

Hinemos ver.2
Installation manual

First Edition

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NTT DATA CORPORATION

Installation Manual

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Installation Manual

This software was developed in response to the delegation of the second half Open-source-software activity infrastructure improvement enterprise in the 2004 fiscal year of independent administrative agency INFORMATION—TECHNOLOGY PROMOTION AGENCY (IPA).

A theme name is "a development of distributed facilities integrated manager."

<http://www.ipa.go.jp/software/open/2004/result.html>

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Trademark

Linux is the registered trademark or trademark in Mr. Linus Torvalds's U.S., and other countries.

In addition, the corporate name and product name which are written in this book are the registered trademark or trademark of each company.

In addition, TM and the ® mark have not written in a regular text.

1. Introduction

This manual explains an installation method of Hinemos, and a setting method after the installation. A setup with this manual is an example, and when actually used, we recommend you to change the setup to follow the security policy of your environment. Our company takes no responsibility to any damage produced by using this software.

2. Precondition

2.1. System configuration

Hinemos consists of a Manager server, nodes for management, and clients.

- Manager server

It is a server which offers the operation-management functions of Hinemos. It contains repository which holds the information on managed objects and database which keeps the data used by each function.

In this manual, [Hinemos manager] means the software introduced into a Manager server.

- Node for management

It is a machine used as the managed object of Hinemos.

In this manual, [Hinemos agent] means the software introduced into nodes for management.

- Client

It is an operation terminal which an operator uses. Hinemos offers the client application of a GUI base.

In this manual, [Hinemos client] means the software introduced into a client.

Hinemos uses the software in table 1.

Table .1 Functional order cooperation software

Function	Manager	The node for management	Client
Basic set (Repository, Condition monitoring function)	JavaVM:JRE 1.5.0_6 JBoss 4.0.3SP1 OpenLDAP 2.3.20 PostgreSQL 8.1.3 Mail server (required, when using the Mail Notification of an Event)		JavaVM:JRE 1.5.0_6 Eclipse RCP 3.1.1 jfreechart 0.9.21
Job Management		JavaVM:JRE 1.5.0_6	
Collective Run	FTP server	Remote shell (sshd/rshd) expect 5.42.1	
Performance Management		NET-SNMP 5.1.2-11.EL4.6 expect 5.42.1	
Syslog-ng Monitor	syslog-ng 1.6.9	syslog-ng 1.6.9	

2.2. Manager server

Recommended specifications for a Hinemos manager are as follows.

Table .2 Recommended specifications for a Manager server

Hardware	More than CPU:Xeon 2.4GHz Memory: 2GB or more hard disc drive: 72GB or more Network controller: One or more pieces The above-mentioned equivalent article
OS	Redhat Enterprise Linux AS 4.0 update 2

2.3. Node for management

We tested that Hinemos agent can run on the specifications shown in table 3.

Table .3 Recommended specifications of a Node for management

Hardware	CPU: Intel system CPU (more than PentiumIII) Memory: 1GB or more hard disc drive: 8GB or more
----------	---

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	Network controller: One or more pieces The above-mentioned equivalent article
OS	Redhat Enterprise Linux AS 4.0 update 2

It is necessary to install the following RPM packages beforehand.

- beecrypt-devel-3.1.0-6
- elfutils-devel-0.97-5
- elfutils-libelf-devel-0.97-5
- expect-5.42.1-1
- rsh-server-0.17-25.3

2.4. Client

Recommended specifications for a Hinemos client are as follows.

Table .4 Recommended specifications for a client machine

Hardware	CPU:Pentium 4 2.80 or more GHz Memory: 1GB or more hard disc drive: 72GB or more Network controller: One or more pieces Display resolution: 1280x1024 or more The above-mentioned equivalent article
OS	Redhat Enterprise Linux AS 4.0 update 2

2.5. Network Conditions

2.5.1. Manager using port

The ports shown by table .5 are used in a manager.

Table .5 Manager server standby ports.

Application	TCP port
syslog-ng	514
JBoss	1098, 1099, 4444, 4445, 8009, 8080, 8083, 8093
OpenLDAP	24000
PostgreSQL	24001

2.5.2. Node for management using port

The ports shown by table .6 are used in nodes for management.

Table .6 Node for management standby ports.

Application	TCP	UDP	Function
sshd	22		Package control function Job Management (in the case of using File Transfer Job)
rshd(xinetd)	514		Package control function (when the setting of a remote shell is set to rsh)
NET-SNMP		161	Performance management function

The rshd and syslog-ng use the same port number. When the remote shell of Package control function is set to rsh, and making a manager into the operational object of Package control function, it is necessary to change one of port numbers (no problem is produced in the case of using ssh which is a default).

2.6. License

Hinemos is an Open source software. It is distributed under the following licenses.

- GNU General Public License(GPL)

For details, please refer to a following.

<http://www.gnu.org/copyleft/gpl.html>

The following softwares are used in Hinemos.

- Repository management function
 - Client
 - JavaVM JRE1.5
 - <http://java.com/ja/download/>
 - Eclipse 3.1.1
 - <http://www.eclipse.org/>
 - Manager server
 - JavaVM JRE1.5
 - <http://java.com/ja/download/>
 - JBoss 4.0.3SP1
 - <http://www.jboss.org/products/index>
 - OpenLDAP 2.3.20
 - <http://www.openldap.org/>

- Condition monitoring function
 - Client
 - JavaVM JRE1.5
 - <http://java.com/ja/download/>
 - Eclipse 3.1.1
 - <http://www.eclipse.org/>
 - Manager server
 - JavaVM JRE1.5
 - <http://java.com/ja/download/>
 - JBoss 4.0.3SP1
 - <http://www.jboss.org/products/index>
 - syslog-ng 1.6.9
 - http://www.balabit.com/products/syslog_ng/
 - PostgreSQL 8.1.3
 - <http://wwwmaster.postgresql.org/>
 - Quartz 1.4.7
 - <http://www.opensymphony.com/quartz/>
 - The node for management
 - syslog-ng 1.6.9
 - http://www.balabit.com/products/syslog_ng/

- Performance management function
 - Client
 - JavaVM JRE1.5
 - <http://java.com/ja/download/>
 - Eclipse 3.1.1
 - <http://www.eclipse.org/>

- jfreechart 0.9.21
 - <http://www.jfree.org/index.php>
- Manager server
 - JavaVM JRE1.5
 - <http://java.com/ja/download/>
 - JBoss 4.0.3SP1
 - <http://www.jboss.org/products/index>
 - PostgreSQL 8.1.3
 - <http://wwwmaster.postgresql.org/>
 - OpenNMS 1.2.0
 - <http://www.opennms.org/wiki/>
 - The following sample codes are changed and used.
 - `opennms-1.2.0-1/source/tests/src/org.opennms/test/NamedSnmpVar.java`
 - `opennms-1.2.0-1/source/tests/src/org.opennms/test/snmpwalkmv.java`
- The node for management
 - NET-SNMP 5.1.2-11.EL4.6
 - <http://sourceforge.net/projects/net-snmp>
- Package control function
 - Client
 - JavaVM JRE1.5
 - <http://java.com/ja/download/>
 - Eclipse 3.1.1
 - <http://www.eclipse.org/>
 - Manager server
 - JavaVM JRE1.5
 - <http://java.com/ja/download/>
 - JBoss 4.0.3SP1
 - <http://www.jboss.org/products/index>
 - PostgreSQL 8.1.3
 - <http://wwwmaster.postgresql.org/>
- Job management function
 - Client
 - JavaVM JRE1.5
 - <http://java.com/ja/download/>
 - Eclipse 3.1.1
 - <http://www.eclipse.org/>
 - Manager server
 - JavaVM JRE1.5
 - <http://java.com/ja/download/>
 - JBoss 4.0.3SP1
 - <http://www.jboss.org/products/index> - In addition to a mainframe, the following sample sources are changed and used.
 - `JDBCTypeFactory.java`
 - PostgreSQL 8.1.3
 - <http://wwwmaster.postgresql.org/>
 - Quartz 1.4.7

- <http://www.opensymphony.com/quartz/>
- The node for management
 - JavaVM JRE1.5
 - <http://java.com/ja/download/>
 - JBoss 4.0.3SP1
 - <http://www.jboss.org/products/index>

2.7. Consideration for the installation and operation

2.7.1. Hinemos manager

Be careful of the following points in the machine environment where a Hinemos manager is installed and operated.

- When other OpenLDAP(s) are operating, the OpenLDAP may stop operating.
- When other PostgreSQL is operating, the PostgreSQL may stop operating.
- When other JBoss(es) or RMI servers etc. are operating, a Hinemos manager may not operate.
- When the rsh daemon is operating (when TCP 514 port is being used) the startup of syslog-ng may go wrong.
- syslog-ng replaces syslog and operates the setting for syslog. When you've configured the setting, you need to configure the same setting for syslog-ng as that for syslog.
http://www.balabit.com/products/syslog_ng/
- There is a possibility that the error by the access control occurs when syslog-ng starts when SELinux is effective.

2.7.2. Hinemos agent

In installing a Hinemos manager and a Hinemos agent in the same machine, be careful of the following points.

- Please install Manager first.
- Please do not install the Hinemos Agent and Hinemos Manager on the same machine.
Settings for Syslog-ng Monitor function is different from between manager and agent. (The setting of manager is for receiving logs and the setting of an agent is for sending logs.)
- Please do not install Hinemos Collective Run function.
Since the same port number is reserved for syslog-ng used by Condition monitoring function,

and rshd used by a Package control function, it needed to change one of port numbers manually when a manager is the operational object of Package control function.

3. Manager server

3.1. A Hinemos manager's installation

3.1.1. Decompression of a File

Decompress `hinemos_manager-2.0.0.tar.gz` to an adequate Directory. (This book explains a decompression directory as `"/tmp"`.) When you work by another directory, please read suitably.

Expand `hinemos_manager-2.0.0.tar.gz` by a root user to `/tmp` directory.

```
# cd /tmp
# tar -zxvf hinemos_manager-2.0.0.tar.gz
```

`Hinemos_Manager` directory is created directly under `/tmp` Directory.

Move to the decompressed `Hinemos_Manager` directory.

```
# cd /tmp/Hinemos_Manager
```

3.1.2. Installation

The following processes are performed in this installer.

- create the user `hinemos` who performs `Hinemos manager`
- check the installation directory
- postscript `ld.so.conf` path
- copy required files
- set up library path
- install `syslog-ng`

1. Execute `manager_installer_EN.sh` by a root user.

```
# ./manager_installer_EN.sh
```

2. Set up the password of the user `hinemos`.

Input of the password is required after the following output. Please enter the password for the user `hinemos`.

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```
Initialization for Hinemos installation will be started.

Create user hinemos.
Changing password for user hinemos.
New password : (enter a Password.) entry contents are not displayed on the screen.
Retype new password : (reenter the Password.)
```

Install is completed when the following Message is displayed.

```
The search path of a program library will be added.
The search path of the program library was added.

Start copying required files.
Copying required files was completed.

Start the installation of syslog-ng.
Preparing... ##### [100%]
  1:libol ##### [ 50%]
  2:syslog-ng ##### [100%]
Kernel logger is stopping: [ OK ]
System logger is stopping: [ OK ]
System logger is starting up: [ OK ]
```

This is the end of the manager's installation.

3.2. Startup of Hinemos manager

Execute the following commands by user hinemos.

```
$ cd /opt/hinemos/bin
$ ./hinemos_start.sh
Hinemos starting
.....
Hinemos started.
```

When the display shows as above, the startup of Hinemos manager is completed.

3.3. Stop of Hinemos manager

Execute the following commands by user hinemos.

```
$ cd /opt/hinemos/bin
$ ./hinemos_stop.sh
Hinemos stopping
```

When the display shows as above and a prompt shows an input status, the stop of Hinemos manager is completed.

3.4. Setup of a hosts File

Edit the following file to resolve the name of a Manager server.

/etc/hosts

```
# Do not remove the following line, or various programs
# that require network functionality will fail.
127.0.0.1      localhost.localdomain localhost
192.168.0.1   manager nosuchhost.nosuchdomain.com
```

Please set up the following.

IP Address Host Name FDQN of a Host Name

The IP Address set up here sets up the IP Address accessed from a Hinemos client.

3.5. Setup of a Mail Notification

3.5.1. Setup of a mail server

The mail server used by the Mail-Notification function of a Condition monitoring function is set up. The following file is edited. Please reactivate the Hinemos manager to set it effectively after it edits it.

`/opt/hinemos/jboss-4.0.3SP1/server/default/deploy/mail-service.xml`

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- $Id: mail-service.xml,v 1.4.2.2 2003/10/13 12:31:03 starksm Exp $ -->

<server>

  <!-- ===== -->
  <!-- Mail Connection Factory -->
  <!-- ===== -->

  <mbean code="org.jboss.mail.MailService"
        name="jboss:service=Mail">
    <attribute name="JNDIName">java:/Mail</attribute>
    <attribute name="User">nobody</attribute>
    <attribute name="Password">password</attribute>
    <attribute name="Configuration">
      <!-- Test -->
      <configuration>
        <!-- Change to your mail server protocol -->

        (snip)

        <!-- Change to the SMTP gateway server -->
        <property name="mail.smtp.host" value="smtp.nosuchhost.nosuchdomain.com"/>

        <!-- Change to the address mail will be from -->
        <property name="mail.from" value="nobody@nosuchhost.nosuchdomain.com"/>

        <!-- Enable debugging output from the javamail classes -->
        <property name="mail.debug" value="false"/>
      </configuration>
    </attribute>
  </mbean>
</server>
```

Please set up the following parameters.

```
<!-- Change to the SMTP gateway server -->
<property name="mail.smtp.host" value="(IP Address of mail server)"/>
```

```
<!-- Change to the address mail will be from -->
```

<property name="mail.from" value=" (mail address set up as a mail sender)">

3.5.2. Setup of transmission source information

The mail sender information transmitted by the Mail-Notification function of Condition monitoring function is set up.

The following file is edited. Please reactivate the Hinemos manager to set it effectively after it edits it.

/opt/hinemos/jboss-4.0.3SP1/server/default/conf/mail.properties

```
from.address=admin@nosuchdomain.com  
from.personal.name=Hinemos Admin  
reply.to.address=admin@nosuchdomain.com  
reply.personal.name=Hinemos Admin  
errors.to.address=admin@nosuchdomain.com
```

Please set up the following parameters.

from.address=mail sender address

from.personal.name=transmission destination personal name of mail sender

reply.to.address=reply mail address

reply.personal.name= personal name of reply mail address

errors.to.address=mail address set as the Errors-To header of sent mail

3.6. Setting change for the Data Base Access

3.6.1. Setting change of PostgreSQL

- A Password is changed in the following procedures.

1. The following Commands are executed by user hinemos.

```
$ su - hinemos
$ /opt/hinemos/postgresql-8.1.3/bin/psql -p 24001
```

2. Since psql starts, execute the following commands.

```
hinemos=# ALTER USER hinemos PASSWORD'(Password)';
```

3. Quit psql.

```
hinemos=# \q
```

- Edit the following configuration file and set up the access right of PostgreSQL.

/opt/hinemos/var/data/pg_hba.conf

```
# PostgreSQL Client Authentication Configuration File
# =====
(snip)
# TYPE DATABASE USER CIDR-ADDRESS METHOD
# "local" is for Unix domain socket connections only
local all all trust
# IPv4 local connections:
host hinemos hinemos 127.0.0.1/32 md5
host all hinemos 0.0.0.0 0.0.0.0 trust
# IPv6 local connections:
host all all ::1/128 trust
```

Please edit the Part of " IPv4 local connections:."

Notes: The setting above is an example. We recommend you to change the setting according to

the security policy of your environment.

3.6.2. Setting change of Hinemos manager

Edit the following file. Please reactivate the Hinemos manager to set it effectively after it edits it

/opt/hinemos/jboss-4.0.3SP1/server/default/deploy/0postgres-ds.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- ===== -->
<!-- -->
<!-- JBoss Server Configuration -->
<!-- -->
<!-- ===== -->

<!-- $Id: postgres-ds.xml,v 1.1.2.1 2003/09/05 16:38:24 patriotlburke Exp $ -->
<!-- ===== -->
<!-- Datasource config for Postgres -->
<!-- ===== -->

<datasources>
  <local-tx-datasource>
    <jndi-name>HinemosDS</jndi-name>
    <connection-url>jdbc:postgresql://127.0.0.1:24001/hinemos</connection-url>
    <driver-class>org.postgresql.Driver</driver-class>
    <user-name>hinemos</user-name>
    <password>hinemos</password>

    (snip)

  </local-tx-datasource>
</datasources>
```

Please set up the following parameters.

<password> (Password) </password>

3.7. Password change for LDAP Access

3.7.1. Password change of LDAP

1. The password for LDAP user is generated.

The following command is executed.

```
$ slappasswd -h {MD5}
```

When the input of a password is required, inputs it please.

Save the outputted character string (hash of a password) (it is set to the configuration file slapd.conf at step 2.).

```
Example
$ slappasswd -h {MD5}
New password : (Password)
Re-enter new password : (Password)
{MD5}X03M01qnZdYdgyfeuILPmQ== <= hash of the password
```

2. Setup the password.

Edit the following file.

```
/opt/hinemos/openldap-2.3.20/etc/openldap/slapd.conf
```

Please set up the following parameter.

rootpw (character string outputted by the slappasswd Command)

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e.g.: /opt/hinemos/openldap-2.3.20/etc/openldap/slapd.conf

```
#
# See slapd.conf(5) for details on configuration options.
# This file should NOT be world readable.
#
include      /opt/hinemos/openldap-2.3.20/etc/openldap/schema/core.schema
include      /opt/hinemos/openldap-2.3.20/etc/openldap/schema/corba.schema

(snip)

database      bdb
suffix        "dc=hinemos,dc=com"
rootdn        "cn=Manager,dc=hinemos,dc=com"
# Cleartext passwords, especially for the rootdn, should
# be avoid. See slappasswd(8) and slapd.conf(5) for details.
# Use of strong authentication encouraged.
rootpw       {MD5}X03MO1qnZdYdgyfeuILPmQ==
# The database directory MUST exist prior to running slapd AND
# should only be accessible by the slapd and slap tools.
# Mode 700 recommended.
directory    /opt/hinemos/var/openldap-data
# Indices to maintain
index        objectClass eq
index        cn,mail,sn,givenName eq,sub,approx
index        ccFacilityId eq
index        entryCSN,entryUUID eq

#loglevel 256
```

3.7.2. Setting change of Hinemos manager

Edit the following file. Please reactivate the Hinemos manager to set it effectively after it edits it

/opt/hinemos/jboss-4.0.3SP1/server/default/deploy/ldap-service.xml

```
<server>
  <!-- ===== -->
  <!-- LDAP Connection Factory -->
  <!-- ===== -->

  <!-- Bind a remote LDAP server -->
  <mbean code="org.jboss.naming.ExternalContext"
name="jboss.jndi:service=ExternalContext,jndiName=external/hinemos/ldap/provider">
  <attribute name="JndiName">external/hinemos/ldap/provider</attribute>
  <attribute name="Properties">
    java.naming.factory.initial=com.sun.jndi.ldap.LdapCtxFactory
    java.naming.provider.url=ldap://127.0.0.1:24000/dc=hinemos,dc=com
    java.naming.security.principal=cn=Manager,dc=hinemos,dc=com
    java.naming.security.authentication=simple
    java.naming.security.credentials=hinemos
  </attribute>
  </attribute>
name="InitialContext">javax.naming.ldap.InitialLdapContext</attribute>
  <attribute name="RemoteAccess">>true</attribute>
  <attribute name="CacheContext">>false</attribute>
</mbean>

  <!-- Bind a remote LDAP server -->
  <mbean code="org.jboss.naming.ExternalContext"
name="jboss.jndi:service=ExternalContext,jndiName=external/hinemos/ldap/consumer">
  <attribute name="JndiName">external/hinemos/ldap/consumer</attribute>
  <attribute name="Properties">
    java.naming.factory.initial=com.sun.jndi.ldap.LdapCtxFactory
    java.naming.provider.url=ldap://127.0.0.1:24000/dc=hinemos,dc=com
    java.naming.security.principal=cn=Manager,dc=hinemos,dc=com
    java.naming.security.authentication=simple
    java.naming.security.credentials=hinemos
  </attribute>
  </attribute>
name="InitialContext">javax.naming.ldap.InitialLdapContext</attribute>
  <attribute name="RemoteAccess">>true</attribute>
  <attribute name="CacheContext">>false</attribute>
  </mbean>
</server>
```

Please set up the following parameters (there are two places).

java.naming.security.credentials= (Password)

3.8. Startup of a FTP server

When using a Package control function (RPM installation and Copy File), it is necessary to start the FTP server which can be accessed from the nodes for management. Please start a FTP server and check that it can access from the nodea for management with the FTP user and the password which are appointed at the time of the installation.

Here, the startup method using vsftpd contained in Redhat AS4.0 as a FTP server is explained.

1. Check whether vsftpd is installed.

Execute the following command and check that vsftpd- (version) is displayed.

```
# rpm -q vsftpd
```

2. Start vsftpd.

Execute the following command by a root user.

```
# service vsftpd start
```

- Setting change of the FTP server used by Hinemos

The FTP server used by Hinemos is set up by the parameters specified at the time of the installation of the Package control function of a Manager-server installation.

In order to change the IP Address, the user, and the password of the FTP server used by Collective Run, please edit the following two files after the installation.

- /opt/hinemos/lib/cr/cp.sh
- /opt/hinemos/lib/cr/rpminstall.sh

Please edit the following parameters.

```
FTP_HOST=" (Server Name) "  
FTP_USER=" (User Name) "  
FTP_PASSWD=" (Password) "
```

3.9. Setting of the remote shell used by a Collective Run

Either ssh or rsh can be chosen and used as a remote shell used by a Package control function (the default setting is ssh).

Edit the following file when changing the remote shell into rsh. Please reactivate the Hinemos manager to set it effectively after it edits it

`/opt/hinemos/jboss-4.0.3SP1/server/default/conf/collectiverun.properties`

```
##  
## Collective Run execution method setting  
##  
#collective.run.shell=rsh  
collective.run.shell=ssh
```

It changes as follows.

```
##  
## Collective Run execution method setting  
##  
collective.run.shell=rsh  
#collective.run.shell=ssh
```

3.10. Setting of syslog-ng

In Condition monitoring function, the logs from each node are received via syslog-ng.

When Hinemos is installed by the installer of a Manager server, the following setting is added to the configuration file of syslog-ng.

/etc/syslog-ng/syslog-ng.conf

```
#add for Hinemos
source s_net { tcp(ip(0.0.0.0) port(514) max-connections(70)); };
log { source(s_local); filter(f_messages); destination(d_hinemos); };
log { source(s_net); filter(f_messages); destination(d_hinemos); };
destination d_hinemos { program("/opt/hinemos/jre1.5.0_06/bin/java -cp
/opt/hinemos/lib/syslogforward:/opt/hinemos/lib/MonitorEJB.jar:/opt/hinemos/lib
/SyslogNGEJB.jar:/opt/hinemos/lib/commons-logging.jar:/opt/hinemos/lib/log4j.jar
:/opt/hinemos/lib/syslogng.jar:/opt/hinemos/lib/RepositoryEJB.jar:/opt/hinemos
/lib/clustercontrol.jar:/opt/hinemos/lib/jbossall-client.jar:/opt/hinemos/lib/s
yslogforward/syslogforward.jar com.clustercontrol.syslogng.forward.LogForward
/opt/hinemos/lib/syslogforward/LogForward.properties" ); };
```

In default setting, the connection number to syslog-ng from the nodes for management to a manager is up to 70. Please edit the following segment, in order to change the number of maximum connection.

```
source s_net {tcp(ip (0.0.0.0) port (514) max-connections (number of maximum connection));};
```

3.11. Uninstallation Hinemos manager

Uninstallation procedures of a Hinemos manager are as follows.

1. Decompress hinemos_manager-2.0.0.tar.gz to an adequate directory. (This book explains a decompression directory as "/tmp".) When you work by another directory, please read suitably.
2. Execute the script for uninstallation (manager_uninstaller_EN.sh).

3.11.1. Expansion of File

1. Expand hinemos_manager-2.0.0.tar.gz to a /tmp directory by a root user.

```
# cd /tmp
# tar -zxvf /tmp/hinemos_manager-2.0.0.tar.gz
```

A Hinemos_Manager directory is created directly under a /tmp Directory.

2. Move to the decompressed Hinemos_Manager directory.

```
# cd /tmp/Hinemos_Manager
```

3.11.2. Uninstallation

The following processes are performed for uninstallation.

- Delete user hinemos.
- Delete the Hinemos Manager file (/opt/hinemos).
- Delete the path from ld.so.conf.
- Uninstall syslog-ng

1. Move to /tmp/Hinemos_Manager by a root user.

```
# cd /tmp/Hinemos_Manager
```

2. Execute manager_uninstaller_EN.sh by a root user.

```
# ./manager_uninstaller_EN.sh
```

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3. Acknowledgement message is shown. Input "Y" please.

```
Hinemos will be uninstalled. Is it all right (Y/N)?  
Y
```

Uninstallation is completed when it is displayed as follows and the menu is displayed again.

```
syslog-ng is deleted.  
A system logger is stopping. : [ OK ]  
A system logger is starting up. : [ OK ]  
A kernel logger is starting up. : [ OK ]  
Warning: /etc/syslog-ng/syslog-ng.conf saved as /etc/syslog-ng/syslog-ng.conf.rpmsave  
User hinemos is deleted.  
Hinemos Manager Files is deleted.  
The search path of a program library is deleted.  
Uninstallation was completed.
```

4. Input "9" into the prompt and an uninstaller is finished.

```
Hinemos  
  1) A Confirmed of the present installation status  
  2) Uninstallation  
  9) Quit this uninstaller  
  
===> 9  
Hinemos uninstaller is finished.
```

4. Node for management

4.1. Hinemos agent's installation

Job execution authority can be restricted to a general user's execution intra vires by installing and starting a Hinemos agent's Job management function by a general user. Here, the installation, and the starting method by a root user are explained.

4.1.1. Decompression of a File

Decompress `hinemos_agent-2.0.0.tar.gz` to an adequate Directory. (This book explains a decompression directory as `"/tmp"`.) When you work by another directory, please read suitably.

1. Expand `hinemos_agent-2.0.0.tar.gz` to a `/tmp` directory by a root user.

```
# cd /tmp
# tar -zxvf hinemos_agent-2.0.0.tar.gz
```

Hinemos_Agent Directory is created directly under `/tmp` directory.

2. Move to the decompressed Hinemos_Agent directory.

```
# cd /tmp/Hinemos_Agent
```

4.1.2. Execution of installer

The following processes are performed in this installer.

- check the installation directory
- copy required files
- set up Manager's IP Address
- install Net-SNMP
- install syslog-ng

Execute installer (`agent_installer_EN.sh`).

1. Execute `agent_installer_EN.sh` by a root user.

```
# ./agent_installer_EN.sh
```

Installation Manual

A menu is displayed.

```
#####  
###                                     ###  
### Operation Management Software Hinemos Agent      ###  
###                               Installer   Ver 2.0    ###  
###                                     ###  
### 2006/3/31                                         ###  
### Copyright (C) 2006 NTT DATA Corporation.        ###  
#####  
Caution: Install by a root user  
Hinemos Agent's  
    1) Installation  
    2) Uninstallation  
    9) Quit this installer  
  
===>
```

2. input "1" into the prompt.

3. Input "Y" since the acknowledgement message of starting installation is displayed. When /opt/hinemos_agent of the installation directory is not created, it is created here.

```
===> 1  
  
Setup Hinemos agent.  
  
Installation will be start. Is it all right? (Y/N)  
Y  
/opt/hinemos_agent does not exist. Create it.  
mkdir -p /opt/hinemos_agent
```

4. The input of a manager's IP is required. Please input the IP Address of a Manager server.

```
Please input a manager's IP Address -- :(example) 192.168.0.1  
Start copying required files.  
Copying required files was completed.  
  
Set up the Package control function.  
Set up the Performance management function.  
Install Net-SNMP  
Preparing...  
1:net-snmp-libs          ##### [100%]  
2:net-snmp              ##### [ 20%]  
3:net-snmp-devel       ##### [ 40%]  
4:net-snmp-perl        ##### [ 60%]  
5:net-snmp-utils       ##### [ 80%]  
##### [100%]
```

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```
/etc/init.d/snmpd restart
snmpd is stopping: [NG]
snmpd is starting up: [ OK ]
/sbin/chkconfig --level 345 snmpd on
Set up the Condition monitoring function.
Install syslog-ng
Preparing... ##### [100%]
  1:libol ##### [ 50%]
  2:syslog-ng ##### [100%]
Kernel logger is stopping: [ OK ]
System logger is stopping: [ OK ]
System logger is starting up: [ OK ]
```

The agent's installation is completed when the menu is displayed again.

```
Hinemos agent's
  1) Installation
  2) Uninstallation
  9) Quit this installer

===>
```

5. Input "9" into a prompt and an installer is finished.

```
Hinemos agent's
  1) Installation
  2) Uninstallation
  9) Quit this installer

===> 9
Hinemos agent installer is finished.
```

4.2. Setting of a remote shell

4.2.1. When ssh is used

To set ssh as the remote shell used by Package control function, it is necessary to set up ssh on the target nodes for management (when using rsh as a remote shell of a Package control function, this setting is unnecessary).

By registering a public key, a manager server (hinemos user) can execute commands to nodes for management (root user) without their passwords.

1. On the manager server in which the Hinemos manager is installed, generate the public key for a hinemos user's authenticator without passphrase.

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```
# su - hinemos
$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/hinemos/.ssh/id_rsa): (Enter without
inputting anything)
Created directory '/home/hinemos/.ssh'.
Enter passphrase (empty for no passphrase): (Enter without inputting anything)
Enter same passphrase again: (Enter without inputting anything)
Your identification has been saved in /home/hinemos/.ssh/id_rsa.
Your public key has been saved in /home/hinemos/.ssh/id_rsa.pub.
The key fingerprint is:
**:**:**:**:**:**:**:**:**:**:**:**:**:**:**:**** hinemos@manager
```

2. Register the public key of the hinemos user of a Manager server into the authorized_keys file of the root user of the nodes for management.

```
# cd /root/.ssh
# cat id_rsa.pub >> authorized_keys
# chmod 600 authorized_keys
```

4.2.2. When rsh is used

To set rsh as the remote shell used by a Package control function, it is necessary to set up rsh on the target nodes for management (when using ssh as a remote shell of a Package control function, this setting is unnecessary).

1. Directly under a /root directory, please create a .rhosts file of the following contents. (please add the following contents, when .rhosts File already exists).

(IP Address of a Manager server) hinemos

e.g.: / root/.rhosts

```
192.168.0.1 hinemos
```

2. Add rsh to /etc/securetty File.

e.g.: /etc / securetty

```
Console
vc/1

(snip)

tty10
tty11
rsh
```

4.3. The setting for File Transfers

When the file transfer job is used, the following setting is needed. Please reactivate the Hinemos agent to set it effectively after it sets it.

- The key of opening to the public to the user who executes forwarding is registered in Agent.properties at the forwarding destination.
- The authorized_keys file registration of the user who executes forwarding is done to Agent.properties in the forwarding origin.
- The host key is registered.

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The procedure of the file transfer job setting is shown as follows. It explains a forwarding former node here and it explains agent02(192.168.0.11) and the user who forwards it as hinemos with the node at the agent01(192.168.0.10) and forwarding destination.

Notes: It is assumed on the node at the forwarding on forwarding former node destination the one where the user who executes the same forwarding exists.

1. User (hinemos) who forwards it by node (agent02) at the forwarding destination is done the switch.

```
[root@agent02 ~]# su - hinemos
[hinemos@agent02 ~]$
```

2. The key of opening to the public to user (hinemos) who forwards it is displayed. The key of opening to the public for the attestation of user (hinemos) who forwards it referring to the procedure of 4.2.1 is generated and displayed when not making it without the passing phrase still.

```
[hinemos@agent02 ~]$ cd .ssh/
[hinemos@agent02 .ssh]$ cat id_rsa.pub
ssh-rsa ****(snip)***** = hinemos@agent02
[hinemos@agent02 .ssh]$
```

3. The key of opening to the public displayed in the switch doing and Agent. properties by the above-mentioned is registered to the root user.

```
[hinemos@agent02 .ssh]$ su -
Password:
[root@agent02 ~]# vi /opt/hinemos_agent/lib/agent/Agent.properties

##
## Server connection setting
##
java.naming.factory.initial=org.jnp.interfaces.NamingContextFactory
(snip)

##scp(ssh) Key of opening to the public
```

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```
hinemos.public.key= ssh-rsa ****(snip)***** = hinemos@agent02
hinemos.authorized.keys.path=/opt/hinemos/.ssh/authorized_keys
```

The following parameters are added. (Change when is already.)

(User who forwards it),public.key=(Key of opening to the public displayed by the above-mentioned)

4. Node (agent01) in the forwarding origin is logged in in user (hinemos) who forwards it, and the host key is registered.

```
[root@agent02 ~]# exit
[hinemos@agent02 ~]$ ssh 192.168.0.10
The authenticity of host '192.168.0.10 (192.168.0.10)' can't be established.
RSA key fingerprint is **:**:**:**:**:**:**:**:**:**:**:**:**:**:**:**:**:**:**.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.0.10' (RSA) to the list of known hosts.
hinemos@192.168.0.10's password:
[hinemos@agent01 ~]$
```

5. It makes it if there is no authorized_keys file on forwarding former node (agent01).

```
[hinemos@agent01 ~]$ mkdir .ssh
[hinemos@agent01 ~]$ chmod 700 .ssh
[hinemos@agent01 ~]$ cd .ssh
[hinemos@agent01 .ssh]$ touch authorized_keys
[hinemos@agent01 .ssh]$ chmod 600 authorized_keys
```

6. It sets to the root user and the above-mentioned file is set to the switch doing and Agent.properties.

```
[hinemos@agent01 .ssh]$ su -
Password:
[root@agent01 ~]# vi /opt/hinemos_agent/lib/agent/Agent.properties
```

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```
##  
## Server connection setting  
##  
java.naming.factory.initial=org.jnp.interfaces.NamingContextFactory  
(snip)  
  
##scp(ssh) Key of opening to the public  
hinemos.authorized.keys.path=/home/hinemos/.ssh/authorized_keys
```

The following parameters are added. (Change when is already.)

(User who forwards it). authorized.keys.path = (Authorized_keys file path made by the above-mentioned)

4.4. Setting of syslog-ng

In the Condition monitoring function, the logs from each node are transmitted to the Manager server via syslog-ng. When an agent is installed by this installer, the following setting is added to the configuration file of syslog-ng.

/etc/syslog-ng/syslog-ng.conf

```
#add for Hinemos
destination d_hinemos { tcp(" (IP Address of the Manager server) " port(514));};
log { source(s_local);filter(f_messages);filter(fn_rsh);destination(d_hinemos);};
```

- Reboot of syslog-ng

Execute the following Commands by a root user.

```
# service syslog-ng restart
```

4.5. Startup and Stop of a Hinemos agent

4.5.1. Startup of a Job agent

Execute the following Commands by a root user.

```
# cd $HINEMOS_AGENT_HOME/bin
# agent_start.sh
```

4.5.2. A startup of a remote shell

Execute the following Commands by a root user.

```
# service xinetd start
```

4.5.3. Startup of NET-SNMP

Execute the following Commands by a root user.

```
# service snmpd start
```

4.5.4. Job agent's Stop

Execute the following Commands by a root user.

```
# cd $HINEMOS_AGENT_HOME/bin
# agent_stop.sh
```

4.6. Hinemos An agent's uninstallation

The following procedures execute Hinemos agent's uninstallation.

1. Decompress `hinemos_agent-2.0.0.tar.gz` to an adequate Directory. (This book explains a decompression place Directory as `"/tmp"`.) When you work by another Directory, please read suitably.
2. Execute script `agent_installer_EN.sh` (an installation script).

4.6.1. Expansion of the File

1. Expand `hinemos_agent-2.0.0.tar.gz` to `/tmp` directory by a root user,.

```
# cd /tmp
# tar -zxvf /tmp/hinemos_agent-2.0.0.tar.gz
```

`Hinemos_Agent` directory is created directly under `tmp` directory.

2. Move to the decompressed `Hinemos_Manager` directory.

```
# cd /tmp/Hinemos_Agent
```

4.6.2. Uninstallation

The following Processes are performed in uninstallation.

- Uninstallation of syslog-ng
- Startup of syslog and the startup setting at the time of reboot
- Stop NET-SNMP.
- Delete of a Hinemos Job agent
- Reconfiguration of a setting of a remote shell

1. Switch to a root user and moves to /tmp/Hinemos_Agent.

```
$ su -  
# cd /tmp/Hinemos_Agent
```

2. Execute agent_installer_EN.sh by a root user.

```
# ./agent_installer_EN.sh
```

A menu is displayed.

```
#####  
###  
### Operation Management Software Hinemos Agent      ###  
###                               Installer    Ver 2.0  ###  
###                               ###  
### 2006/3/31                                         ###  
### Copyright (C) 2006 NTT DATA Corporation.       ###  
#####  
Caution: Install by a root user  
Hinemos Agent's  
  1) Installation  
  2) Uninstallation  
  9) Quit this installer  
  
===>
```

3. Execute uninstallation. Input "2" into the prompt.

```
===> 2  
  
The Hinemos agent will be uninstalled. Is it all right (Y/N)?
```

4. Input "Y".

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```
A Hinemos agent will be uninstalled. Is it all right (Y/N)?  
Y
```

Uninstallation is completed when the menu is displayed again as follows.

```
System logger is stopping. : [ OK ]  
Warning: /etc/syslog-ng/syslog-ng.conf saved as  
/etc/syslog-ng/syslog-ng.conf.rpmsave  
System logger is starting up. : [ OK ]  
Kernel logger is starting up. : [ OK ]  
snmpd is stopping. : [ OK ]  
cp -f /etc/skel/.bash_profile ~/.bash_profile
```

5. Input "9" into the prompt and the uninstaller is finished.

```
Hinemos agent's  
  1) Installation  
  2) Uninstallation  
  9) Quit this installer  
  
===> 9  
Hinemos Agent installer is finished.
```

5. Client

5.1. Installation of Hinemos client

5.1.1. Decompression of a File

Decompress `hinemos_client-2.0.0.tar.gz` to an adequate directory. (This book explains a decompression directory as `"/tmp"`.) When you work by another Directory, please read suitably.

1. Expand `hinemos_client-2.0.0.tar.gz` to `/tmp` directory by the user who uses the client application of Hinemos.

```
$ cd /tmp
$ tar -zxvf hinemos_client-2.0.0.tar.gz
```

Hinemos_Client directory is created directly under a `/tmp` directory.

2. Move to the decompressed Hinemos_Client directory.

```
$ cd /tmp/Hinemos_Client
```

5.1.2. Run of installer

The following processes are performed in this installer.

- check the installation directory
- copy required files

This installation is performed to `/opt/hinemos_client` directory. Therefore, please give writable authority to the user who uses the client application of Hinemos. This book explains the example in the case of user `hinemos`.

1. Switch to a root user and move to `/opt` directory

```
$ su -
Password:
# cd /opt
```

2. Create a `hinemos_client` directory by a root user, grant a `hinemos` user ownership, and end a

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switch user.

```
# mkdir hinemos_client
# chown -R hinemos:hinemos hinemos_client
# exit
$
```

Execute the installer (client_installer_EN.sh).

3. Execute the installer by the following commands.

```
$ ./client_installer_EN.sh
```

A menu is displayed.

```
#####
###                               ###
### Operation Management Software Hinemos Client           ###
###                               Installer   Ver 2.0        ###
###                               ###
### 2006/3/31                                                ###
### Copyright (C) 2006 NTT DATA Corporation.              ###
#####
Hinemos Client's
  1) Install
  9) Quit this installer

===>
```

4. Input "1" into the prompt.

5. Since the acknowledgement message of an installation Start is displayed, input "Y".

```
An installation will be started. Is it all right (Y/N)?
Y
```

Client's installation is completed when the following message is displayed and the menu is displayed again.

```
Hinemos client is installed into /opt/hinemos_client.
When you have installed except a root user, please give writable authority to
the Hinemos client user.
Copying the required files.
The Copying the required files was finished.
```

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```
The installation of Hinemos client was completed.
/opt/hinemos_client/hinemos_client.sh can start up Hinemos client.

Hinemos client's
  1) Installation
  9) Quit this installer

===>
```

6. Input "9" into this prompt and this installer is finished.

```
Hinemos client's
  1) Installation
  9) Quit this installer

===> 9
Hinemos installer is finished.
```

5.2. Startup of Hinemos client

1. A client is started by the following commands.

```
$ cd /opt/hinemos_client
$ ./hinemos_client.sh
```

2. A screen [like figure 4-1] is displayed at the first time of startup. Please set up the Manager-server connection destination setting of the following paragraph.

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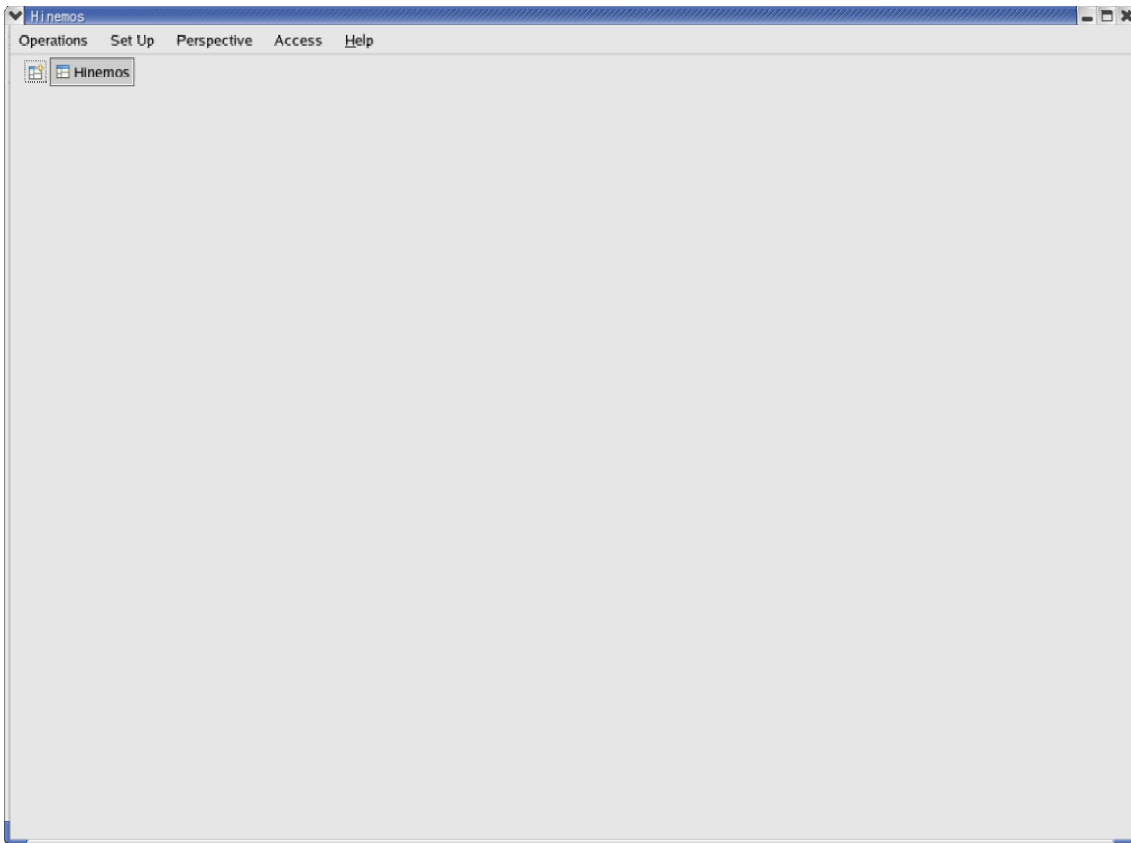


Figure 4-1 Initial screen

5.3. Setup of Hinemos client

5.3.1. Manager-server connection destination setting

1. Choose [Setup] -> [Setup] of a menu bar. "Setup" dialog opens.
2. Choose "Hinemos" - "Hinemos" by the pane on the left-hand side of a "Setup" dialog.
3. Input the following information into the text input column of the Connection URL of a JBoss Connection Setting.
4. Click "OK" button.

jnp: //(manager's IP Address):1099

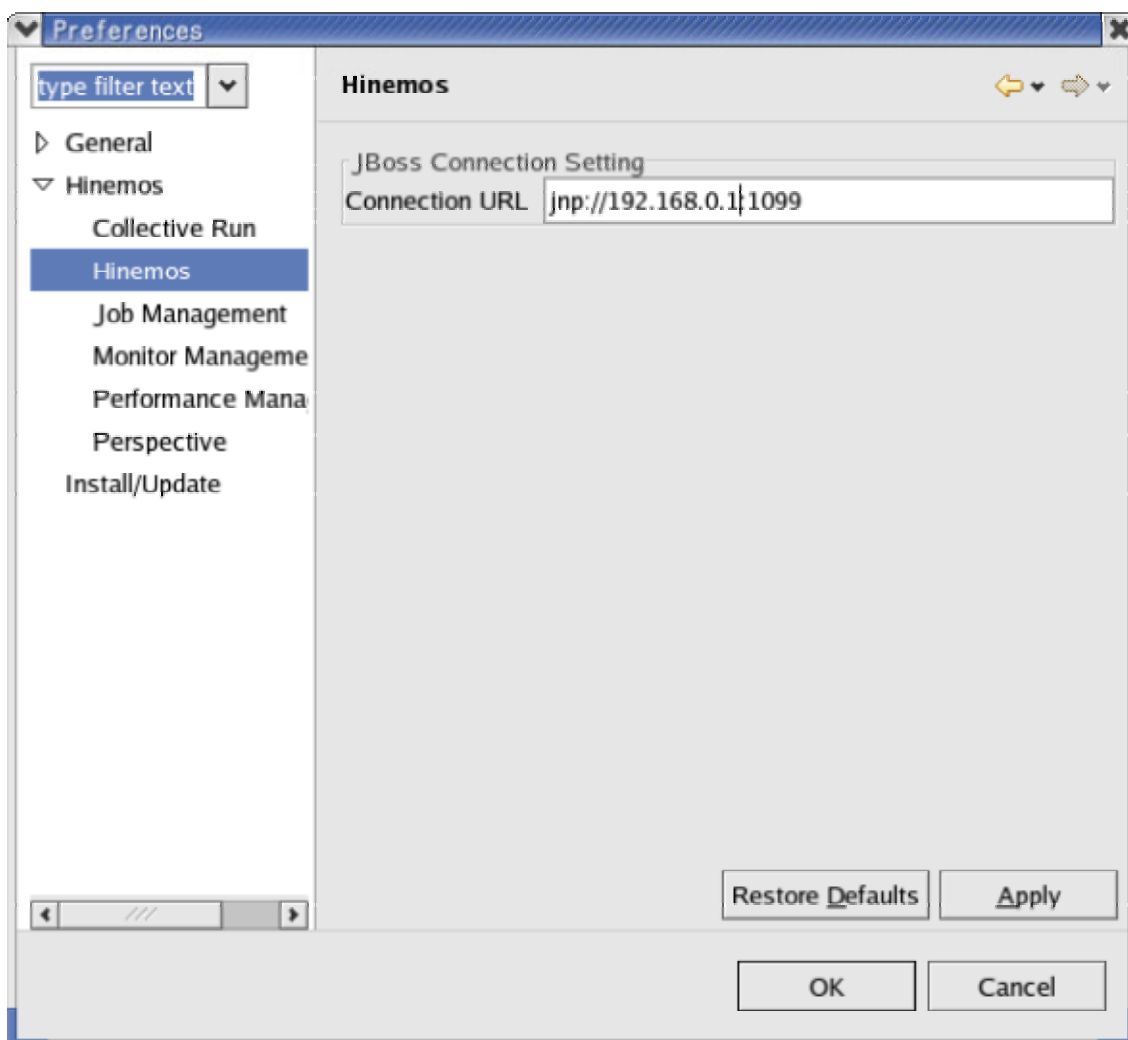


Figure 4-2 Setting dialog

(Notes: When the setting is not reflected, please start Hinemos client again after quitting it.)