Hitachi Data Ingestor
Cluster Getting Started Guide

Hitachi Data Systems

MK-90HDICOM001-02

Hitachi Data Ingestor Cluster Getting Started Guide

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Preface

The Hitachi Data Ingestor (HDI) has three models: cluster, single, and VM appliance. This guide is specifically for the configuration of the cluster model and contains procedures for linking a clustered system to a Hitachi Content Platform (HCP) system in order to run a system.

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Intended audience

This document is intended for system administrators who want to run an HDI cluster appliance model (integrated with the HUS100 series).

In addition, the user must have the following knowledge:

- A basic knowledge of HDI systems and HCP systems.
- Experience with setting up HDI systems and HCP systems.

Product version

This document revision applies to Hitachi Data Ingestor version 4.2.1 or later.

Release notes

Release notes can be found on the documentation CD. Release notes contain requirements and more recent product information that may not be fully described in this manual. Be sure to review the release notes before installation.

Organization of HDI manuals

HDI manuals are organized as shown below.

Note that whether HDI nodes can be set up in a redundant configuration depends on the HDI model. A configuration where nodes are made redundant is called a cluster configuration, and a configuration where a node is not made redundant with another node is called a single-node configuration. Which manuals you need to read depends on which configuration you are going to use.

Manual name	Description
Hitachi Data Ingestor Installation and Configuration Guide, MK-90HDI002	You must read this manual first to use an HDI system. This manual contains the information that you must be aware of before starting HDI system operation, as well as the environment settings for an external server.
Hitachi Data Ingestor Cluster Getting Started Guide (This manual)	This manual explains how to set up an HDI system in a cluster configuration.
Hitachi Data Ingestor Cluster Administrator's Guide, MK-90HDI038	This manual provides procedures for using HDI systems in a cluster configuration, as well as provides GUI references.
Hitachi Data Ingestor Cluster Troubleshooting Guide, MK-90HDI029	This manual provides troubleshooting information for HDI systems in a cluster configuration.
Hitachi Data Ingestor Single Node Getting	This manual explains how to set up an HDI system in a single-node configuration.

Manual name	Description
Started Guide, MK-90HDI028	
Hitachi Data Ingestor Single Node Administrator's Guide, MK-90HDI039	This manual explains the procedures for using HDI systems in a single-node configuration, as well as provides GUI references.
Hitachi Data Ingestor Single Node Troubleshooting Guide, MK-90HDI030	This manual provides troubleshooting information for HDI systems in a single-node configuration.
Hitachi Data Ingestor CLI Administrator's Guide, MK-90HDI034	This manual describes the syntax of the commands that can be used for HDI systems in a cluster configuration or a single-node configuration.
Hitachi Data Ingestor API References, MK-90HDI026	This manual explains how to use the API for HDI systems in a cluster configuration or a single-node configuration.
Hitachi Data Ingestor Error Codes, MK-90HDI005	This manual contains messages for HDI systems in a cluster configuration or a single-node configuration.
Hitachi Data Ingestor File System Protocols (CIFS/ NFS) Administrator's Guide, MK-90HDI035	This manual contains the things to keep in mind before using the CIFS or NFS service of an HDI system in a cluster configuration or a single-node configuration from a CIFS or NFS client.

Abbreviation conventions

This manual uses the following abbreviations for product names:

Abbreviation	Full name or meaning
Active Directory	Active Directory(R)
HCP	Hitachi Content Platform
HDI	Hitachi Data Ingestor
HUS100 series	A generic name for the following: • Hitachi Unified Storage 150 • Hitachi Unified Storage 130 • Hitachi Unified Storage 110
Windows	Microsoft(R) Windows(R) Operating System

Document conventions

This document uses the following typographic conventions:

Convention	Description
Bold	Indicates text on a window, other than the window title, including menus, menu options, buttons, fields, and labels. Example: Click **OK**.
Italic	Indicates a variable, which is a placeholder for actual text provided by the user or system. Example: `copy` *source-file* *target-file* *Note:* Angled brackets (< >) are also used to indicate variables.
`screen/code`	Indicates text that is displayed on screen or entered by the user. Example: `# pairdisplay -g oradb`

Convention for storage capacity values

Storage capacity values (e.g., drive capacity) are calculated based on the following values:

Capacity Unit	Physical Value	Logical Value
1 KB	1,000 bytes	1,024 (2^{10}) bytes
1 MB	1,000 KB or $1,000^2$ bytes	1,024 KB or $1,024^2$ bytes
1 GB	1,000 MB or $1,000^3$ bytes	1,024 MB or $1,024^3$ bytes
1 TB	1,000 GB or $1,000^4$ bytes	1,024 GB or $1,024^4$ bytes
1 PB	1,000 TB or $1,000^5$ bytes	1,024 TB or $1,024^5$ bytes
1 EB	1,000 PB or $1,000^6$ bytes	1,024 PB or $1,024^6$ bytes
1 block	-	512 bytes

Accessing product documentation

Product documentation is available on Hitachi Data Systems Support Connect: https://support.hds.com/en_us/documents.html. Check this site for the most current documentation, including important updates that may have been made after the release of the product.

Getting help

Hitachi Data Systems Support Connect is the destination for technical support of products and solutions sold by Hitachi Data Systems. To contact technical support, log on to Hitachi Data Systems Support Connect for contact information: https://support.hds.com/en_us/contact-us.html.

Hitachi Data Systems Community is a global online community for HDS customers, partners, independent software vendors, employees, and

prospects. It is the destination to get answers, discover insights, and make connections. **Join the conversation today!** Go to `community.hds.com`, register, and complete your profile.

Comments

Please send us your comments on this document: doc.comments@hds.com. Include the document title, number, and revision, and refer to specific section(s) and paragraph(s) whenever possible.

Thank you! (All comments become the property of Hitachi Data Systems Corporation.)

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1

Introduction

The Hitachi Data Ingestor (HDI) has three models: cluster, single, and VM appliance. This guide provides information for configuring the cluster model and focuses on configuring a system for a Windows Active Directory environment with a single front-end network.

☐ Network configuration

Network configuration

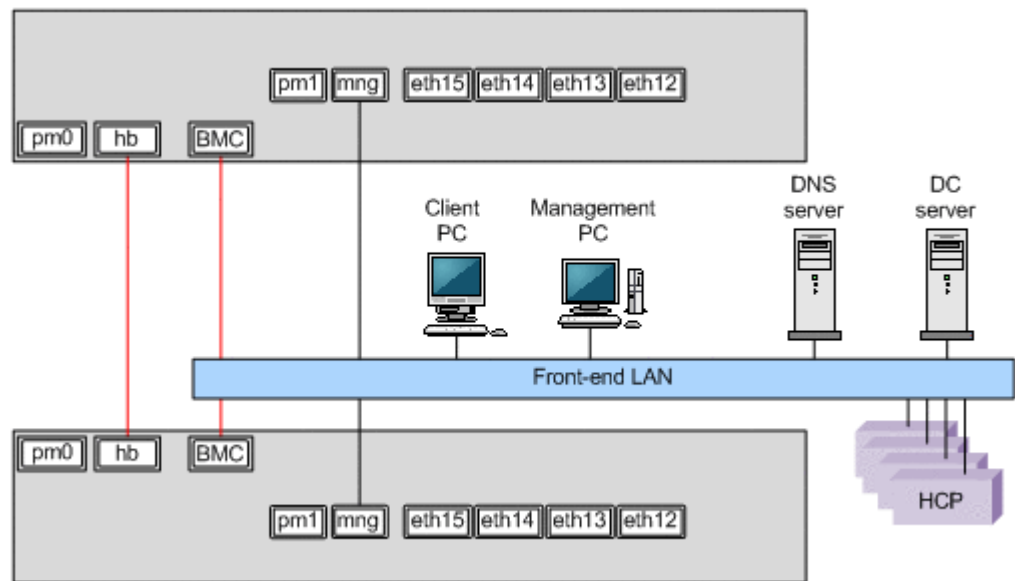The following figure is an example of the HDI network configuration.

Figure 1-1 Network configuration

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Before you begin

This chapter lists the prerequisites for setting up a system.

☐ Prerequisites

Prerequisites

The prerequisites for a system include:

- An HCP system is installed.
- The management network of the HDI system and HCP front-end network is correctly connected by way of TCP/IP.
- The Management IP address and baseboard management controller (BMC) IP address within the front-end network need to be assigned to both nodes. If not assigned, configure them in the HDI prompt through the directly-attached keyboard/monitor.
- A Windows PC is required for the management GUI. For the system requirement, 1 GB or more of memory and 4 GB or more of disk capacity is required. See the *Installation and Configuration Guide* for details.
- One 70 GB LU for the cluster management and LUs for user file system in storage should be created and assigned to both HDI nodes by way of FC connection up front.

    For the appliance model and the cluster model, the cluster management should have been assigned at the distribution center. Otherwise, ask your storage administrator to assign and map these LUs to both nodes.

The following table lists the information that needs to be checked before beginning setup, provides space for recording those values, and describes where those values are used.

Table 2-1 Check all items before starting setup

Target	Item	Value	Procedure where used
HDI system	The management IP address and BMC IP address for both nodes.		Setting up an HDI environment on page 3-4
	License key files or license keys		
	When an encryption license is used, whether to encrypt the local data (user LUs) and the data to be stored in the HCP system	Local data: Data to be stored in the HCP system:	
HCP system	Host name (fully qualified domain name) of the node in which a namespace is to be created		Registering a tenant into Hitachi File Services Manager (optional) on page 3-4, Setting up an HDI environment on page 3-4
	Host name or IP address that has been made external and is used to connect to the HCP system (if any relay		Setting up an HDI environment on page 3-4

Target	Item	Value	Procedure where used
	device such as a load balancer is used when connecting the linked HCP system to the network)		
NTP server	IP address		Setting up an HDI environment on page 3-4
DNS server	Domain name		Setting up an HDI environment on page 3-4
	IP address		Setting up an HDI environment on page 3-4
Other than those above	Time zone		Setting up an HDI environment on page 3-4
AD DC joining and RID user mapping	AD Domain name		Setting up an HDI environment on page 3-4
	AD Domain name(NetBIOS)		Setting up an HDI environment on page 3-4
	DC server name(s)		Setting up an HDI environment on page 3-4
	Domain user account to join a domain		Setting up an HDI environment on page 3-4
	Password for the domain user		Setting up an HDI environment on page 3-4

Before you begin

3

Getting started

This chapter explains how to set up a system.

The following procedures assume that you are linking an system to an HCP system.

☐ Workflow for setting up a system

☐ Before setting up a system

☐ Creating an HCP tenant

☐ Installing Hitachi File Services Manager

☐ Registering a tenant into Hitachi File Services Manager (optional)

☐ Setting up an HDI environment

Workflow for setting up a system

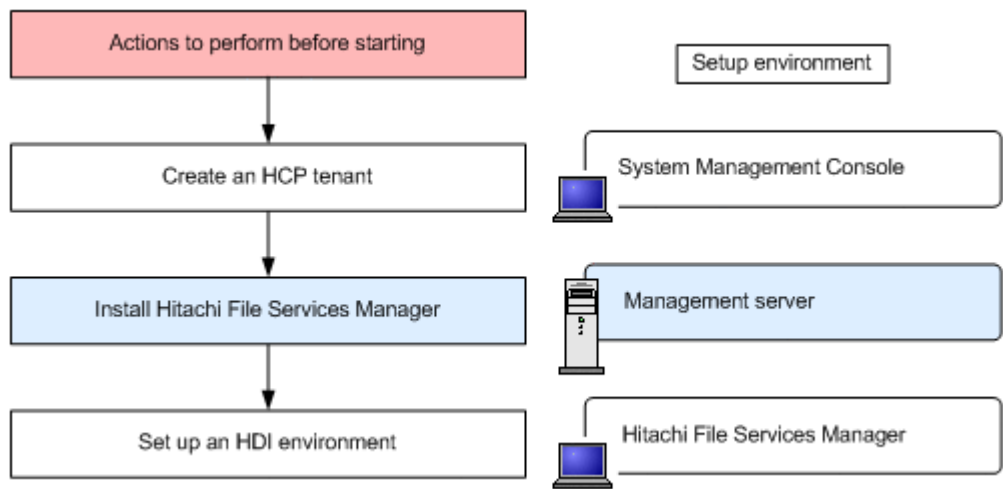The following figure shows the workflow for setting up a system.

Figure 3-1 Workflow for setting up a system

Before setting up a system

The items in the following table must be checked before beginning setup. The table provides space for the items you need to specify during setup, and describes where the values are used.

Default values are used throughout the setup procedure unless otherwise indicated. In addition to the items that must be checked in advance and the default values, you can perform setup more efficiently by determining the values for the items that you need to specify.

Table 3-1 Specify values during setup

Item	Value	Procedure where used
Name of the cluster in the HDI system		Setting up an HDI environment on page 3-4
Test share name in the HDI system		
User account for the tenant administrator: User name Password		Registering a tenant into Hitachi File Services Manager (optional) on page 3-4, Setting up an HDI environment on page 3-4
Tenant name		

For details about what you should know before linking an HDI system to an HCP system, see the *Installation and Configuration Guide*.

Creating an HCP tenant

Use System Management Console from Hitachi File Services Manager.
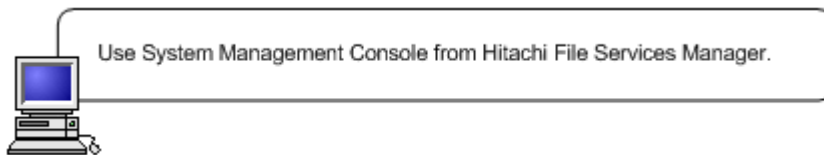
Create a tenant by using the System Management Console in HCP. For details, see the HCP documentation. To create a tenant, the following operations are required:

- Enable the management API (MAPI) in the security settings.
- Create a user account (user name and password) for the tenant administrator.
- Set the role for the created user account so that all permissions are granted.
- Set a hard quota for the tenant capacity.
- Specify the settings so that the retention mode can be selected.
- Enable version management (versioning).
- If the version of the linked HCP system is 4.1 or later, specify a value of at least *number-of-file-system-namespaces* + 1 for the namespace quota.

Installing Hitachi File Services Manager

Perform operations from the management server.
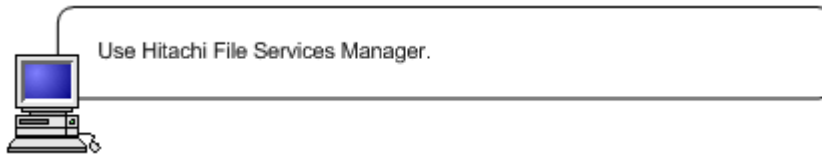Prepare the Hitachi File Services Manager installation media.

To use Hitachi File Services Manager as the HDI GUI, you need to install Hitachi File Services Manager on the management server.

This section describes how to install Hitachi File Services Manager. For details about the management server requirements and the browser settings required to use the GUI, such as pop-up block and security, see the *Installation and Configuration Guide*.

To install Hitachi File Services Manager

1. Insert the installation media into the management server optical drive, and then run the `HFSMinst.exe` file.
2. Follow the instructions in the dialog boxes.

   Specify any required information, such as where to install the program and where to store database files.

   If the installation is completed successfully, the **Installation Complete** dialog box is displayed.
3. Click **Finish** to finish the installation.

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Registering a tenant into Hitachi File Services Manager (optional)

Use Hitachi File Services Manager.

To use the Tenant Management Console in HCP from Hitachi File Services Manager, register the tenant you created in Hitachi File Services Manager in Creating an HCP tenant on page 3-3. The procedure is optional. To register a tenant, as when registering an HCP system, select **HCP** from the **Type** list in the **Add Processing Node** dialog box, and then perform the following operations:

- For **System name**, specify the host name of the HCP system by using its fully qualified domain name.
- From **Administrator type**, select **Tenant**.
- For **Tenant name**, specify the tenant name.
- For **Port**, specify the port number that is used for the tenant management console

Setting up an HDI environment

Use Hitachi File Services Manager.
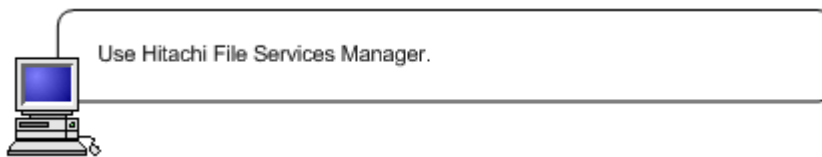
This section describes how to set up an HDI environment from the Hitachi File Services Manager. For details about the operations and environment settings that are required before running an HDI system, see the *Cluster Administrator's Guide*.

CE (Customer Engineer) should assign Management IP address beforehand.

To set up an HDI environment

1. Enter the following URL from a Web browser.
   The specification differs depending on whether SSL is used for communication between the management server and the management client.
   `http://`*IP-address-or-host-name-of-management-server*`:23015/FileServicesManager/` (for non-SSL communication)
   `https://`*IP-address-or-host-name-of-management-server*`:23016/FileServicesManager/` (for SSL communication)

2. From the login window, enter the following user name and password to log in to the HDI GUI.

- ○ User name: `system`
- ○ Password: `manager`

Change the default password as soon as possible.

The Configuration Wizard automatically starts the first time the system is logged in to.

3. In the **1. Introduction** dialog box, click **Next >**.

4. In the **2. Node settings** dialog box, enter the IP address in the ***Mgmt. IP address first node** box and in the **Mgmt. IP address second node** box. Enter the password `manager` in the ***Password** box, and then click **Next >**.

5. In the confirmation screen, click **Next >**.

6. In the **3. License settings** dialog box, click **Activate License**.

7. In the **Activate License** dialog box, specify the settings for the license and click **OK**.

- ○ If you are using a license key file, specify the license key file path into the text box. If you want to browse and specify the file name, click the **Browse** button.

- ○ If you want to enter a license key directly, enter the license key into the text box.

- ○ If the license for the following software is specified, encryption-related functions[#] cannot be used to save, send, or receive user data:

  - Base software without DIFE

8. In the confirmation screen, select the check box and click the **Confirm** button.

9. In the **3. License settings** dialog box, click **Next >**.

10. In the **4. Cluster settings** dialog box, enter the cluster name in the ***Cluster name** box and the physical node host name in the **Physical node host name** box. Select the **Change** box, and then select an option from **Network address of the heartbeat port** menu. Make sure that your selection does not conflict with the front-end network as the **Network address of the heartbeat port**. Note that once configured, this value cannot be changed. If encrypting local data or data to be stored in an HCP system, select the appropriate **Yes** check boxes. You can use this if an encryption license is set. Click **Next >**.

11. In the **5. Network settings** dialog box, specify the **Virtual IP address**, and then click **Next >**.

12. In the **6. Optional settings** dialog box, make sure that **Custom setting**, **DNS settings**, **Time settings**, **HCP settings**, and **User authentication setting** are selected, and then click **Next >**.

13. In the **6-1. DNS setting** dialog box, click **DNS settings**. Enter the IP addresses in the ***Primary DNS server** box. The **Secondary DNS server** box is optional. The **Default domain** name is optional. Click **Next >**.

14. In the **6-2. Time setting** dialog box, specify the ***Region**, ***Time zone**, and **NTP server IP address** in the appropriate boxes, and then click **Next >**.

15. In the **6-3 HCP settings** dialog box, click **HCP setting** and specify the following:

    ○ The HCP system by using a fully qualified domain name in the ***System name** box.

    ○ The tenant name in the ***Tenant name** box.

    ○ The user account (in the **User name** box and **Password** box) for the tenant administrator in **Tenant admin account**.

    To change a password issued by an HCP administrator, enter the new password.

    If the HCP system to be linked uses a relaying device, such as a load balancer, when connecting to the network, specify the host name or IP address that has been made external and is used to connect to the HCP system.

    Click **Test Connection**, and then click **Next >**.

16. In the **6-4. User authentication settings** dialog box, click **Protocol** and the **CIFS** and **NFS** boxes, and then click **Next >**.

17. In the **6-4. User authentication settings** dialog box, select **Active Directory authentication** in CIFS user management methods, and then click **Next >**.

18. In the **6-4. User authentication settings** dialog box, specify the ***Domain name**, ***Domain name (NetBIOS)**, ***DC Server name(s)**, **Domain user name** and **Domain user password** in the appropriate boxes. Click **RIDs** in **User mapping**, and then click **Next >**.

19. In the **6-4. User authentication settings** dialog box, specify `70000` and `2000000*` in the **Range of UIDs and GIDs** box. Specify the Domain name (Net BIOS) in the **Domain name (NetBIOS)** box, and then specify 70000 and 2000000 in the **Range of UIDs and GIDs** box. Click **Add**, and then click **Next >**.

20. In the **6-4. User authentication settings** dialog box, if you are using NIS or LDAP in your NFS environment, select the **External name-resolution server**, and then click **Next >**, Select and specify the appropriate setting for your environment, and then click **Next >**.

21. In the **7. Confirmation** dialog box, confirm the information, and click **Details**. Click the **Yes I have read the above warning and wish to execute the configuration wizard** box, and then click **< Back**. Click **Confirm**.

    The AD user is accessible to HDI CIFS share. If it is not accessible, try to delete CIFS access cache from **Service Maintenance** on the CIFS service modify window.

22. In the **9. Completion** dialog box, click **Create and Share File System**.

23. In the **Create and Share File System** dialog box, specify the following information:

a. In the **Basic** tab, specify the CIFS share name. Click the **Select from existing LUs** option, and then select an LU name that you want to test from the from the list.

b. In the **Basic** tab, select **Yes** in **Use namespace**, select **Off** in **Content sharing**, and then specify the quota allocated to the namespace in **Quota**.

c. Specify the migration time in **Migration schedule** in the **Namespace** tab.

24. Click **Close** to complete the Configuration Wizard.

25. In the **Advanced** subtab of the **Settings** tab in the *physical-node* subwindow, click the **Backup Configuration**.

26. In the **Save All System Settings** page of the Backup Configuration dialog box, click the **Save and Download** button to download the system configuration information to storage media outside the system.

27. If encrypting data to be stored in an HCP system, save the common key used for encryption outside the system.

The following describes how to save the common key used for encryption outside the system.

a. Set up an SSH environment to use commands.

For the settings for using commands, see the *Cluster Administrator's Guide*.

b. Use the `hcpdisplaykey` command to display the key to be saved on external storage media, and then save the key.

c. Use the `hcpverifykey` command to verify the common key saved on an OS disk and the key saved on external storage media.

\#:

The following functions cannot be used:

o Communication with HCP using HTTPS

o SFTP service

o Encryption of communication with CIFS clients (SMB encryption)

o Use of the `krb5p` security flavor in NFS services

o Encryption of local data

o Encryption of data to be stored in HCP

If you attempt to use the CLI or API to enable these functions, the KAQM14180-E message is output and the attempt fails. In addition, you cannot enable these functions by using the GUI.

Getting started

Acronyms

This section lists the acronyms used in this manual.

C

CIFS
Common Internet File System

CLI
command line interface

D

DNS
Domain Name System

G

GUI
graphical user interface

H

HDI
Hitachi Data Ingestor

| # | A | B | **C** | **D** | E | F | **G** | **H** | **I** | J | K | **L** | M | **N** | O | P | Q | R | S | T | **U** | V | W | X | Y | Z |

Acronyms-1

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HCP
Hitachi Content Platform

I

IP
Internet Protocol

L

LAN
local area network

LDAP
Lightweight Directory Access Protocol

LU
logical unit

N

NIS
Network Information Service

NTP
Network Time Protocol

U

URL
Uniform Resource Locator

#	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

Acronyms-2

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