sync with the source.

Components of Scout include Host agent and a dedicated appliance. Host agent has a small footprint on the host, and only moves byte-level differences based on data changes. Scout CX is the Control and Media Server appliance that provides for centralized management and offload of CPU-intensive operations necessary for efficient data protection. It includes a CDP/DR modeler to help IT accurately provision secondary disk storage and bandwidth.

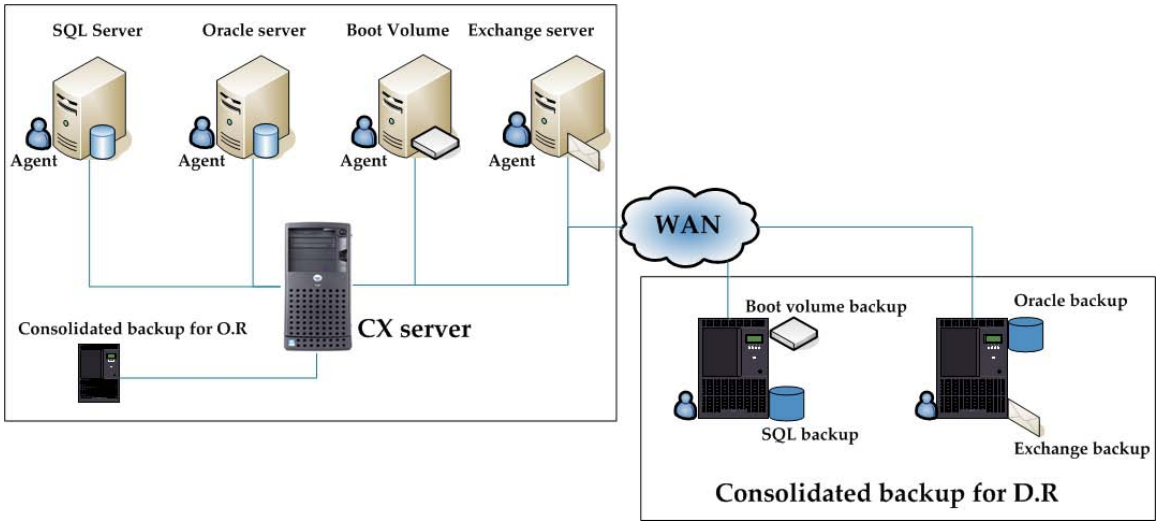

Figure 1: A typical Scout deployment

Scout is made up of three vital components

1. CX server
2. VX agent
3. FX agent

CX server resides within the same LAN as that of the source host and provides a central web based interface through which the appliance is administered, while target(s) are usually placed over a WAN or a LAN depending on the type of recovery policy in place.

Hosts are offloaded by intelligent agents (FX or VX) which do not compete for resources so that business related applications are given priority. CX server provides encryption, compression and graphs which can later be used for MIS reports.

VX agents are volume replication agents, they perform block level replication.
FX agents are file replication agents and perform file level replication. Each of them can be scheduled to run at a particular time

Features like snapshots (virtual and physical) can be taken on the target side without disrupting the replication.

While deploying Scout on a real time environment, the following steps are to be performed

2 Deploying Scout

Deploying Scout involves Installing, profiling protecting and recovering. Each of the steps is dependent on the next one. The installation is followed by profiling then protecting source host.

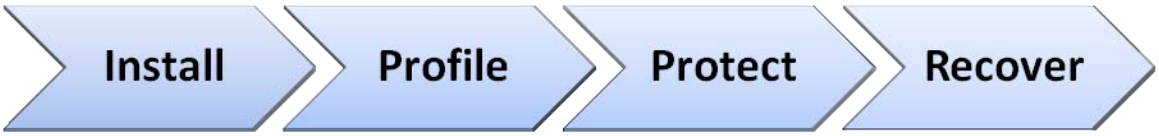

Figure 2:

2.1 Installing

The first step in setting up the Scout appliance is to install a CX server.

Figure 3

2.1.1 Install Windows based CX server

Before installing the CX server

- Ensure that QoS packet scheduler is installed on the network connection, this is required for the CX Bandwidth management module to work.
- SMTP service for IIS needs to be installed; this is required for CX server to send email alerts.
- Both the above services need to be running before installation
- Ensure that FTP service is "**Not Started**" before installing CX server. If the FTP service is not stopped, proftp service used by windows CX will refuse to start. The FTP service can be disabled or uninstalled through "**services.msc**".
- Make sure that port 80 is available for apache installation. If port 80 is occupied by other applications, then you will be prompted to enter a different port number during installation. To change port number at a later stage refer section "**Configuring Web server**" in the troubleshooting guide
- CX server should not belong to a domain

You will find two installers for this. First install the dependencies followed by the CX server installer. Both installers are wizard based and quite simple to install.

Uninstall can be performed through "**Add remove programs**" in the control panel. First uninstall the dependencies and then the CX server.

2.1.2 Install Linux based CX server

Scout CX is designed to work on Red Hat Enterprise Linux versions 4.X and SUSE Linux Enterprise 9.9. The greater the storage space, the greater the WAN outage handled by the CX server will be. It is recommended to install all the packages that are shipped with the operating system. The following is the list of packages that are required

1. apr-0.9.4-24.5.i386.rpm
2. mysql-server-4.1.201.RHEL4.1.i386.rpm
3. apr-util-0.9.4-21.i386.rpm
4. perl-DBD-MySQL-2.9004-3.1.i386.rpm
5. httpd-2.0.52-25.ent.i386.rpm
6. perl-DBI-1.40-8.i386.rpm
7. httpd-suexec-2.0.52-25.ent.i386.rpm
8. php-4.3.9-3.15.i386.rpm
9. mysql-4.1.20-1.RHEL4.1.i386.rpm
10. php-mysql-4.3.9-3.15.i386.rpm
11. mysql-bench-4.1.20-1.RHEL4.1.i386.rpm
12. php-pear-4.3.9-3.15.i386.rpm
13. mysql-devel-4.1.20-1.RHEL4.1.i386.rpm

The names of the files keep changing along with versions and as upgrades are installed. However if a Linux box is already available without these packages, you may choose to install the packages by following the process below.

Untar the binary file (CX installer) to find the check and install script. Execute the check script to see if the system meets the requirements, and then execute install script to start the CX installation. The install script will detect any older installations and prompts for an upgrade or a reinstall accordingly. If port 80 is being used by another process, you will be presented with an option of using another port for the CX UI.

To uninstall the CX server execute the script "**/home/svsystems/bin/uninstall.sh"** and the uninstall will be complete.

2.1.3 Install windows based VX agent

The windows based VX agent is simple to install. Start the installation wizard; it will prompt for a location to install, you may choose to install it in the default location. The agent configuration window appears.
This is where you need to enter the CX server's IP address and the http port used by the CX server.

 **Notes:**

A restart is required once the installation is complete.

2.1.4 Install Linux based VX agent

Installing the VX agent on Linux host is similar to installing the CX server on Linux platform. Untar the binary to find the install script. Then execute the install script, you will be prompted for an installation location. Then the agent configuration window appears, enter the CX server's IP address and the http port being used for the CX server and exit from the agent configuration window.

2.1.5 Install Windows based FX agent

This is similar to installing VX agent on windows; it is recommended that FX be installed in the same folder as of the VX agent. A reboot is not required after installing the FX agent. Ensure that the FX agent service starts with domain user privileges

2.1.6 Install Linux based FX agent

This is similar to installing Linux based VX agent. A reboot is not required

2.2 Profiling

A volume is profiled to understand the data change rates, required bandwidth to achieve a given RPO. Open the CX UI, select the volume to be profiled and for the target volume select "**InMageProfiler**".

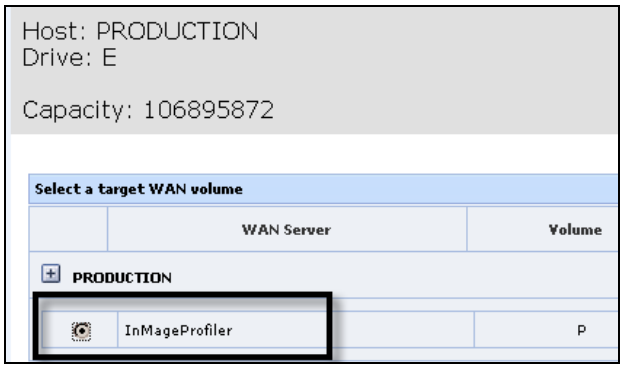

Figure 4

The replication starts from "**Differential Sync**" mode, all the writes to the source volume are replicated to the CX server and graphs are generated accordingly. Ideally profiling typically lasts for over two weeks, which includes month end jobs. With this vital information, we can predict resource requirements at the target host.

2.3 Protecting applications

Open the CX UI through a web browser, login with the default user id as "**admin**" and password as "**password**"

Assign licenses to the source and target agents: This can be done through "**System-License management**"

Setup replication pairs:
Click on "**Volume protection-> source site**" then expand the source host to select the source volume and then click on "**Start Replication".**
This opens up the target site, select the target volume and click on "**Submit**" and the replication pair starts.

The status of the replication pair starts from "**Resync Step 1**", then moves on to "**Resync Step 2"** and finally reaches "**Differential Sync**"

You can schedule an FX job to execute at regular intervals with a post script to issue consistency tags on the source volumes.

 **Notes:**

Enabling the media retention option will give an extra screen where the retention policy can be defined. Media retention option will give you an option to exercise rollback at recovery time.

2.4 Recovering applications

Scout comes with a variety of recovery operations such as target volume rollback, physical snapshots, and virtual snapshots. Again snapshots can be based on time or an event (requires media retention to be enabled on the replication pair). Recovery operations can be performed either through the CX UI or through the cdpcli command line interface (on the target console).

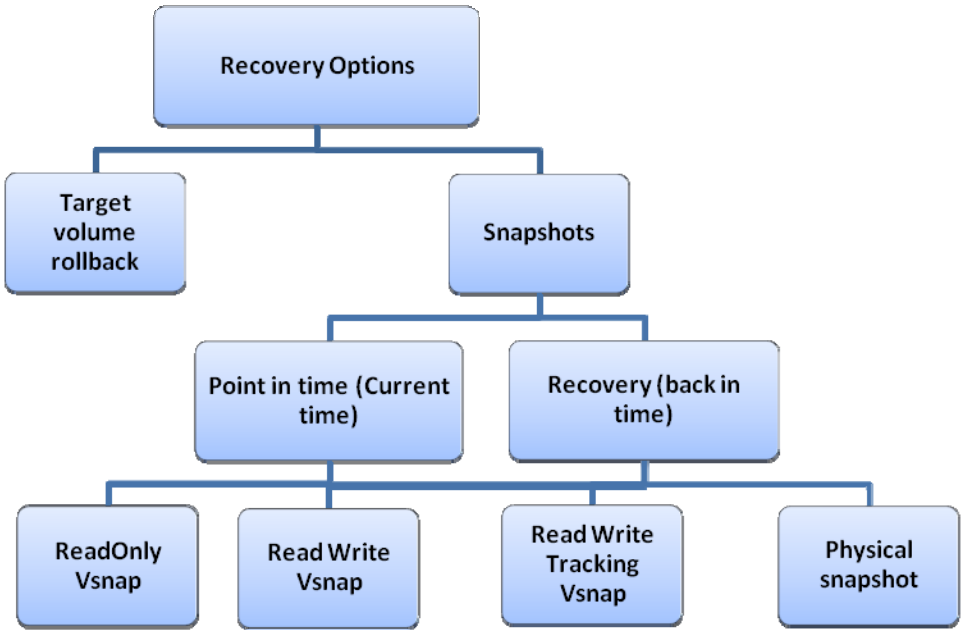

Figure 5

Notes:

Refer to the Admin guide for complete recovery process.

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