Installing and Setting up OMEGAMON Platform and CandleNet Portal on Windows and UNIX
Installing and Setting up OMEGAMON Platform and CandleNet Portal on Windows and UNIX
Note

Before using this information and the product it supports, read the information in “Notices” on page 235.
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Introduction

The IBM® Tivoli® OMEGAMON® Platform and CandleNet Portal package includes the following component products:

- Candle Management Server (CMS)
- CandleNet Portal
- Candle Management Workstation (CMW)
- Warehouse Proxy
- Alert Adapter for AF/REMOTE
- Alert Adapter for Tivoli Enterprise Console
- Alert Emitter for Tivoli Enterprise Console

For a description of these products, see “What Are IBM Tivoli OMEGAMON XE and IBM Tivoli OMEGAMON DE?” on page 20.

This manual describes how to install and configure the component products of the OMEGAMON Platform and CandleNet Portal package on the Windows and UNIX operating systems.

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About This Guide

Who should read this guide

This guide is for IT operations staff or administrators who are responsible for the following tasks:

- Installation of applications
- Automation of tasks on the system
- Monitoring new applications
- Trouble-shooting and providing solutions for operators when they have problems
- Fine-tuning the performance of systems (by measuring system capabilities and tweaking configuration settings)

Readers should be familiar with the following topics:

- Windows and UNIX operating systems

Document set information

This section lists publications in the OMEGAMON Platform version 360 and CandleNet Portal Documentation CD that supply the following information:

- Installation and configuration of the OMEGAMON Platform and CandleNet Portal component products on Windows and UNIX
- Operation of the component products of the OMEGAMON Platform and CandleNet Portal package

The documentation CD contains the publications that are in the package’s library. The format of the publications is PDF. Refer to the readme file on the CD for instructions on how to access the documentation.

This section also lists other useful related documents. It also describes how to access Tivoli publications online and how to order Tivoli publications.

OMEGAMON Platform and CandleNet Portal documentation CD

The following are useful documents that are available in the OMEGAMON Platform version 360 and CandleNet Portal Documentation CD:

- Configuring Candle Management Server on z/OS, GC32-9414-00, provides information about configuring the Candle Management Server on the z/OS platform.
- Administering OMEGAMON Products: CandleNet Portal, GC32-9180, describes the support tasks and functions required for the OMEGAMON platform, including CandleNet Portal user administration.
- Using OMEGAMON Products: CandleNet Portal, GC32-9182, describes the features of CandleNet Portal and how best to use them with OMEGAMON products.
About This Guide

- **Historical Data Collection Guide for IBM Tivoli OMEGAMON XE Products**, GC32-9429-00, describes the process of collecting historical data and either warehousing it or converting it to delimited flat files for reporting purposes.

- OMEGAMON Platform Messages manuals provide lists of descriptions that help you to interpret messages that are issued by the component products of the OMEGAMON Platform: CMS, CandleNet Portal, CMW, Warehouse Proxy, Alert Adapter for AF/REMOTE, Alert Adapter for Tivoli Enterprise Console, and Alert Emitter for Tivoli Enterprise Console on Windows and UNIX.

  The following are the volumes:
  - *IBM Tivoli Candle Products Messages Volume 1 (AOP-ETX)*, SC32-9416-00
  - *IBM Tivoli Candle Products Messages Volume 2 (EU-KLVGM)*, SC32-9417-00
  - *IBM Tivoli Candle Products Messages Volume 3 (KLVHS-KONCT)*, SC32-9418-00
  - *IBM Tivoli Candle Products Messages Volume 4 (KONCV-OC)*, SC32-9419-00
  - *IBM Tivoli Candle Products Messages Volume 5 (ODC-VEB and Appendixes)*, SC32-9420-00

  The online glossary for the CandleNet Portal includes definitions for many of the technical terms related to OMEGAMON XE software.

Accessing publications online

IBM posts publications for this and all other Tivoli products, as they become available and whenever they are updated, to the Tivoli software information center Web site. Access the Tivoli software information center by first going to the Tivoli software library at the following Web address:


Scroll down and click the **Product manuals** link. In the Tivoli Technical Product Documents Alphabetical Listing window, click the link for the product to access the library at the Tivoli software information center.

Useful documentation for the OMEGAMON Platform agents (Warehouse Proxy, Alert Adapter for AF/REMOTE, Alert Adapter for Tivoli Enterprise Console, and Alert Emitter for Tivoli Enterprise Console) can be found at the Tivoli software information center. The following documents may help your understanding of these products:

- **Alert Adapter for AF/REMOTE Configuration and Customization Guide**, GC32-9147-00
- **OMEGAMON Alert Manager for Tivoli/Enterprise Console User’s Guide**, GC32-9236-00
- **Alert Adapter for Tivoli/Enterprise Console: Using Candle Management Workstation**, GC32-9151-00
If you print PDF documents on other than letter-sized paper, set the option in the **File -> Print** window that allows Adobe Reader to print letter-sized pages on your local paper.

**Ordering publications**
You can order many Tivoli publications online at the following Web site:


You can also order by telephone by calling one of the following numbers:
- In the United States: 800-879-2755
- In Canada: 800-426-4968

In other countries, see the following Web site for a list of telephone numbers:

http://www.ibm.com/software/tivoli/order-lit

**Tivoli technical training**
For Tivoli technical training information, refer to the following IBM Tivoli Education Web site:

http://www.ibm.com/software/tivoli/education

**Support information**
If you have a problem with the IBM software, you want to resolve it quickly. IBM provides the following ways for you to obtain the support you need:

- Searching knowledge bases: You can search across a large collection of known problems and workarounds, Technotes, and other information.
- Obtaining fixes: You can locate the latest fixes that are already available for a product.
- Contacting IBM Software Support: If you still cannot solve the problem, and you need to work with someone from IBM, you can use a variety of ways to contact IBM Software Support.

For more information about these three ways of resolving problems, see “Support Information” on page 229.
Documentation Conventions

Overview
This guide uses several conventions for special terms and actions, and operating system-dependent commands and paths.

Panels and figures
The panels and figures in this document are representations. Actual panels may differ.

Required blanks
The slashed-b (ɓ) character in examples represents a required blank. The following example illustrates the location of two required blanks:

ɓeBA*ServiceMonitorɓ0990221161551000

Revision bars
Revision bars (|) may appear in the left margin to identify new or updated material.

Variables and literals in command syntax examples
In examples of command syntax for the z/OS, OS/400, and NonStop Kernel platforms, uppercase letters indicate actual values (literals) that the user should type; lowercase letters indicate variables that represent data supplied by the user:

LOGON APPLID (cccccccc)

However, for the Windows and UNIX platforms, variables are shown in italics:

-candle.kzy.instrument.control.file=instrumentation_control_file_name
-candle.kzy.agent.parms=agent_control_file_name

Note: In ordinary text, variable names appear in italics, regardless of platform.

Symbols
The following symbols may appear in command syntax:

Table 1. Symbols in Command Syntax

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The “or” symbol is used to denote a choice. Either the argument on the left or the argument on the right may be used. Example: YES</td>
</tr>
<tr>
<td>In this example, YES or NO may be specified.</td>
<td></td>
</tr>
</tbody>
</table>
Table 1. Symbols in Command Syntax (continued)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
<td>Denotes optional arguments. Those arguments not enclosed in square brackets are required. Example: &lt;br&gt; <strong>APPLDEST DEST [ALTDEST]</strong> &lt;br&gt;In this example, <strong>DEST</strong> is a required argument and <strong>ALTDEST</strong> is optional.</td>
</tr>
<tr>
<td>{}</td>
<td>Some documents use braces to denote required arguments, or to group arguments for clarity. Example: &lt;br&gt; **COMPARE {workload} - REPORT={SUMMARY</td>
</tr>
<tr>
<td>_</td>
<td>Default values are underscored. Example: &lt;br&gt; **COPY infile outfile - [COMPRESS={YES</td>
</tr>
</tbody>
</table>
Preparing for Installation

Introduction

OMEGAMON Platform and CandleNet Portal operate on an enterprise-wide basis. Its component products run on various machines on various operating system platforms networked together through one of three network protocols. Moreover, the individuals who install or upgrade OMEGAMON Platform and CandleNet Portal and their prerequisite software are often geographically dispersed. For these reasons, ensuring the successful installation of OMEGAMON Platform and CandleNet Portal requires coordination, planning, and preparation.

This chapter provides the following:

- An overview of the component products of the OMEGAMON Platform and CandleNet Portal package
- Considerations and procedures to perform before installation
- A listing of prerequisites for installation

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What Are IBM Tivoli OMEGAMON XE and IBM Tivoli OMEGAMON DE?

What IBM Tivoli OMEGAMON XE does

IBM Tivoli OMEGAMON XE is a suite of IBM Tivoli products that monitor and manage system and network applications on a variety of platforms. These products keep track of the availability and performance of all parts of your enterprise from one or more designated workstations, and provide reports you can use to track trends and troubleshoot problems.

How you can use IBM Tivoli OMEGAMON XE

You can use IBM Tivoli OMEGAMON XE to do the following:

- Create situations (conditions to test when monitoring)
- Establish performance thresholds, and raise alerts when thresholds are exceeded or values are matched
- Trace the causes leading up to an alert
- Create and send commands to systems in your managed enterprise by means of the Take Action feature
- Create comprehensive reports about system conditions
- Define your own queries, using the attributes from an installed agent or from an ODBC-compliant data source, to monitor conditions of particular interest

Components of the OMEGAMON platform

The client, server, and agent implementation includes the following components:

- A client, CandleNet Portal, with a Java-based user interface for viewing and monitoring your enterprise. CandleNet Portal offers two modes of operation: desktop and browser.
- A CandleNet Portal Server, placed between the client and the CMS, that enables retrieval, manipulation, and analysis of data from the agents. The CandleNet Portal Server is the central repository for all user data.
- A CMS, which acts as a collection and control point for alerts received from the agents, and collects their performance and availability data. It also serves as a repository for historical data. The CMS runs on z/OS, UNIX, Windows XP Professional Edition, Windows 2000, or Windows 2003 Server.
- Agents installed on the systems or subsystems you want to monitor. Agents collect and distribute data to a CMS.
- (if necessary) A CMW, required primarily for the maintenance task of removing obsolete managed systems from the user interface. Although the CandleNet Portal client replaces the CMW as the user interface for your Tivoli-monitored environment, the CMW still offers some features not otherwise available, such as the Universal Message Console and the Policy Microscope.
What IBM Tivoli OMEGAMON DE does

IBM Tivoli OMEGAMON DE offers a dashboard view of your enterprise. It gives you a single point of control for managing the resources your business-critical applications rely on, including a range of operating systems, servers, databases, mainframes, and Web components. For example, a typical IT network might have a Web server running on Windows, an application server running on UNIX, a database on z/OS, and a transaction processor on CICS on the mainframe. IBM Tivoli OMEGAMON DE brings all these views together in a single window, so you can see when any component is not working as expected.

What CandleNet Portal does

Running on Windows XP Professional Edition, Windows 2000, or Windows 2003 Server, CandleNet Portal is the interface into your OMEGAMON Platform component products. In the same way you use your browser home page as a starting point for navigating the Internet, you use CandleNet Portal to get a high-level overview of your network environment. One section of the window displays the Navigator, a tree-like view of your monitored network, with alert icons that appear when problems arise. The rest of the window is filled with views pertinent to the chosen item in the Navigator tree. From the top level or from your home workspace, you can navigate to specific locations to check activity and investigate problems.

Two modes of operation

The following are the two modes of operation for CandleNet Portal:
What Are IBM Tivoli OMEGAMON XE and IBM Tivoli OMEGAMON DE?

- Desktop mode, whereby the CandleNet Portal client is installed on your workstation and runs as a desktop application.
- Browser mode, whereby you can start CandleNet Portal from your browser, at which time the thin client software is downloaded to your system and thereafter only for software updates.

When using CandleNet Portal in browser mode, you can start it from any workstation by entering the Web server URL.

CandleNet Portal component products

CandleNet Portal includes its own server and two types of client interface components. The following is a brief description of the components you can install at your site:

- CandleNet Portal Server: The CandleNet Portal Server communicates directly with your hub CMS. Install at least one CandleNet Portal Server in your network to deploy CandleNet Portal.
- CandleNet Portal browser client interface (automatically installed with CandleNet Portal): In your Internet browser, to start CandleNet Portal browser mode, you can enter the URL for a specific CandleNet Portal browser client installed on your Web server.
- CandleNet Portal desktop client interface: The installation choice labeled “CandleNet Portal Client (Desktop Edition)” installs a Java-based graphical user interface on a Windows workstation. Once the desktop client is installed and configured, you can use it to start CandleNet Portal in desktop mode.

What the agents do

The agents are the data collectors. The agents monitor systems, subsystems, or applications, collect data, and pass the data to CandleNet Portal or the CMW through the CMS. The agents pass commands from the user to the system, subsystem, or application. An agent interacts with a single system or application and, in most cases, resides on the same machine where the system or application is running.

Types of agents include:

- Monitoring agents: These agents collect performance and analysis data for many systems (such as UNIX), subsystems (such as WebSphere), and applications (such as R/3).
- Alert adapters: An alert adapter is a type of remote agent that monitors managed systems and relays alert information to the CMS. When an alert adapter detects an event that matches a situation you have defined, the adapter sends an alert to CandleNet Portal via the CMS. Sources of alerts include console and message logs, network-management products, and system-management products. An alert adapter also may have an alert emitter feature that can export IBM Tivoli alerts to other monitoring products.
- Alert emitters: These agents monitor events (that is, exceptions) from any product running under control of the CMS and, if applicable, relay them to the monitored system, subsystem, or application for corrective action.
What Are IBM Tivoli OMEGAMON XE and IBM Tivoli OMEGAMON DE?

- **Gateways**: These agents communicate events to a management application running on a supported platform using a network service. Examples include the SNMP gateways, which communicate events to an SNMP management application running on AIX or Windows.

  Agents run on z/OS, UNIX, Windows XP Professional Edition, Windows 2000, Windows 2003 Server, HP NonStop Kernel, and OS/400; however, not all agents are supported on all platforms.

**Warehouse Proxy**

Warehouse Proxy is an ODBC export server for warehousing historical data. It is a special agent that uses an ODBC connection to transfer historical data collected from other agents included with this release to a previously-installed and configured database. This data can then be analyzed further using third-party software.

Warehouse Proxy supports this database management system: Microsoft SQL Server (version 7.0 and above) on a Windows 2000 Server.

If you do not intend to use historical reporting or save historical data to a database for reference, then you do not need to install or configure the Warehouse Proxy.

For more information on configuring IBM Tivoli OMEGAMON XE for historical reporting, see *Historical Data Collection Guide for IBM Tivoli OMEGAMON XE Products*.

**Alert Adapter for AF/REMOTE**

Alert Adapter for AF/REMOTE detects console messages indicating critical events on systems, subsystems, and applications. The alert emitter feature of this product automatically executes predefined action command scripts on a managed system controlled by an IBM Tivoli automation product.

**Alert Adapter for Tivoli Enterprise Console**

The Alert Adapter for Tivoli Enterprise Console is an agent that resides on the same host as a Tivoli Enterprise Console event server and monitors all events that the server receives. It also identifies events that meet situation definitions and forwards them to the CMS. The CMS evaluates and correlates situations from multiple sources and notifies you through CandleNet Portal.

**Alert Emitter for Tivoli Enterprise Console**

The Alert Emitter for Tivoli Enterprise Console is an agent that receives alerts for events from Tivoli monitored systems and relays them to the Tivoli Enterprise Console event server for evaluation.

**Candle Management Server**

The CMS can run as a stand-alone server, or as a remote server in a hierarchy of servers that report to a master server called the hub CMS. A CMS can be installed on UNIX, z/OS, Windows XP Professional Edition, Windows 2000, or Windows 2003 Server.
Hub Candle Management Server
The hub CMS serves as the focal point for managing your environment. The hub CMS may receive data from:

- Agents running on the same or remote systems
- Other CMSs running as remote servers in a hierarchical configuration

Depending on the complexity of your environment, the number of agents you install, and the amount of data you choose to collect, a single CMS may be all that you need. Or, you may want to configure a hierarchical set of CMSs where remote CMSs report to a hub CMS to distribute the activity.

Remote Candle Management Server
If large amounts of network data are to be collected, excessive traffic can be minimized with the installation of remote CMSs which collect data from the agent and forward it to the hub CMS. Each remote CMS must reside on its own machine and have a unique CMS name (node), but the architectures of various remote CMSs may differ from each other as well as from the hub CMS.
What Are IBM Tivoli OMEGAMON XE and IBM Tivoli OMEGAMON DE?

Figure 2. Example Configuration Including a Remote CMS

Table 2. Platforms Supported by OMEGAMON Platform and CandleNet Portal Components

<table>
<thead>
<tr>
<th>Product</th>
<th>Windows</th>
<th>UNIX</th>
<th>z/OS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CandleNet Portal desktop and browser clients</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CandleNet Portal Server</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
## Table 2. Platforms Supported by OMEGAMON Platform and CandleNet Portal Components

<table>
<thead>
<tr>
<th>Product</th>
<th>Windows</th>
<th>UNIX</th>
<th>z/OS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMW</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warehouse Proxy</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alert Adapter for AF/REMOTE</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alert Adapter for Tivoli Enterprise Console</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Alert Emitter for Tivoli Enterprise Console</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Installation Planning

Upgrading and migrating from a previous installation

See “Preparing for Upgrading and Migrating from a Previous Installation” on page 59.” That chapter includes information you need to know and tasks you need to do to prepare for upgrading and migrating your previously installed OMEGAMON Platform and CandleNet Portal to the new OMEGAMON Platform and CandleNet Portal.

General guidelines

This section contains general guidelines for installing OMEGAMON Platform and CandleNet Portal. The following are some considerations:

- Where are the systems or applications running?
  Your site should install and configure OMEGAMON Platform and CandleNet Portal on every machine where the system or application is running. This allows you to define the association between each instance of OMEGAMON Platform and CandleNet Portal component products. There are some exceptions to this rule, whereby an agent can query a remote system.

- Where do you want to accumulate data generated by the agents? This is where you will install a CMS.

- How much data will you collect?
  Depending on the complexity of your environment, the number of agents you install and the amount of data you choose to collect, you may need multiple CMSs.

  Multiple CMSs can run in a hierarchy of servers where remote CMSs collect data from their agents and report the data to a hub CMS. Your site may also have multiple hierarchies of servers, each with its own hub. If you install multiple CMSs, will each act as a stand-alone (hub) or will you configure remote CMSs to report to a hub?

  **Note:** Only a hub CMS can have a CMW or CandleNet Portal Server attached to it.

- Where do you want to run the user interface to look at data and interact with the system? How many users need to use the interface? This is where you will install the CandleNet Portal or CMW user interface.

- Does your site have a requirement for 24 x 7 operation? If so, you’ll need to consider the Hot Standby feature.

- What communications protocols are available? You may use TCP/IP, IP:PIPE, or SNA for communication between OMEGAMON Platform and CandleNet Portal component products.

Platform support of OMEGAMON Platform and CandleNet Portal

The guidelines below gives an overview of which platforms support OMEGAMON Platform and CandleNet Portal. Unless otherwise specified, the instructions are the same whether you are installing or upgrading.
Also see “Prerequisites” on page 36 for the hardware and software requirements for the installation of OMEGAMON Platform and CandleNet Portal on Windows and UNIX.

- Your site may install a CMS on z/OS, UNIX, Windows XP Professional Edition, Windows 2000, or Windows 2003 Server. For a CMS on a version of Windows or UNIX, use the instructions in this guide. For a CMS on z/OS, see the Program Directory for the CMS and Configuring Candle Management Server on z/OS.


- Your site may install a CMW on Windows XP Professional Edition or Windows 2000.

- Your site may install OMEGAMON Platform agents (Warehouse Proxy, Alert Adapter for AF/REMOTE, Alert Adapter for Tivoli Enterprise Console, and Alert Emitter for Tivoli Enterprise Console) on Windows, UNIX, and z/OS. For installation of agents on Windows or UNIX platforms, refer to the instructions in this guide.

**Specific information to have ready**

During installation, you must supply the following information:

- Name of the CMS you are installing or that the agent will connect to
- Host name of the system where the product (a CMS or one instance of an agent) will execute. Refer to the note below.
- Whether the CMS being installed or being connected to is configured as a hub or remote CMS
- Hub host
- Port number

*Note:* Once an agent is installed, there are various strategies for configuring where it can run and what CMS it reports to.

**Naming your CMS**

You must decide how the CMSs are to be named. In general, the names selected should be short, but meaningful within your environment. For the best performance, IBM recommends that you use the following guidelines:

- Each name must be unique. One name cannot match another CMS name for its entire length. (For example, “ibm” and “ibmremote” are unique and permitted; “server1” and “server1” are not unique and not permitted).
- Each name must begin with an alpha character. No blanks or special characters (“$#@”) can be used. An underline ( _ ) is permitted and conforms to ISO 9660 standards.
- Each name must be between 2 and 32 characters in length.
- CMS naming is case-sensitive on all platforms.
Hostname for TCP/IP network services
TCP/IP network services such as NIS, DNS, and the /etc/hosts file should be configured to return the fully qualified hostname (for example: HostName.ibm.com).

Required order of installation or upgrade of OMEGAMON Platform and CandleNet Portal component products

Multiple products on a single machine
If any of the following products will be installed on the same machine as agents, they must be installed before the agent is installed:
- Hub CMS
- Remote CMS (if necessary)
- CMW (if necessary)
- CMA Framework
- CandleNet Portal Server
- CandleNet Portal desktop client

In addition, these products must be installed on at least one machine before the agent can be properly configured.

Guidelines for UNIX installations

Use of fully-qualified path names
Due to the wide variety of UNIX operating systems and possible user environments, IBM strongly urges the use of fully-qualified path names when entering a directory during the installation process (no pattern-matching characters). IBM scripts use the Korn shell and when a new process or shell is invoked, use of symbolic links, environmental variables, or aliases can potentially cause unexpected results.

Function of the installation shell script
The shell script that you use to install OMEGAMON Platform and CandleNet Portal does the following:
- Creates the directory structure for $candlehome
- Installs tools for managing the installation and execution environment
- Installs and completes a basic configuration of OMEGAMON Platform and CandleNet Portal component products. Some products require advanced configuration.

Multiple logon IDs
If you plan to use multiple UNIX logon IDs to operate your OMEGAMON Platform and CandleNet Portal installation, you should set their umasks in such a way that each can write to files created by the other. IBM does not recommend you use multiple UNIX logons, but if you do, they should be in the same UNIX group, and their umasks should
be set to 002 so they have write authority to each other's files. Consult your UNIX system
documentation for “umask” and “passwd” for more details.

Multiple Network Interface Cards
When more than one Network Interface Card (NIC) exists in the computer on which the
CMS is installed, you need to identify which NIC to use when specifying the CMS Name
and Hostname. Additionally, the Hostname of the system might not match the interface
name, even when only one NIC exists. In either of these cases, to obtain connectivity
between the CMS and agents or between the CMS and CMW you will need to specify an
additional variable when configuring the CMS or agents. This variable is listed under the
Optional Primary Network Name in the configuration dialog boxes or during the
command line installation.

Installing into an Network File System environment
IBM now fully supports installing OMEGAMON Platform and CandleNet Portal in
Network File System (NFS) environments. Using NFS, you can concentrate your software
and data in a specific location, minimizing maintenance, administrative overhead, and
disk space.

Although using NFS to support multiple hosts simplifies the maintenance of installed IBM
Tivoli products, its use can impact performance. Will you install into an NFS? If so, you
will need to consider the administrative savings to the possible impact on the performance
of your network.

Consider the number of hosts that share a single $candlehome as well as the effects of
network congestion and file system performance on the overall response time of your IBM
Tivoli products.

NFS also has some trade-offs in how you manage your environment. While you can have
your entire OMEGAMON Platform and CandleNet Portal package in one place, there
may be additional configuration required in order to define the execution of specific
products or processes in your $candlehome. Will every product on every host system
execute using the same configuration; or will you tailor the configuration to the particular
environment?
Occasionally, the AIX operating system does not remove “no-longer-used” modules from system memory. If this happens during an install, you could see error messages similar to the following:

ERROR - unarchive failed for prerequisite package axaix513.jar
ERROR - could not unzip the prerequisite package “axaix513.jar”

If you receive error messages like the above, change to a root user ID and run the /usr/sbin/slibclean command. This will remove any unused modules from system memory and allow you to install IBM Tivoli products.

**Special instance of specifying an environment variable in a configuration file**

On AIX, if the CMS uses the SNA communications protocol and you want to run the location brokers outside of the CMS (not a recommended configuration), the CMSEXTERNALBROKERS='YES' environment variable must be specified in the following configuration file: $candlehome/config/Host_ms_cmsname.config, where the following are the variables:

**Table 3. Variables in the Name of Aforementioned Configuration File**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$candlehome</td>
<td>The directory in which you installed the CMS</td>
</tr>
<tr>
<td>Host</td>
<td>Name of the computer on which the CMS was installed</td>
</tr>
<tr>
<td>cmsname</td>
<td>The name of the CMS</td>
</tr>
</tbody>
</table>

For additional information in adding or changing variables, see the appendix “UNIX Multi-platform Installation Configuration Files” on page 219.
Deploying CandleNet Portal

As with other client and server applications, components of CandleNet Portal can be installed on the same machine; however, it is more likely that you will install each component on a separate machine in your network.

To deploy CandleNet Portal at your site, install at least one CandleNet Portal Server per hub CMS.

You can have more than one CandleNet Portal Server connected to the same hub CMS, such as to provide a test environment and a production environment.

Historical Configuration Note: If your IBM Tivoli product uses the Warehouse Proxy for warehousing historical data, install the CandleNet Portal Server on the same machine as the Warehouse Proxy, if possible, for ease of administration. The CandleNet Portal Server requires its own “Data Warehouse data” source if it is not installed on the same machine as the Warehouse Proxy.

Order of installation if installing CandleNet Portal components during separate installations

For CandleNet Portal, IBM recommends that you begin installing CandleNet Portal components by installing and configuring the CandleNet Portal Server and one desktop client application. Always install the CandleNet Portal Server first. (Before installing the CandleNet Portal Server, make sure a hub CMS has been installed.)

After you verify that you can communicate properly with your supported IBM Tivoli products, install additional desktop clients on as many machines as you would like.
Configuring IBM Tivoli OMEGAMON XE Across a Firewall

This section provides an overview of IBM’s implementation of firewall support. It explains basic concepts and gives sample scenarios of various configurations. This section does not include specific steps for configuring IBM Tivoli OMEGAMON XE across a firewall; those steps can be found either in the installation chapters of this guide or in the other platform-specific installation guides, depending upon which operating systems you are configuring on.

Basic implementation

IBM Tivoli OMEGAMON XE supports most common firewall configurations, including those that use address translation (application proxy firewall is a notable exception). To enable this support, IBM uses the IPPipe socket address family, a TCP-based protocol that opens a single port on the firewall for communication by IBM Tivoli OMEGAMON XE components. If your target IBM Tivoli OMEGAMON XE environment includes a firewall between any components, you must specify IPPipe as your communication protocol during configuration. No other special configuration is needed unless your firewall also uses address translation.

Implementation with address translation

Address translation is an enhanced security feature of some firewall configurations. With this feature, components that must be reached across the firewall have two unique, but corresponding addresses: the external address (valid for components outside the firewall) and the internal address (valid for components inside the firewall).

With regard to IBM Tivoli OMEGAMON XE, the component that typically must be reached for connection is the CMS; however, the Warehouse Proxy, which runs on Windows as a server-type application, must also be accessible to clients and would also require an external and internal address. A component on either side of the firewall only knows about the address that is valid for its side (its “partition”).

To accommodate sites with address translation, IBM uses a partition-naming strategy. This strategy requires the following two steps:

- The creation of a text file called a partition file as part of the configuration of a hub or remote CMS (or Warehouse Proxy). The partition file contains an entry that defines that component’s address in the other partition.
- The specification of a partition name (any alphanumeric string up to 32 characters), as part of the configuration of any agent, a hub or remote CMS, a CMW, or Warehouse Proxy. A partition name must be specified for each component regardless of which side of the firewall it resides in.

Sample scenarios

Assuming that your site has one firewall, there would be two partitions: one outside the firewall, one inside the firewall. In the sample scenarios that follow we will specify the names OUTSIDE and INSIDE, respectively, for these partitions. (If your site’s
configuration includes more than one firewall, IBM recommends that you contact IBM Software Support for assistance in configuring IBM Tivoli OMEGAMON XE.)

**Note:** Whatever the platform, the command-line examples in the following scenarios adhere to the UNIX and Windows text formatting conventions for literals and variables. See “Variables and literals in command syntax examples” on page 17.

**Scenario 1: hub CMS INSIDE, agents and CMW OUTSIDE**

As part of the configuration of the hub CMS, we specify the name of the partition that it resides in INSIDE. We also create a partition file parthub.txt, containing the following entry:

```
OUTSIDE ip.pipe:hub’s_external_address
```

*OUTSIDE* is the partition name outside the firewall and *hub’s_external_address* is the address of the hub CMS that is valid for the agents and the CMW.

As part of the configuration of each agent and the CMW, we specify the name of the partition that each resides in OUTSIDE.

When an agent or the CMW starts, parthub.txt is searched for an entry that matches the partition name *OUTSIDE* and sees the CMS address that is valid for the agents and the CMW (the external address).

**Scenario 2: hub and remote CMSs INSIDE, agents OUTSIDE**

**Note:** In Scenarios 2 and 3 we will assume that all agents report to the remote CMS.

As part of the configuration of the hub CMS, we specify the name of the partition that it resides in INSIDE. No partition file is needed because the only component that reports to it (the remote CMS) is also inside the firewall.

As part of the configuration of the remote CMS, we specify the name of the partition that it resides in INSIDE. A partition file partremote.txt must also be created at the remote CMS. It contains the following entries:

```
OUTSIDE ip.pipe:remote’s_external_address
```

When configuring the agents (all of which are outside the firewall, reporting to the remote CMS), we specify the name of the partition that they reside in OUTSIDE. When the agents start, partremote.txt is searched for an entry that matches the partition name *OUTSIDE* and sees the remote CMS address that is valid for them (the external address).

**Scenario 3: hub CMS INSIDE, remote CMS and agents OUTSIDE**

As part of the configuration of the hub CMS, we specify the name of the partition that it resides in INSIDE. We also create a partition file parthub.txt, containing the following entry:

```
OUTSIDE ip.pipe:hub’s_external_address
```

*OUTSIDE* is the partition name outside the firewall and *hub’s_external_address* is the address of the hub CMS that is valid for the remote CMS.

As part of the configuration of both the agents and the remote CMS, we specify the name of the partition they reside in OUTSIDE.
A partition file partremote.txt also must be created at the remote CMS. It contains the following entry:

**INSIDE ip.pipe:remote's_internal_address**

If the hub CMS needs to communicate with the remote CMS (for example, to issue a report request from an agent that is connected to the remote CMS), partremote.txt is searched for an entry that matches the partition name **INSIDE** and sees the remote CMS address that is valid for it (the internal address).
Prerequisites

This chapter lists hardware and software prerequisites for OMEGAMON Platform and CandleNet Portal running on Windows and UNIX.

General requirements

The following are general prerequisites for installing OMEGAMON Platform and CandleNet Portal on Windows and UNIX:

- Communications (TCP/IP, SNA or IP.PIPE) between products
- Allow 5Mb of free /tmp space in addition to the other requirements listed in this chapter. Also allow additional space for log file growth.
- UNIX: A Korn shell command interpreter

Candle Management Server on Windows

This section lists hardware and software requirements for the CMS on Windows.

Hardware

This section lists the following two sets of hardware requirements:

- Minimum: The minimum hardware levels are required for the CMS to operate.
- Recommended: The hardware levels recommended for adequate CMS performance in an average monitoring environment.

Your site should use the recommended hardware levels as starting points to evaluate the CMS performance in your particular environment. Many factors affect the performance of IBM Tivoli products, including the following:

- Are the CMS and other products residing on the same machine?
- How many products are installed?
- What is the expected monitoring load? A large number of situation events flowing through the CMS may require additional resources for adequate performance.

The following table lists the minimum and recommended hardware requirements:

Table 4. CMS Hardware Requirements, Windows

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 GHz CPU</td>
<td>1 GHz CPU</td>
</tr>
<tr>
<td>512 Mb RAM</td>
<td>1 Gb RAM</td>
</tr>
</tbody>
</table>

Operating system


The CMS is not supported on DEC Alpha machines.
The following table lists the minimum software requirements:

**Table 5. CMS Software Requirements, Windows (minimum)**

<table>
<thead>
<tr>
<th>For TCP/IP Communications:</th>
</tr>
</thead>
<tbody>
<tr>
<td>■ Windows 2000 Professional or Server with W2K Service Pac 3 or above. The Primary DNS suffix of this computer requires a specified domain name; for example, ibm.com. The option “Change primary DNS suffix when domain membership changes should be checked. This setting is performed under the System Prop./Network ID settings.</td>
</tr>
<tr>
<td>■ Microsoft Winsock v1.1 or higher</td>
</tr>
<tr>
<td>■ Microsoft TCP/IP protocol stack</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>For SNA communications:</th>
</tr>
</thead>
<tbody>
<tr>
<td>■ Windows 2000 Professional or Server with W2K Service Pac 3 or above</td>
</tr>
<tr>
<td>■ Microsoft SNA Server v3.0 or higher</td>
</tr>
<tr>
<td>■ Service Pac 1 is required for SNA Server v4.0.</td>
</tr>
<tr>
<td>■ IBM Communications Server v5.0 or 5.2 (fixes JR10466 and JR10368 are required for SNA Server v5.0.)</td>
</tr>
</tbody>
</table>

**Additional Prerequisites for SOAP Server**

IBM recommends Internet Explorer (version 6.0x) for sites intending to use a SOAP Server. If you are running Internet Explorer (version 5.0x), you must install Service Pack MSXML (version 3.0) before executing SOAP requests.

**Candle Management Server on UNIX**

This section lists the hardware and software requirements for a CMS running on AIX, HP-UX, or Solaris.

The CMS requires a minimum of 1 Gb of RAM.

**Hardware**

The following table lists the hardware requirements for a CMS on UNIX:

**Table 6. Candle Management Server Hardware Requirements, UNIX**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIX</td>
<td>■ IBM RS/6000 Server</td>
</tr>
<tr>
<td></td>
<td>■ Ethernet or token ring LAN capability</td>
</tr>
<tr>
<td></td>
<td>■ CD-ROM drive</td>
</tr>
<tr>
<td></td>
<td>■ 49 Mb of disk space</td>
</tr>
<tr>
<td></td>
<td>■ Native X-Term monitor for UNIX or Hummingbird Exceed X-windows emulators for PCs only</td>
</tr>
</tbody>
</table>
IBM recommends running your X-windows display in a 768 x 1024 super VGA mode with scroll bars and greater than 25 line screen length.

**Software**

Depending on your system architecture the following software requirements are required:

**Table 6. Candle Management Server Hardware Requirements, UNIX**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Requirements</th>
</tr>
</thead>
</table>
| HP-UX            | - HP-9000  
|                  | - Ethernet or token ring LAN capability  
|                  | - CD-ROM drive  
|                  | - 67 Mb of disk space  
|                  | - Native X-Term monitor for UNIX or Hummingbird Exceed X-windows emulators for PCs only  |
| Solaris          | - Sparc or UltraSparc Workstation capable of running Solaris v2.6 or 7 (32-bit or 64-bit)  
|                  | - Ethernet or token ring LAN capability  
|                  | - CD-ROM drive  
|                  | - 49 Mb of disk space  
|                  | - Native X-Term monitor for UNIX or Hummingbird Exceed X-windows emulators for PCs only  |

**Table 7. CMS Software Requirements, UNIX**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Versions Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIX</td>
<td>V5.1 or 5.2 (32-bit or 64-bit)</td>
</tr>
<tr>
<td>HP-UX</td>
<td>V11.x, including HP11i (32-bit or 64-bit)</td>
</tr>
<tr>
<td>Solaris</td>
<td>V2.6, 7 (32-bit or 64-bit), 8 (32-bit or 64-bit), or 9 (32-bit or 64-bit)</td>
</tr>
</tbody>
</table>

**Note:** The operating system must support Java version 1.3.1_04 to 1.4.2 or higher. The OMEGAMON Platform and CandleNet Portal product CD ships with a runtime version of Java.

**IP.PIPE patch for HP-UX**

If you are installing a CMS on HP-UX (version 11) you will need to install one of the following patches for support of the IPPipe protocol:

- For version 11.00 32-bit perform the following procedure:
  1. Apply patch PHNE_21767 cumulative ARPA Transport Patch, which supersedes PHNE_20735.
  2. HP-UX (version 11.0) uses ndd as opposed to nettune. Check the current value by entering the following:

```bash
niss -get /dev/tcp tcp_fin_wait_2_timeout
```
3. Set the FIN_WAIT2 time-out to 11 minutes by entering the following:

```
ndd -set /dev/tcp tcp_fin_wait_2_timeout 660000
```

4. Perform the following procedure:
   A. To survive a reboot, the tunable should be set in `/etc/rc.config.d/nddconf` using the following `nddconf` example entries:

   ```
   TRANSPORT_NAME[0]=tcp
   NDD_NAME[0]=tcp_fin_wait_2_timeout
   NDD_VALUE[0]=660000
   ```

   - For version 11.00 64-bit, perform the following procedure:
     1. Apply the following patches required to run the UNIX agent:
        - PHSS_21906
        - PHSS_21947
        - PHSS_21950
        - PHCO_22076
     2. The following HP patches should be replaced:
        - PHCO_14044 – replaced by PHCO_22021
        - PHKL_20410 – replaced by PHKL_22208
        - PHSS_20578 – replaced by PHSS_21950
        - PHKL_20822 – replaced by PHKL_22031
        - PHCO_20869 – go back to PHCO_19656
        - PHKL_21349 – no replacement, see patch documentation at the ITRC for further information
        - PHKL_21612 – replaced by PHKL_22030
        - PHKL_21165 – no replacement, suggest going back to previous patch PHKL_20151

File descriptor (maxfiles) limit

The CMS requires a minimum of 256 files descriptors (maxfiles) for the operating system. (See your system administrator for assistance in changing the system kernel parameters.)

**Warning:** For the CMS to function properly, the maximum file descriptor (MAX_FILES parameter of the configurable kernel parameter) should be greater than 256. Under POSIX shell, ulimit -a displays nofiles (descriptors) which should be unlimited or greater than 256. It is recommended that you closely monitor storage usage. (Also see “Providing sufficient storage to the CMS” on page 40.)

Perform the following procedure:

1. To determine the number of per process file descriptors (maxfiles), run one of the following commands:

   ```bash
   sysdef | grep maxfiles
   ```
Prerequisites

ulimit -a

or, for AIX systems:

ulimit -d

The maxfiles or nofiles number must be 256 or greater, such as in the following:

nofiles(descriptors) 256

2. For HP-UX systems, the following kernel parameters need to be adjusted to the levels indicated in the following:

maxdsiz 0x08000000** recommended
maxssiz 0x01000000** recommended
maxtsiz 0x08000000** recommended
maxfiles 256* required for CMS200 (pre-fixpack 13)
max_thread_proc320* required for CMS200, 300 & CT360
* Larger if CMS is heavily used

3. For AIX systems, if the ulimit -d settings from step 1 are less than 256, perform the following:

1. Increase the maxfiles limit to 256.
2. If this is still not sufficient (as evidenced by ie malloc failures in the CMS log), follow the instructions in the next section, “Providing sufficient storage to the CMS” on page 40.

Providing sufficient storage to the CMS

If the 256 MB referred to in the previous section (See “File descriptor (maxfiles) limit” on page 39.) does not suffice, call IBM Software Support and ask for the Memory Upgrade Patch (which will allow you to use multiple user segments of 256 MB). The Memory Upgrade Patch needs to be reapplied to the KDSMAIN module at every product or maintenance installation.

Note: AIX only: AIX will by default only allow the process to use 1 segment.

Candle Management Workstation

You may install a CMW only on Intel-based (x86) CPUs and compatible CPUs that run Windows XP Professional Edition or Windows 2000. (The CMW is not supported on DEC Alpha machines).

The CMW may include installation of the CandleLight® Workstation.

The following table lists the minimum and recommended hardware requirements:

Table 8. CMW Hardware Requirements

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 MHz Pentium II (for configurations that produce up to 1000 rows per report)</td>
<td>400 MHz Pentium II or higher (for configurations that produce over 1000 rows per report)</td>
</tr>
<tr>
<td>96 Mb RAM</td>
<td>128 Mb RAM or more</td>
</tr>
</tbody>
</table>
Prerequisites

The following table lists the minimum software requirements:

**Table 9. CMW Software Requirements**

<table>
<thead>
<tr>
<th>For TCP/IP communications:</th>
<th>For SNA communications:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Windows 2000 Professional, Server or Workstation with Service Pac 3 or above</td>
<td>- Windows 2000 Professional, Server or Workstation with Service Pac 3 or above</td>
</tr>
<tr>
<td>- Microsoft Winsock v1.1 or higher</td>
<td>- A 32-bit version of one of the following SNA Server or Client products:</td>
</tr>
<tr>
<td>- Microsoft TCP/IP protocol stack</td>
<td>- IBM PCOMM v4.11 or higher (fix IC19970 on Windows 2000 Server or Workstation)</td>
</tr>
<tr>
<td></td>
<td>- IBM Communications Server v5.0 or 5.2 (fixes JR10466 and JR10368 are required for SNA Server v5.0)</td>
</tr>
<tr>
<td></td>
<td>- Microsoft SNA Server v3 or higher (Service Pac 1 is required for SNA Server v4.0)</td>
</tr>
<tr>
<td></td>
<td>- Attachmate EXTRA! v6.2, 6.3, or 6.4 (fix for case number 1221139 is required for v6.2 and 6.3; fix for case number 1274151 is required for v6.4)</td>
</tr>
<tr>
<td></td>
<td>- Walldata RUMBA v5.1 or higher (Walldata PTF OPK52002 is required for RUMBA versions less than v5.2A.)</td>
</tr>
</tbody>
</table>

**Note:** The OMEGAVIEW® Zoom feature is currently supported with the following products.

- For TCP/IP communications:
  - Attachmate EXTRA! v6.2, 6.3, or 6.4 (fix for case number 1221139 is required for v6.2 and 6.3; fix for case number 1274151 is required for v6.4.)

- For SNA communications:
  - Attachmate EXTRA! v6.2, 6.3, or 6.4 (EXTRA! 6.3 Service Pac is required for v6.3.)

The product must be installed with HLLAPI support (a quick way to check is to search the Program Files directory for the Attachmate EHLAPI32.DLL file). The emulation session that will be used for Zooming must be assigned a short name, for example, “A”. The emulation session must be open and ready before Zooming can occur.

To set up OMEGAVIEW Zoom from the CMW, see the CMW online help, or for a description of it, see the “Functional Comparison” section of the “CNP and the CMW” chapter of the Administering OMEGAMON Products: CandleNet Portal.

For more information about OMEGAVIEW Zoom, see the OMEGAVIEW user documentation.
CandleNet Portal

Operating systems
All CandleNet Portal components are supported on the following Windows operating systems:

- Windows XP Professional Edition with Service Pac 1 or higher
- Windows 2000 with Service Pac 3 or higher
- Windows 2003 Server

Note: Windows operating systems listed are for Intel-based (x86) CPUs and compatible CPUs only.

IBM Tivoli component levels
CandleNet Portal requires connection to a CMS (version 360 or higher).

Communications
CandleNet Portal requires TCP/IP.

IBM Tivoli products do not require a Domain Name Server (DNS). If your Windows systems are running without DNS, make sure the \etc\hosts file of the local machine is up to date.

Additional communications software requirements are listed by component in the following sections:

CandleNet Portal Server and desktop client

Hardware
The following table lists the minimum and recommended hardware requirements:

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>Recommended Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 GHz or higher processor</td>
<td>1 GHz or higher processor</td>
</tr>
<tr>
<td>512 Mb RAM</td>
<td>1 GB RAM</td>
</tr>
<tr>
<td>300 Mb or more of available hard drive space</td>
<td></td>
</tr>
<tr>
<td>150 Mb or more of virtual memory in addition to operating system or other application requirements</td>
<td></td>
</tr>
<tr>
<td>Video card supporting 64K color and 1024 by 768 resolution (Super VGA)</td>
<td>Video card supporting 65,000 colors and 1,024 by 768 resolution or higher</td>
</tr>
</tbody>
</table>

SUN Microsystems JRE
CandleNet Portal Server requires one of the following versions of the JRE: 1.3.1_04 to 1.4.2.
**Note:** Supported versions of JRE are updated frequently to include the latest versions available. Go to Sun's Java 2 Platform, Standard Edition (J2SE) Web page for downloading the latest supported version, at the following URL: http://java.sun.com/j2se/downloads/index.html

**Communications**

For TCP/IP communications, the following are required regardless of communication method used between the CandleNet Portal Server and the CMS:

- Microsoft Winsock (version 1.1 or higher)
- Microsoft TCP/IP protocol stack

For SNA communications (optional), only the following can be used for communication between the CandleNet Portal Server and the CMS:

- Microsoft SNA Server (version 3.0 or higher), Service Pac 1 is required for SNA Server (version 4.0).
- IBM Communications Server (versions 5.0 or 5.2), fixes JR10466 and JR10368, are required for SNA Server (version 5.0).

**CandleNet Portal Server database**

The CandleNet Portal Server requires prior installation of one of the following database product locally:

- DB2 UDB (version 8.1)

**Note:** The installation package includes DB2 UDB, which IBM encourages the customer to use as the CandleNet Portal Server database. See “Installing DB2 UDB” on page 48.

- Microsoft SQL Server (version 7.0 or 2000)

**CandleNet Portal browser client**

The CandleNet Portal browser client is automatically installed with CandleNet Portal on the same system as your CandleNet Portal Server. The browser client software is downloaded from here the first time a user enters the URL to start CandleNet Portal browser mode.

**SUN Microsystems JRE**

The CandleNet Portal browser client requires one of the following versions of JRE that are listed as a requirement for the CandleNet Portal Server: 1.3.1_04 to 1.4.2.

**Note:** Supported versions of JRE are updated frequently to include the latest versions available. Go to Sun's Java 2 Platform, Standard Edition (J2SE) Web page for downloading the latest supported version, at the following URL: http://java.sun.com/j2se/downloads/index.html

**Supported Web Browser**

CandleNet Portal browser mode requires Microsoft Internet Explorer 5.5 running on one of the operating systems listed in “Operating systems” on page 42.
Default Web browser settings are assumed.

**Candle Management Agent Framework on Windows**

Installation of the Candle Management Agent (CMA) Framework is required prior to installation of any of the agents on Windows. This section lists the system software, disk space, and anything else that may be required by the CMA Framework.


**Operating systems**

The following operating systems are supported:

- Windows 2000 Professional server or workstation, with Service Pac 3 or above
- Windows XP Professional Edition, with Service Pac 1 or above
- Windows 2003 Server

**TCP/IP communications**

The following are required:

- Microsoft Winsock (version 1.1 or higher)
- Microsoft TCP/IP protocol stack

**SNA communications**

A 32-bit version of one of the following SNA Server or Client products is required:

- IBM PCOMM (version 4.11 or higher)
  Fix IC19970 is required on Windows 2000 Server or Workstation.
- IBM Communications Server (version 5.0 or higher)
  Fixes JR10466 and JR10368 are required for SNA Server (version 5.0).
- Microsoft SNA Server (version 3 or higher)
  Service Pac 1 is required for SNA Server (version 4.0).
- Attachmate EXTRA! (version 6.2, 6.3, or 6.4)
  Fix for case number 1221139 is required for versions 6.2 and 6.3.
  Fix for case number 1274151 is required for version 6.4.
- Walldata RUMBA (version 5.1 or higher)
  Walldata PTF OPK52002 is required for RUMBA versions less than 5.2A.

**Hardware and other requirements**

In addition to the minimum software requirements for the CMA Framework listed in the previous section, and the requirements listed in the following table, the CMA Framework installation requires a minimum of the following:

- 32 Mb RAM
- 150 Mb virtual memory
Prerequisites

- 11 Mb disk space
- At least 6Mb disk space in the location referenced by your TEMP system variable

Candle Management Agent Framework on UNIX

The CMA Framework is installed automatically with the agents on UNIX. This section lists the hardware and software requirements for the CMA Framework.

Unless otherwise stated, the CMA Framework requires the same hardware as the operating systems under which they execute. In addition, you will need the following:

- Ethernet or token ring LAN capability
- CD-ROM drive
- Native X-Term monitor for UNIX or Hummingbird Exceed X-windows emulators for PCs only
- On Solaris, X11 is required.
- 8 Mb disk space

OMEGAMON Platform agents on Windows

This section lists the system software, disk space, and anything else that may be required by OMEGAMON Platform agents on Windows.

Operating system Service Pacs

The following are required:

- Windows 2000 Professional server or workstation, with Service Pac 3 or above
- Windows XP Professional Edition, with Service Pac 1 or above

TCP/IP communications

The following are required:

- Microsoft Winsock (version 1.1 or higher)
- Microsoft TCP/IP protocol stack

SNA communications

A 32-bit version of one of the following SNA Server or Client products is required:

- IBM PCOMM (version 4.11 or higher)
  Fix IC19970 is required on Windows 2000 Server or Workstation.
- IBM Communications Server (version 5.0 or higher)
  Fixes JR10466 and JR10368 are required for SNA Server (version 5.0).
- Microsoft SNA Server (version 3 or higher)
  Service Pac 1 is required for SNA Server (version 4.0).
Prerequisites

- Attachmate EXTRA! (version 6.2, 6.3, or 6.4)
  - Fix for case number 1221139 is required for versions 6.2 and 6.3.
  - Fix for case number 1274151 is required for version 6.4.
- Walldata RUMBA (version 5.1 or higher)
  - Walldata PTF OPK52002 is required for RUMBA versions less than 5.2A.

Hardware and other requirements

In addition to the minimum software requirements for OMEGAMON Platform agents listed in the previous section, and the requirements listed in the following table, installation of OMEGAMON Platform agents requires a minimum of the following:

- 32 Mb RAM
- 150 Mb virtual memory, plus 5 Mb for each agent installed

The following table lists the requirements:

Table 11. Requirements for OMEGAMON Platform Agents on Windows

<table>
<thead>
<tr>
<th>Name</th>
<th>Operating Systems</th>
<th>Hardware</th>
<th>Other Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warehouse Proxy</td>
<td>Windows XP Professional Edition or Windows 2000</td>
<td>300K disk space</td>
<td>Database software</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Important: Also ensure that there is sufficient room for the System Log.</td>
<td>Microsoft SQL Server v7.0 or 2000 ODBC connectivity to the database.</td>
</tr>
</tbody>
</table>

Table Note 1—Supported Historical Database Client Software: IBM Tivoli has tested and supports the Warehouse Proxy on Windows XP Professional Edition or Windows 2000 with the following database client software.

- Microsoft SQL Server v7.0

OMEGAMON Platform agents on UNIX

This section lists the hardware and software requirements for installing OMEGAMON Platform agents on UNIX. Unless otherwise stated, the same hardware as the operating system environment are required for installation of OMEGAMON Platform agents. In addition, you will need the following:

- Ethernet or token ring LAN capability
- CD-ROM drive
- Native X-Term monitor for UNIX or Hummingbird Exceed X-windows emulators for PCs only
- On Solaris, X11 is required
The following table lists further requirements:

**Table 12. Requirements for OMEGAMON Platform Agents on UNIX**

<table>
<thead>
<tr>
<th>Name</th>
<th>Hardware Requirements</th>
<th>Software Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alert Adapter for Enterprise Console</td>
<td>2 Mb disk space</td>
<td>Depending on your system architecture:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- AIX, v5.1 or above (32-bit or 64-bit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- HP-UX, v11.x (32-bit or 64-bit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Solaris, v2.6 or 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Tivoli Management Environment, v3.6.</td>
</tr>
<tr>
<td>Alert Emitter for Tivoli Console</td>
<td>2 Mb disk space</td>
<td>Depending on your system architecture:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- AIX, v5.1 or above (32-bit or 64-bit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- HP-UX, v11.x (32-bit or 64-bit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Solaris, v2.6 or 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Tivoli Management Environment, v3.6.</td>
</tr>
</tbody>
</table>
To Do Before Beginning on Windows

Windows logon ID

Your Windows logon ID must be a member of the Administrators system group.

Stopping Lotus Notes server

If the Lotus Notes server is running on this machine, stop the Lotus Notes server before starting the OMEGAMON Platform and CandleNet Portal installation. This applies only to the server (not to individual Lotus Notes applications).

HOST file

IBM Tivoli products do not require a DNS. If your Windows systems are running without DNS, make sure the HOST file of the local machine is up to date.

Downloading JRE, if necessary

CandleNet Portal requires one of the following supported versions of the JRE: 1.3.1_04 to 1.4.2. The following step is required only if you do not have the required JRE installed locally:

1. Go to Sun’s Java 2 Platform, Standard Edition (J2SE) Web page for downloading the latest supported version, at the following URL:
2. Follow the download instructions on the site.

Note: CandleNet Portal supports multiple versions of the JRE on the same machine and on different browser clients. See the "Java Runtime Environment" section of "Administering OMEGAMON Products: CandleNet Portal" for details and for troubleshooting notes.

Installing DB2 UDB

The installation package comes with DB2 Universal Database Workgroup Server Edition. Install DB2 UDB on the machine where you will be installing a CandleNet Portal Server.

Note: If you already have a DB2 UDB (version 7 or 8) installation, you need not install the DB2 UDB (version 8.1) included in your installation package unless you want to upgrade to version 8.1.

Upgrading from a version that used MSDE or Microsoft SQL Server

If you will be upgrading the CandleNet Portal Server from an earlier version that used MSDE for the CandleNet Portal Server database, the migration to DB2 UDB is done by the installer program.

If Microsoft SQL Server (version 7.0) was used for the CandleNet Portal Server database, the installer program will give you the choice of moving it to DB2 UDB or keeping the
Preparing for Installation

To Do Before Beginning on Windows

database on Microsoft SQL Server. IBM recommends you migrate the database to DB2 UDB.

Installation

Perform the following procedure:

1. On the machine where the CandleNet Portal Server will be installed, log on to Windows with a local ID that has Administrator authority. If you are unsure, see “Windows User Accounts” on page 51 before proceeding.

   The DB2 UDB installation will add a local db2admin user account to Windows, which it cannot do if your local ID does not have Administrator authority. Without the db2admin ID, DB2 UDB will be unable to create the CandleNet Portal Server database and the CandleNet Portal Server will not start.

2. Insert the DB2 UDB installation CD that comes with the IBM Tivoli OMEGAMON Platform and CandleNet Portal package to start the IBM DB2 Setup Launchpad.

3. Click Install Products and proceed through the license agreement and other screens.

   The following dialog box appears:

   ![DB2 Setup Wizard - D82 Workgroup Server Edition](image)

   **Select the installation type**

   - Typical: Approximately 400 - 600 MB
     DB2 will be installed with most features and functionality.
     To add functionality, select the desired functions from the Additional functions:
     - Data warehousing

4. Accept the defaults for selecting the installation type.

5. Do not select Data warehousing. This is unrelated to the IBM Tivoli data warehouse, which is configured separately.

6. Select the “installation” folder, and change the installation drive if necessary.
The following dialog box displays:

7. Set user information for the DB2 Administration Server. Perform the following procedure:

   1. Accept the user name of db2admin.
   2. Enter a password. We recommend candle.
   3. Do not enter a domain name in the drop-down list.

   The db2admin user name and candle password are not an absolute requirement. If you use a different name (up to eight letters and numbers) and password, keep them written down somewhere. DB2 UDB requires the user name and password for all administrative tasks, and the installer program requires them to create the CandleNet Portal Server database, as does IBM Software Support if you need troubleshooting assistance.

   If the Windows Local Security Settings on this machine enables complex or long passwords, use whatever password fits the requirements. This Windows setting also affects CandleNet Portal Server installation. See “Windows local security settings: long or complex passwords” on page 52.

8. On the subsequent screens, select the defaults.

9. Specify a contact for health monitor notification: Specify the name and email address for a contact or defer the task until after the installation, and click Next.

10. Click Install to start copying the files.

11. After the installation is complete, restart Windows (even if the DB2 UDB installer does not ask you to do that).

   Note: If the Windows Local Security Policy on this machine is set to require complex passwords, you must create a new Windows user named CNPS before the installer program can configure the CandleNet Portal Server. Follow the instructions under “Windows local security settings: long or complex passwords” on page 52 before proceeding.
To Do Before Beginning on Windows

Troubleshooting

If the CandleNet Portal Server does not start after it has been installed, it may be because the installer program fails when it attempts to create the CandleNet Portal Server database for the CandleNet Portal Server. The following are two likely causes:

- The db2admin user ID was created on the network domain and not the local host.
- The db2admin user ID no longer has administrator privileges.

Both conditions are described in the “Installing DB2 Servers (Windows)” chapter of the IBM DB2 Universal Database – Quick Beginnings for DB2 Servers manual.

Windows User Accounts

The Windows user ID you use when you install DB2 UDB must be part of the Administrators group on this machine. Additionally, another instance of this user name must not exist on the network domain unless it has administrator authority.

If you are not sure, check your ID in the Control Panel User Accounts. The machine’s host name should show in the Domain column (CNPUSER in the example right) and Administrators in the Group column.

Is the db2admin user account on the local domain?

If you have already installed DB2 UDB, you can check that the domain associated with the db2admin user ID is the host name, and change it if necessary.

1. Select Administrative Tools from the Windows Control Panel.
2. Select Services.
3. In the Services window, right-click the service named DB2 - DB2 and select Properties from the pop-up menu.

The following dialog box displays:

4. Select the Log On tab and enter .\db2admin as this user account.
Note: If the account shows the network domain (such as NOTES\db2admin), edit it to remove the network domain and type a period (".") for the local domain. Enter .\db2admin.

Windows local security settings: long or complex passwords

The following Windows user IDs are required by DB2 UDB:

- db2admin, added when you install DB2 UDB and required by the IBM installer when the database is created for the CandleNet Portal Server
- CNPS, added during installation when the CandleNet Portal Server database is configured

If the Windows Local Security Settings are enabled for long or complex passwords, you must use a password of the required syntax for these IDs, as mentioned in the following window:

Additionally, if your environment requires passwords to be changed periodically, do the following to change CandleNet Portal Server database user account password:

1. On the machine where the CandleNet Portal Server is installed, log on to Windows with a local administrator ID.

2. Select Start > Programs > Candle OMEGAMON XE > Manage Candle Services.

3. Right-click the CandleNet Portal Server and select Advanced > Utilities > Build CNPS Database from the pop-up menu.

   The following dialog box displays:

   4. Click DB2 to open the CNPS Data Source Config Parameters dialog box.

   5. Enter the new password for the CandleNet Portal Server database user ID.
Uninstalling DB2 UDB

If a IBM Software Support representative instructs you to uninstall DB2 UDB, you need also to remove the DB2 data folders.

1. Insert the DB2 Universal Database Workgroup Server Edition CD to start the installation wizard, and follow the steps to uninstall. This uninstalls DB2 UDB from c:\Program Files\IBM\SQLLIB, but not the data folder, which also has to be deleted.

2. Delete the DB2 UDB directory on the drive where you installed it. It is normally on the root directory of the drive, such as c:\DB2.
SNA communication protocol note (z/OS example)

If you will be using SNA communications between products that include a CMS installed on z/OS, complete the installation and configuration of your CMSs on z/OS before beginning the installation of the other products on UNIX. During the VTAM SNA configuration using the SMP/E installer, you should record the names used for the following SNA configuration settings:

- Network identified for your VTAM network = (Net Name)
- APPLIDs for each CMS installed (APPLIDs are unique for each Logical Unit (LU) = LU Name)
- LU6.2 Logmode table name = LOG Mode (IBM Tivoli default is CANCTDCS)

These parameters are required during the configuration of products on UNIX. Contact the System Administrator or VTAM SysProg for this information and add it to the following table:

Table 13. SNA Communication Settings for CMSs

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Hub CMS</th>
<th>Remote CMS2</th>
<th>Remote CMS3</th>
<th>Remote CMS4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Name</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LU Name</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOG Mode</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Creating an IBM Tivoli account for installing and maintaining the $candlehome

Perform the following procedure to create an IBM Tivoli account for installing and maintaining the $candlehome:

1. (GUI installation only) Set your DISPLAY environment variable. For KSH use the following command:

   ```bash
   export DISPLAY=[Network_Interface_Name]:0.0
   ```

   where the variable `Network_Interface_Name` is the name of the interface card or IP address.

2. Create an IBM Tivoli account for installing and maintaining the $candlehome. For best performance, use the following guidelines:

   - You can use any valid name. IBM recommends the name “ibm”.

   Do not start the installation using the root ID, as it will cause problems with running the product after installation. However, certain IBM Tivoli products may require root authority to properly configure them. In those cases, the installation or configuration command may prompt for the root password at the time it’s needed.
To Do Before Beginning on UNIX

- If you are using NFS or a local file system, you should establish your $candlehome directory according to the guidelines used in your environment.
- IBM recommends using the Korn shell for your IBM Tivoli account; however, you can use any shell that is shipped with the UNIX operating system.

**Note:** IBM Tivoli products do not support third-party vendor shells such as BASH and TCSH.

### Transferring files to your UNIX system via FTP

If your UNIX system does not have a CD-ROM drive from which it can directly access the files from the OMEGAMON Platform and CandleNet Portal product CD, or if your UNIX system cannot access the NFS to which the product CD's contents were copied, you must transfer files from a machine with a CD-ROM drive to your UNIX system.

In this case, the UNIX system is relatively isolated (from a file access standpoint) and the OMEGAMON Platform and CandleNet Portal product CD files must be manually copied (via FTP) to the system through the following process:

1. Log on to the machine (Windows or UNIX) on which you have loaded the OMEGAMON Platform and CandleNet Portal product CD.
2. Go to the root directory of the cdrom_drive. Enter the following:

   ```
   E:
cd\
   ```

   or

   ```
   mount device mount_point
cd mount_point
   ```

   where the following are the variables:

   - `device` = the device driver for the CD-ROM.
   - `mount_point` = the directory where the device will be mounted.

   **Note:** The OMEGAMON Platform and CandleNet Portal product CD conforms to ISO 9660 standards. The mount command may require additional options based on the OS platform you are running. IBM Tivoli does not document basic operating systems commands that are the responsibility of your system administrator to oversee. Consult the man pages or your operating system documentation if necessary.

3. FTP from that window to your UNIX machine. Enter the following:

   ```
   ftp [unix_machine_name]
   ```

4. Enter your user ID and password.

   FTP places you in your home directory on the receiving machine.

5. Create a receiving directory in your home directory. Enter the following:

   ```
   mkdir candleimage
   ```

6. Change to the receiving directory. Enter the following:

   ```
   cd candleimage
   ```
7. Print the full pathname of the current directory. Enter the following:

    pwd

(Note the location displayed as you will need this when logging into the UNIX machine.)

8. Make a directory under the current directory called “unix”. Enter the following:

    mkdir unix

Enter the following commands to copy the files, and retain the lower case requirement:

    ascii
    put install.sh install.sh
    put license.txt license.txt
    cd unix
    lcd unix
    put readme.txt readme.txt
    binary
    put cienv.tar cienv.tar
    put cienv1.tar cienv1.tar
    prompt
    mput ??architecture*

    ls

where architecture is one of the following:

- aix (for the AIX platform)
- hp (for the HP-UX platform)
- sol (for the Solaris platform)
- li6 (for the Linux on Intel platform)
- ls3 (for the Linux on zSeries platform)

9. Verify that the list of files displayed matches the list documented below. Files must be in lower case following the transfer.

   The file FTP types and names needed are the following:

   **Table 14. FTP File Types and Names To Copy**

<table>
<thead>
<tr>
<th>File Type</th>
<th>File Location/Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ascii</td>
<td>/cdrom_drive/install.sh</td>
</tr>
<tr>
<td>ascii</td>
<td>/cdrom_drive/unix/license.txt</td>
</tr>
<tr>
<td>bin</td>
<td>/cdrom_drive/unix/cienv.tar</td>
</tr>
<tr>
<td>bin</td>
<td>/cdrom_drive/unix/cienv1.tar</td>
</tr>
</tbody>
</table>
Table 14. FTP File Types and Names To Copy

<table>
<thead>
<tr>
<th>File Type</th>
<th>File Location/Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>bin</td>
<td>/cdrom_drive/unix/*<em>architecture</em></td>
</tr>
</tbody>
</table>

where the variable architecture is one of the platform abbreviations listed in Step 8.

10. Enter the following:

   `quit`

11. Log on to the UNIX machine to which you copied the files.

12. Change to the directory noted in Step 7.

13. Enable the execution bit on the install.sh script by entering the following command:

   `chmod +x install.sh`

14. Set the timezone environment variable ($TZ) to properly collect historical data through the agent. This variable information can be found in the timezone file, which is located in /usr/share/zoneinfo. Ask the system administrator if you are not familiar with setting environment variables.

15. Run the installation as documented in “Running the Installation Program” on page 96, starting at Step 2.

   **Note:** You are in the sub-directory noted in Step 7, rather than in the CD-ROM drive. Remember to supply fully-qualified path to the $candlehome directory when starting install.sh.
Introduction

This chapter includes information you need to know and tasks you need to do to prepare for upgrading and migrating your previously installed version of OMEGAMON Platform and CandleNet Portal to the new OMEGAMON Platform and CandleNet Portal.

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Upgrade and Migration Planning

This section discusses some issues you should consider before upgrading OMEGAMON Platform and CandleNet Portal component products.

Finding out which fixpack is installed

You can get a report of the versions of the component products of OMEGAMON Platform and CandleNet Portal that you have installed in Manage Candle Services.

Perform the following procedure:

1. Select Start > Programs > Candle OMEGAMON XE > Manage Candle Services.
2. Right-click the row for the component of OMEGAMON Platform and CandleNet Portal, then select About Services from the popup menu.

Migrated information when upgrading from a previous version

If you are installing over a previous release (into the same IBM directory) the following information is migrated into the new version:

On Windows
- CMW customizations (user IDs, managed systems lists, workgroups)
- Port number and communication protocol settings
- Situations

On UNIX
- Situations

Because of changes in the CMS configuration file to support firewall and multiple protocols, it is necessary for you to configure the new CMS (version 360) with your site’s protocols and port values.

Preserving a previous version on Windows

If you want to preserve a previous version of a component product of OMEGAMON Platform and CandleNet Portal as well as install the new version, and you have enough disk space to install another version on your workstation, consider using the Candle System Backup and Restore Utility to back up that version’s registry entries in case you want to back out of the new installation. See “Candle System Backup and Restore Utility” on page 164 before proceeding.

Note: You cannot have both versions running in the same Windows environment at the same time. Start only one version or the other.
Upgrading a remote CMS while retaining a prior level hub CMS on Windows

If you are incrementally upgrading a remote CMS to version 360 but retaining an older version of the hub CMS, the following steps must be performed for successful operation:

**Note:** Version 360 requires a new logical network static definition kept in the static definition file QA1CIOBJ.

1. Bring down the hub CMS.
2. From a CMS (version 360) obtain a copy of QA1CIOBJ.DB and QA1CIOBJ.IDX.
3. Place these files into the hub tables environment before restarting the hub CMS.
4. Restart the hub CMS.

Affinity considerations on Windows

Each installed package for a CMS distinguishes itself from other packages or products by using affinity information to describe it. With some installed packages it is possible to lose resolution to the installed agents if the package is not strictly following versioning guidelines set forth by the hosting environment. If agents of a given product are no longer visible to the end user at a CMW or CandleNet Portal client then it is likely a specific affinity change to the installed products may be necessary. Since this involves changing product-provided data to reflect the affinity change, it is recommended that you contact IBM Software Support with the problem and the necessary changes can be implemented with the help of IBM Software Support personnel on your behalf. See “Support Information” on page 229.

UNIX directory structure changes

The directory structure of OMEGAMON Platform (version 360) differs significantly from the version CT98 (version CT200) and version CT130 directory structures. The most important difference is the addition of a new layer of directories that allow multiple CMSs to be installed under a single $candlehome. Also, all scripts in the $candlehome/bin directory have been completely replaced.

The following table lists the existing and new directory structure equivalents.

The variables for the following table are as follows:

- $pc = Two letter product code. (See the appendix “IBM Tivoli Product Codes” on page 225.)
- $arch = Operating system architecture. (See the appendix “IBM Tivoli Architecture Codes” on page 227.)

<table>
<thead>
<tr>
<th>Table 15. New and Old Directory Structure Equivalents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Old Installer version CT98 (version CT200)</strong></td>
</tr>
<tr>
<td>$candlehome/$arch/bin</td>
</tr>
<tr>
<td>$candlehome/$arch/cma/$pc/bin</td>
</tr>
</tbody>
</table>
Table 15. New and Old Directory Structure Equivalents (continued)

<table>
<thead>
<tr>
<th>Old Installer version CT98 (version CT200)</th>
<th>New Installer version CT99 (version CT300) and version 360</th>
</tr>
</thead>
<tbody>
<tr>
<td>$candlehome/$arch/cma/$pc/catrsq</td>
<td>$candlehome/$arch/$pc/tables</td>
</tr>
<tr>
<td>$candlehome/$arch/cma/$pc/config</td>
<td>$candlehome/$arch/$pc/config</td>
</tr>
<tr>
<td>$candlehome/$arch/cma/$pc/files</td>
<td>$candlehome/$arch/$pc/files</td>
</tr>
<tr>
<td>$candlehome/$arch/cma/$pc/lib</td>
<td>$candlehome/$arch/$pc/lib</td>
</tr>
<tr>
<td>$candlehome/$arch/cma/$pc/other</td>
<td>$candlehome/$arch/$pc/other</td>
</tr>
<tr>
<td>$candlehome/$arch/lib</td>
<td>Duplicate — Removed</td>
</tr>
<tr>
<td>$candlehome/bin</td>
<td>$candlehome/bin</td>
</tr>
<tr>
<td>$candlehome/config</td>
<td>$candlehome/config</td>
</tr>
<tr>
<td>$candlehome/lib/$arch</td>
<td>Duplicate — Removed</td>
</tr>
<tr>
<td>$candlehome/locks</td>
<td>Removed</td>
</tr>
<tr>
<td>$candlehome/logs</td>
<td>$candlehome/logs</td>
</tr>
<tr>
<td>$candlehome/misc</td>
<td>$candlehome/misc</td>
</tr>
<tr>
<td>$candlehome/pipes</td>
<td>Removed</td>
</tr>
<tr>
<td>$candlehome/tables</td>
<td>$candlehome/tables</td>
</tr>
<tr>
<td>$candlehome/tmp</td>
<td>$candlehome/tmp</td>
</tr>
<tr>
<td>$candlehome/xfer</td>
<td>$candlehome/xfer</td>
</tr>
<tr>
<td>$candlehome/HTML</td>
<td>$candlehome/HTML (New)</td>
</tr>
<tr>
<td>$candlehome/classes</td>
<td>$candlehome/classes (New)</td>
</tr>
<tr>
<td>$candlehome/docs</td>
<td>$candlehome/docs (New)</td>
</tr>
<tr>
<td>$candlehome/images</td>
<td>$candlehome/images (New)</td>
</tr>
<tr>
<td>$candlehome/JRE/$arch</td>
<td>$candlehome/JRE/$arch (New)</td>
</tr>
<tr>
<td>$candlehome/registry</td>
<td>$candlehome/registry (New)</td>
</tr>
</tbody>
</table>

In the new structure, the $candlehome/lib/$arch directory has been eliminated. All libraries are now installed in $candlehome/$arch/lib. The cma and cms directories have been removed. All product specific code whether for an agent or CMS now resides under its two character product code entry. See “IBM Tivoli Product Codes” on page 225.

Six new directories have been added to $candlehome. The /JRE/$arch directory contains the Java run-time environment specific to an operating system architecture. The Java code for the installer is placed under $candlehome/classes, and files needed for versioning are installed in the registry directory.
$candlehome directory structure: upwards compatibility

OMEGAMON Platform (version 360) includes changes to the structure of the $candlehome directories and to the products themselves.

Products built on one level of an operating system may run on newer levels of the same operating system. This is known as upwards compatibility, and it is used to reduce disk space requirements and decrease installation time.

The following are some examples:

- If the AIX CMS package were built on AIX 5.1, but it would also run on the newer AIX 5.2. If a user selected AIX 5.1 on which to install a CMS, the CMS package would be unloaded into an aix513 directory. This directory would reflect the operating system level used to build the product. Since the CMS for AIX 5.1 is upwardly compatible with AIX 5.2, it would run on either 5.1 or 5.2 systems. A separate CMS for AIX 5.2 would not need to be installed.

  Because of operating system constraints, not all products are upwardly compatible. In such cases, there are separate packages for each level of the operating system.

- If a user were to select AIX 4.3.3 on which to install the UNIX agent, it would be unloaded into an aix433 directory. For some products with an AIX 4.3.3 specific package but with prerequisite products (for example, shared libraries) built on AIX 4.3, the installed directory structure will have both aix43 and aix433 components.

  Note: AIX (version 4.3.3) and below is no longer supported. The example above is being used only as an illustration. The AIX operating system was used to explain IBM’s directory structure. However, similar directory structures also result on HP-UX and Solaris because of upwards compatibility.

Installing OMEGAMON Platform (version 360) in a new directory on UNIX

You must install OMEGAMON Platform (version 360) in a new directory, and let it migrate your CMS tables (Enterprise Information Base (EIB) data: situations, templates, and so forth that you may have customized) into the new equivalent of $candlehome.

During this migration, products in the old and new $candlehome can co-exist; version CT98 (version CT200) applications work correctly with the new version 360 applications.

While this interoperability permits you to connect version CT98 (version CT200) agents to a CMS (version 360), you cannot have two identical agents monitoring the same system and reporting to the same hub CMS. For example, if you were running an agent on version CT98 (version CT200), it would have to be stopped prior to the starting of the version 360 agent to monitor the same machine and report to the same hub CMS, even if different remote CMSs are used.
To Do Before Beginning

Stopping component products

Stopping software component products that are being upgraded
To upgrade a software component product, that software component product must be stopped before performing the installation.

Hot Standby feature: upgrading a hub CMS
If you have already installed other parts of this release and have already configured the Hot Standby feature, and you are upgrading a hub CMS, stop all the CMWs and agents that are connected to it, even the ones on remote machines, before starting the OMEGAMON Platform installation. Otherwise, CMWs and agents that have been configured for Hot Standby will switch to the backup CMS.

CandleNet Portal Server database requirements
If you have installed previous versions of IBM Tivoli products or are migrating from a previous version of OMEGAMON Platform, you still need to install Microsoft SQL Server or DB2 UDB (See “Installing DB2 UDB” on page 48 and “CandleNet Portal Server database” on page 43.) before you go on to install the CandleNet Portal Server. If you have a previous installation of the CandleNet Portal Server that uses MSDE, you must install DB2 UDB. The installer migrates the CandleNet Portal Server database from MSDE to DB2 UDB. MSDE is no longer supported.

Migrating predefined situations from previous installations
The latest version of OMEGAMON Platform and CandleNet Portal includes changes to the Enterprise Information Base (EIB), a set of tables which define the report structure of your data. All predefined situations get overwritten by the CMS seeding process during installation.

Before you begin your installation, do the following:

1. If you have edited a predefined situation that you wish to keep, copy it with Create Another before you start the upgrade. See Administering OMEGAMON Products: CandleNet Portal for instructions.

2. Delete any unwanted situations.

3. Back up your existing EIB. EIB files are named *.db and *.idx and are stored in these locations:
   - Windows: $candlehome\CMS
   - UNIX: $candlehome/tables. (Following installation, you will run the CandleMigrate script to copy your existing tables to the new OMEGAMON Platform install. See “Using CandleMigrate to Migrate Enterprise Information Base Tables” on page 176.)
**Note:** You can only migrate to a similar operating system architecture. For example, you can migrate from HP-UX (version 10) to HP-UX (version 11) but you cannot migrate from HP-UX (version 10) to AIX (version 5.1).

**New $candlehome directory required**

If you have a version of OMEGAMON Platform prior to version CT99 (version CT300), the new UNIX installer requires a new directory structure for the OMEGAMON Platform. You must specify a new `$candlehome` directory for the version 360 install on UNIX.

By creating a new `$candlehome` you are able to run parallel OMEGAMON Platforms. If not, you are unable to use the new version 360 installation until it is fully operational.
Introduction

This chapter contains step-by-step instructions for installing and configuring OMEGAMON Platform and CandleNet Portal on an Intel PC workstation running Windows.

Note: The installation procedure is based on a first-time installation of OMEGAMON Platform and CandleNet Portal. If this is an upgrade of your component products, see “Preparing for Upgrading and Migrating from a Previous Installation” on page 59 before continuing with these steps.

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Starting the InstallShield Wizard

In this step you will start the InstallShield Wizard and specify the target directory for the OMEGAMON Platform and CandleNet Portal software.

Note: Previous users: If you are upgrading from a previous release of OMEGAMON Platform and CandleNet Portal, the software will be loaded to your existing IBM Tivoli directory. Do not create a new directory.

Perform the following steps:

1. Log onto Windows using an ID with Administrator authority and close any running applications.

2. Insert the OMEGAMON Platform and CandleNet Portal product CD into your CDROM drive.
   Installation begins automatically. (If the installer does not start, go to CD-ROM directory WINDOWS and run setup.exe. If setup.exe initialization fails, you do not have enough disk space to decompress the setup files.)
   The InstallShield Wizard displays.

3. Read the text that welcomes you to the installation, and click Next to continue.
   The Software License Agreement dialog box will appear.

4. Read the software license agreement and click Accept.
   The Choose Destination Location dialog box will appear.

5. Specify the target drive and directory where you want to download the OMEGAMON Platform and CandleNet Portal software. The recommended default is C:\Candle.

6. Click Next to continue.
Selecting Products and Copying Files

In this step you will choose the component products and support for OMEGAMON Platform and CandleNet Portal that you want to install locally.

The Select Features dialog box displays.

Perform the following procedure:

1. Click the + sign next to each main feature to expand the tree.

2. Select the features for OMEGAMON Platform and CandleNet Portal that you want to install on this machine. You may install all features at once, any combination of features, or any single feature.

   **Note:** The selection Alert Manager for Tivoli Enterprise Console Support actually refers to the support for Alert Adapter for Tivoli Enterprise Console.

3. Perform any of the following procedures that apply:

   - If you tried to select any feature under CandleNet Portal Server, and you have not already installed a required version of JRE (1.3.1_04 to 1.4.2) or DB2 Universal Database, a dialog box will appear that tells you of the requirements to do so. If that is the case, perform the following procedure:
     
     A. Click **OK** in the dialog box that tells you of the requirements.
     
     B. Click Cancel in the InstallShield Wizard.
     
     C. Perform the instructions from one or more of the following:
     
        - “Downloading JRE, if necessary” on page 48
        - “Installing DB2 UDB” on page 48
     
     D. Restart setup.exe. See “Starting the InstallShield Wizard” on page 68.

   - If you tried to select any feature under CandleNet Portal Desktop Client, and you have not already installed a required version of JRE (1.3.1_04 to 1.4.2), a dialog box will appear that tells you of the requirement to do so. If that is the case, perform the following procedure:
     
     A. Click **OK** in the dialog box that tells you of the requirement.
     
     B. Click Cancel in the InstallShield Wizard.
     
     C. Perform the instructions for “Downloading JRE, if necessary” on page 48.
     
     D. Restart setup.exe. See “Starting the InstallShield Wizard” on page 68.

4. Click **Next** to continue.

   **Note:** The instructions for the rest of the chapter correspond to a full installation of IBM Tivoli products that is typical of first-time installations. If you are installing only particular products, or choose to configure only particular products, some steps may be unnecessary and the referred-to screens may not appear.

The Select Program Folder screen will appear.
5. To determine the folder in which the files will be installed, accept the folder name that appears in the Program Folder text box, type in a new name, or select one of the existing folders in the list below. IBM recommends that you use the default Program Folder name shown.

6. Click Next to continue.

The Start Copying Files screen will appear. This screen shows the destination directory and program folder information you supplied in the previous steps, and lists the modules you chose to install.

7. Review the settings and click Back if you want to go back and change them. If you want to start copying files with the settings that are listed, click Next.

The Setup Status screen will appear and the InstallShield Wizard will begin configuring the installation and copying files needed to complete the installation. Then the Setup Type dialog box will appear.

8. Leave selected (checked) the items that you want to configure before completion of the installation. Deselect (uncheck) the items for which you want to delay configuration until after completion of the installation.

9. Click Next to continue.

The software is copied to disk.
Configuring CandleNet Portal

If you have not installed CandleNet Portal, skip this step.

In this step you will identify and configure the CandleNet Portal Server database. The Setup installation tool attempts to detect the required database product and prompts you to confirm the database you want to use.

After the software is copied to disk, the The Define CNP Host Information dialog box will appear.

Perform the following procedure:

1. Confirm the local host name, and click **Next** to continue.

   **Note:** The following steps apply only if you chose to install the CandleNet Portal Server component of CandleNet Portal on this machine.

The first CNP Server Configuration dialog box opens:

2. Do one of the following:

   - If the CandleNet Portal Server will access the CMS through a firewall, perform the following procedure:
     
     A. Check **Connection must pass through firewall**.

     The **IPPIPE** protocol is automatically selected for Protocol 1. You must use **IPPIPE** if the CandleNet Portal Server resides outside a firewall. The remaining two Protocol fields are disabled; only **IPPIPE** may be used.

     B. If your site uses Network Address Translation (NAT) between the CandleNet Portal Server and the CMS, check **Address Translation Used**.

   - If the CandleNet Portal Server will not communicate with the CMS across a firewall, select up to three of the following communications protocols (Protocol 1, Protocol 2, and Protocol 3) for the CandleNet Portal Server:
Configuring CandleNet Portal

- TCP/IP
- SNA
- IPPPIPE

The CandleNet Portal Server will use Protocol 1, if it is available. If not, it will use Protocol 2. If that is not available, it will use Protocol 3.

3. Click OK.

The second CNP Server Configuration dialog box displays:

4. Use the following table to complete the second CNP Server Configuration dialog box:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you’re configuring TCP/IP communication, enter the following under IP Settings of the CMS:</td>
<td></td>
</tr>
<tr>
<td>Hostname or IP Address</td>
<td>The hostname or IP address of the machine where the primary hub CMS resides</td>
</tr>
<tr>
<td>Port number</td>
<td>The CMS listening port for the agent</td>
</tr>
<tr>
<td></td>
<td>IBM recommends you use port number 1918; however, if you must change it, enter the new port number (IBM recommends numbers 1025 to 65535)</td>
</tr>
<tr>
<td>If you are configuring SNA communication, enter the following under SNA Settings of the CMS:</td>
<td></td>
</tr>
<tr>
<td>Network Name</td>
<td>Your site’s SNA network identifier</td>
</tr>
<tr>
<td>LU Name</td>
<td>The LU name for this agent. This LU name corresponds to the Local LU Alias in your SNA communications software.</td>
</tr>
<tr>
<td>LU6.2 LOGMODE</td>
<td>The name of the LU6.2 logmode. IBM recommends that you use the default name shown: CANCTDCCS.</td>
</tr>
<tr>
<td>TP Name</td>
<td>The Transaction Program name for this agent</td>
</tr>
</tbody>
</table>
Table 16. Second CNP Server Configuration Dialog Box (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you’re configuring IP.PIPE communication, enter the following under IP.PIPE Settings of the CMS</td>
<td></td>
</tr>
<tr>
<td>Hostname or IP Address</td>
<td>The hostname or IP address of the machine where the primary hub CMS resides</td>
</tr>
<tr>
<td>Port number</td>
<td>The listening port for the agent. IBM recommends that you use port number 1918; however, if you must change it, enter the new port number (IBM recommends numbers 1025 to 65535).</td>
</tr>
<tr>
<td>Partition Name</td>
<td>(Required only by sites using address translation) The name of the partition that the CandleNet Portal Server uses, up to 32 letters and numbers. This name will be stored in the CandleNet Portal Server KFWENV file and corresponds to the partition name entry in the hub CMS partition file.</td>
</tr>
<tr>
<td>Entry Options:</td>
<td>IBM recommends that you retain the default setting.</td>
</tr>
</tbody>
</table>

5. Click **OK** to confirm the CandleNet Portal Server configuration you have supplied.
Configuring the CMS

Complete this step only if you installed a CMS on this machine.

In this step you will configure the CMS. You will accomplish the following:

- Define the type of CMS (hub or remote).
- Assign a unique name to the CMS.
- Specify communication protocol information for the CMS.
- Seed the CMS (unless instructed to do so at a later time).

The Candle Management Server Configuration dialog box is displayed.

Perform the following procedure:

1. Under CMS Type, select the type of CMS: **Hub** or **Remote**.
2. In the CMS Name field, enter the unique name you want to assign to this CMS. The name must be alphanumeric (2-32 characters) and must begin with an alpha character. No blanks or special characters are allowed.
   
   The default CMS name for a new installation is **HUB_hostname**, where the variable *hostname* is the TCP/IP hostname of the local machine.
   
   If a CMS has already been configured on this machine, then the current CMS name is displayed. If you need to support legacy agents on other machines, then you should re-use the name of your current CMS.
3. Under Protocol for this CMS, select up to three communications protocols (Protocol 1, Protocol 2, and Protocol 3) for the CMS. The CMS will use Protocol 1, if it is available. If not, it will use Protocol 2. If that is not available, it will use Protocol 3.
   
   The following protocols are valid:
   - TCP/IP
   - SNA
   - IP.PIPE
   
   If your OMEGAMON Platform agents, CandleNet Portal Server or CMW must communicate with the CMS across a firewall, you must select **IP.PIPE**. When it is selected, the Address Translation field is enabled. If your firewall uses address translation, click this field.
4. Do not select **Configure Hot Standby CMS** the first time you configure. You can easily reconfigure the CMS at a later time if you decide to enable this advanced feature. See “Hot Standby Feature (optional)” on page 160 for more information.
5. If it is enabled, **Configuration Auditing** is selected by default. IBM recommends that you retain this setting.
6. If you want to enable support for OMEGAMON SOAP Server, make sure **OMEGAMON SOAP Server** is selected. See “Configuring OMEGAMON XE Web Services (SOAP Server) on Windows” on page 151 for more information.
7. Do not select **Security: Validate User** the first time you configure the CMS. Instructions for enabling this feature are provided later in this chapter. See “Enabling Security (optional)” on page 93.

8. Click **OK** to continue.

9. Perform one of the following procedures:
   - If you chose Hub as the CMS type in Step 1 on page 74, the Hub CMS Configuration dialog box opens. One or more of the Settings fields is enabled, depending upon which communications protocols you selected.

   ![Hub CMS Configuration](image)

   Use the following table to complete the communications settings for this CMS:

   **Table 17. Communication Settings for this CMS**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Settings</td>
<td></td>
</tr>
<tr>
<td>Hostname or IP Address</td>
<td>The hostname or IP address of the machine where the primary hub CMS resides. You are configuring the hub CMS now on this machine, enter the hostname or IP address of this machine.</td>
</tr>
<tr>
<td>Port number</td>
<td>The TCP/IP listening port for the CMS. IBM recommends that you use port number 1918; however, if you must change it, enter the new port number (IBM recommends numbers 1025 to 65535). You must specify the same port number for the hub CMS, all remote CMSs reporting to it, and a Hot Standby CMS, if one is defined.</td>
</tr>
<tr>
<td>SNA Communication Settings: Hub CMS</td>
<td></td>
</tr>
<tr>
<td>Network Name</td>
<td>Your site’s SNA network identifier.</td>
</tr>
<tr>
<td>LU Name</td>
<td>The LU name for this CMS. This LU name corresponds to the Local LU Alias in your SNA communications software.</td>
</tr>
</tbody>
</table>
Configuring the CMS

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LU6.2 LOGMODE The name of the LU6.2 logmode. IBM recommends that you use the default name shown: CANCTDCS.

TP Name The Transaction Program name for this CMS

IP.PIPE Communication

The information below assumes that you have read “Configuring IBM Tivoli OMEGAMON XE Across a Firewall” on page 33. If you have not yet reviewed that section, do so now before proceeding. When you are ready, enter the following under IP.PIPE Settings:

Hostname or IP Address The hostname or IP address of the machine where the primary hub CMS resides
You are configuring the hub CMS now on this machine, enter the hostname or IP address of this machine.

Port number The listening port for the CMS
IBM recommends that you use port number 1918; however, if you must change it, enter the new port number (IBM recommends numbers 1025 to 65535). You must specify the same port number for the hub CMS, all remote CMSs reporting to it, and a Hot Standby CMS, if one is defined.

Partition File (Required only by sites with firewalls that use address translation) The name of a partition text file. Either accept the default (c:\Candle\CMS\kdcpartition.txt) or enter a new name; for example: c:\Candle\CMS\hubpart.txt.

To create entries in the partition file, do the following:
1. Click Modify. The Edit Partition File dialog box is displayed.
2. Click Add. The Add Partition dialog box is displayed; you are prompted for Hostname and Partition Name.
3. For Hostname, enter a hostname (or IP address) that uniquely identifies this CMS host in the other partition. If hostname is specified, it must resolve to an IP address for this CMS host that is valid in that partition. (If your site uses multiple Network Interface Cards (NICs), you may specify additional hostnames, separated by a space.)
4. For partition name, enter the partition name of the products that need to communicate with this CMS.
5. When you are finished, click OK.
6. If you make a mistake and wish to remove your entry, highlight the entry, then click Remove. If you wish to make a change in the entry, highlight the entry, then click Edit. The Edit Partition File dialog box re-displays and you can make changes. When you are finished, click OK.
7. If necessary, you can edit the file directly by clicking Edit File. The partition file is displayed. IBM recommends that you do not directly edit this file unless instructed to do so by IBM Software Support personnel.
8. Click OK to exit the Hub CMS Configuration dialog box and continue.

Table 17. Communication Settings for this CMS (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LU6.2 LOGMODE</td>
<td>The name of the LU6.2 logmode. IBM recommends that you use the default name shown: CANCTDCS.</td>
</tr>
<tr>
<td>TP Name</td>
<td>The Transaction Program name for this CMS</td>
</tr>
<tr>
<td>Hostname or IP Address</td>
<td>The hostname or IP address of the machine where the primary hub CMS resides</td>
</tr>
<tr>
<td>Port number</td>
<td>The listening port for the CMS</td>
</tr>
<tr>
<td>Partition File</td>
<td>(Required only by sites with firewalls that use address translation) The name of a partition text file. Either accept the default (c:\Candle\CMS\kdcpartition.txt) or enter a new name; for example: c:\Candle\CMS\hubpart.txt.</td>
</tr>
</tbody>
</table>

To create entries in the partition file, do the following:
1. Click Modify. The Edit Partition File dialog box is displayed.
2. Click Add. The Add Partition dialog box is displayed; you are prompted for Hostname and Partition Name.
3. For Hostname, enter a hostname (or IP address) that uniquely identifies this CMS host in the other partition. If hostname is specified, it must resolve to an IP address for this CMS host that is valid in that partition. (If your site uses multiple Network Interface Cards (NICs), you may specify additional hostnames, separated by a space.)
4. For partition name, enter the partition name of the products that need to communicate with this CMS.
5. When you are finished, click OK.
6. If you make a mistake and wish to remove your entry, highlight the entry, then click Remove. If you wish to make a change in the entry, highlight the entry, then click Edit. The Edit Partition File dialog box re-displays and you can make changes. When you are finished, click OK.
7. If necessary, you can edit the file directly by clicking Edit File. The partition file is displayed. IBM recommends that you do not directly edit this file unless instructed to do so by IBM Software Support personnel.
8. Click OK to exit the Hub CMS Configuration dialog box and continue.
If you chose Remote as the CMS type in Step 1 on page 74, the Remote CMS Configuration dialog box displays:

![Remote CMS Configuration Dialog Box](image)

Use the following table to complete the Remote CMS Configuration dialog box:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition Name</td>
<td>(Required only by sites with firewalls that use address translation) The name of the partition that this CMS resides in (up to 32 alphanumeric characters)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Settings</td>
<td></td>
</tr>
<tr>
<td>Hostname or IP Address</td>
<td>The hostname or IP address of the machine where the primary hub CMS resides</td>
</tr>
<tr>
<td>Port number</td>
<td>The TCP/IP listening port for the CMS</td>
</tr>
<tr>
<td>LU Name</td>
<td>The LU name for this CMS. This LU name corresponds to the Local LU Alias in your SNA communications software.</td>
</tr>
<tr>
<td>LU6.2 LOGMODE</td>
<td>The name of the LU6.2 logmode. IBM recommends that you use the default name shown: CANCTDCS.</td>
</tr>
</tbody>
</table>
Configuring the CMS

Installing and Setting up OMEGAMON Platform and CandleNet Portal on Windows and UNIX

Table 18. Communication Settings for Remote CMS (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TP Name</td>
<td>The Transaction Program name for this CMS</td>
</tr>
</tbody>
</table>

IP.PIPE Communication

The information below assumes that you have read “Configuring IBM Tivoli OMEGAMON XE Across a Firewall” on page 33. If you have not yet reviewed that section, do so now before proceeding. When you are ready, enter the following under IP.PIPE Settings:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hostname or IP Address</td>
<td>The hostname or IP address of the machine where the primary hub CMS resides</td>
</tr>
<tr>
<td></td>
<td>You are configuring a remote CMS now. Enter the hostname or IP address of</td>
</tr>
<tr>
<td></td>
<td>the associated hub CMS that this remote CMS reports to.</td>
</tr>
<tr>
<td>Port number</td>
<td>The listening port for the CMS</td>
</tr>
<tr>
<td></td>
<td>You must specify the same port number for the hub CMS, all remote CMSs</td>
</tr>
<tr>
<td></td>
<td>reporting to it, and a Hot Standby CMS, if one is defined.</td>
</tr>
<tr>
<td>Partition File</td>
<td>(Required only by sites with firewalls that use address translation)</td>
</tr>
<tr>
<td></td>
<td>The name of a partition text file. Either accept the default</td>
</tr>
<tr>
<td></td>
<td>(c:\Candle\CMS\kdcpartition.txt) or enter a new name; for example:</td>
</tr>
<tr>
<td></td>
<td>c:\Candle\CMS\hubpart.txt.</td>
</tr>
<tr>
<td></td>
<td>To create entries in the partition file, do the following:</td>
</tr>
<tr>
<td></td>
<td>1. Click Modify. The Edit Partition File dialog box is displayed.</td>
</tr>
<tr>
<td></td>
<td>2. Click Add. The Add Partition dialog box is displayed; you are prompted</td>
</tr>
<tr>
<td></td>
<td>for Hostname and Partition Name.</td>
</tr>
<tr>
<td></td>
<td>3. For Hostname, enter a hostname (or IP address) that uniquely identifies</td>
</tr>
<tr>
<td></td>
<td>this CMS host in the other partition. If hostname is specified, it must</td>
</tr>
<tr>
<td></td>
<td>resolve to an IP address for this CMS host that is valid in that partition.</td>
</tr>
<tr>
<td></td>
<td>(If your site uses multiple NICs, you may specify additional hostnames,</td>
</tr>
<tr>
<td></td>
<td>separated by a space.)</td>
</tr>
<tr>
<td></td>
<td>4. For partition name, enter the partition name of the products that need</td>
</tr>
<tr>
<td></td>
<td>to communicate with this CMS.</td>
</tr>
<tr>
<td></td>
<td>5. When you are finished, click OK.</td>
</tr>
<tr>
<td></td>
<td>6. If you make a mistake and wish to remove your entry, highlight the</td>
</tr>
<tr>
<td></td>
<td>entry, then click Remove. If you wish to make a change in the entry,</td>
</tr>
<tr>
<td></td>
<td>highlight the entry, then click Edit. The Edit Partition File dialog box</td>
</tr>
<tr>
<td></td>
<td>re-displays and you can make changes. When you are finished, click OK.</td>
</tr>
<tr>
<td></td>
<td>7. If necessary, you can edit the file directly by clicking Edit File. The</td>
</tr>
<tr>
<td></td>
<td>partition file is displayed. IBM recommends that you do not directly edit</td>
</tr>
<tr>
<td></td>
<td>this file unless instructed to do so by IBM Software Support personnel.</td>
</tr>
<tr>
<td></td>
<td>8. Click OK to exit the Hub CMS Configuration dialog box and continue.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition Name</td>
<td>(Required only by sites with firewalls that use address translation)</td>
</tr>
<tr>
<td></td>
<td>The name of the partition that this CMS resides in (up to 32 alphanumeric</td>
</tr>
<tr>
<td></td>
<td>characters)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry Options</td>
<td>IBM recommends that you retain the default setting.</td>
</tr>
</tbody>
</table>
10. Click **OK**.
    The Seed CMS dialog box is displayed.

11. Select the location of the CMS.

12. Click **OK**.
    You will be greeted with a dialog box that says that the CMS is not currently running and that, if you choose to continue, it will be started.

13. Click **OK**.
    The Select Product to Seed CMS dialog box is displayed:

    ![Select Product to Seed CMS dialog box]

    The products you chose to install support for are automatically selected on this dialog box.

    **Note:** The selection CMS data for Alert Manager for Tivoli Enterprise Console Support actually refers to the data for Alert Adapter for Tivoli Enterprise Console.

    Seeding adds product-provided situations, templates, and other sample data to the CMS’s Enterprise Information Base (EIB) tables. This can take up to 5 minutes, depending on the number of products you installed.

    **Note:** If you want to be able to use IBM Tivoli OMEGAMON XE for WebSphere MQ Configuration, the CMS must be seeded with data for CMS data for Generic Configuration.

14. Click **OK** to begin the seeding process.
    When seeding is complete, the “Seed data operation complete” dialog box displays.

15. Read the Information dialog box or dialog boxes that display and click **Next**.
Configuring Agent-to-CMS Communication

Complete this step only if you are configuring agents on this machine.

In this step you will configure agent-to-CMS communication. You will accomplish the following:

- Identify the primary CMS that the agents will report to
- Define the communication method that the agents will use
- Designate a secondary CMS that the agents will report to if the primary CMS becomes unavailable

The Configuration Defaults for Connecting to a CMS dialog box displays:

Perform the following procedure:

1. Do one of the following:
   - If the agent will access the CMS through a firewall, perform the following procedure:
     A. Check [✓] Connection must pass through firewall.
        The IP.PIPE protocol is automatically selected for Protocol 1. You must use IP.PIPE if the agent resides outside a firewall. The remaining two Protocol fields are disabled; only IP.PIPE may be used.
     B. If your site uses NAT between the agent and the CMS, check [✓] Address Translation Used.
   - If the agent will not communicate with the CMS across a firewall, select up to three of the following communications protocols (Protocol 1, Protocol 2, and Protocol 3):
     - TCP/IP
     - SNA
     - IP.PIPE
The agent will use Protocol 1, if it is available. If not, it will use Protocol 2. If that is not available, it will use Protocol 3.

2. If you wish to specify a secondary CMS, select Optional: Secondary CMS Connection.

1. On the right half of the dialog box, select up to three of the following communications protocols (Protocol 1, Protocol 2, and Protocol 3) for the secondary CMS:
   - TCP/IP
   - SNA
   - IP.PIPE

2. Click OK.

A dialog box opens with the following message:

Secondary CMS Connection is an advanced feature that can be difficult to configure properly. Candle recommends that you contact our consulting services for assistance to ensure that the feature is implemented correctly.

3. Click OK.

The second Configuration Defaults for Connecting to a CMS dialog box displays:

3. Specify protocols as you did for the primary CMS. Use the following table to complete the second Configuration Defaults for Connecting to a CMS dialog box:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If you’re configuring TCP/IP communication, enter the following under Configure Primary CMS: IP Settings</td>
</tr>
</tbody>
</table>
4. Click **OK**.

5. If you selected “Optional: Secondary CMS Connection” in Step 2. on page 81, a third Configuration Defaults for Connecting to a CMS dialog box is displayed. Perform the following procedure:
   1. Enter the hostname or the IP address of the secondary CMS for TCP/IP or IP.PIPE connections. For SNA, enter the Network Name, LU Name, LU 6.2 Logmode, and TP name.
   2. Click **OK**.

---

**Table 19. Second Configuration Defaults for Connecting to a CMS Dialog Box**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hostname or IP Address</td>
<td>The hostname or IP address of the machine where the primary hub CMS resides</td>
</tr>
<tr>
<td>Port number</td>
<td>The TCP/IP listening port for the agent IBM recommends that you use port number 1918; however, if you must change it, enter the new port number (IBM recommends numbers 1025 to 65535).</td>
</tr>
<tr>
<td>Network Name</td>
<td>Your site’s SNA network identifier</td>
</tr>
<tr>
<td>LU Name</td>
<td>The LU name for this agent. This LU name corresponds to the Local LU Alias in your SNA communications software.</td>
</tr>
<tr>
<td>LU6.2 LOGMODE</td>
<td>The name of the LU6.2 logmode. IBM recommends that you use the default name shown: <strong>CANCTDCS</strong>.</td>
</tr>
<tr>
<td>TP Name</td>
<td>The Transaction Program name for this agent</td>
</tr>
<tr>
<td>Hostname or IP Address</td>
<td>The hostname or IP address of the machine where the primary hub CMS resides</td>
</tr>
<tr>
<td>Port number</td>
<td>The listening port for the agent IBM recommends that you use port number 1918; however, if you must change it, enter the new port number (IBM recommends numbers 1025 to 65535).</td>
</tr>
<tr>
<td>Partition Name</td>
<td>(Required only by sites using address translation.) The name of the partition that this agent resides in (up to 32 alphanumeric characters)</td>
</tr>
<tr>
<td>For Warehouse Proxy Only</td>
<td>If you are configuring Warehouse Proxy, you must also specify a partition file, designating a partition name and hostname. Refer to the table “Communication Settings for this CMS” on page 75 for more information.</td>
</tr>
<tr>
<td>Entry Options:</td>
<td>IBM recommends that you retain the default setting.</td>
</tr>
</tbody>
</table>
Completing Installation and Basic Configuration of OMEGAMON Platform and CandleNet Portal

In this step you will complete the installation.

The InstallShield Wizard Complete dialog box displays.

Perform the following procedure:

1. If you want to view the readme file, make sure “Display the README file” is selected.

2. Click **Finish**.

   The Manage Candle Services window will open, and if previously selected, the readme file will open.
Installing IBM Tivoli OMEGAMON DE

Complete this step only if you are installing IBM Tivoli OMEGAMON DE.

Perform the following procedure:

1. Insert the IBM Tivoli OMEGAMON DE product CD into your CDROM drive.
   Installation begins automatically. (If the installer does not start, go to the CD-ROM directory and run setup.exe. If setup.exe initialization fails, you do not have enough disk space to decompress the setup files.)
   The InstallShield Wizard opens.

2. Read the text that welcomes you to the installation, and click **Next** to continue.
   The Software License Agreement opens.

3. Read the software license agreement and click **Accept**.
   IBM Tivoli OMEGAMON DE will be installed, and the InstallShield Wizard Complete dialog box displays.

4. If you want the Manage Candle Services window to open when the installation is finished, make sure **Manage Candle Services will be launched to complete configuration and start services** is selected.

5. Click **Finish**.
   If previously selected, the Manage Candle Services window will open.
Seeding the Candle Management Server in Manage Candle Services

Perform this procedure only if you have installed Alert Adapter for AF/REMOTE.

You do not need to perform this procedure if during installation you have already seeded the CMS for Alert Adapter for AF/REMOTE, as described in earlier sections of this chapter.

Overview of the Candle Management Server seeding process

After you install a CMS, you must prepare that CMS to collect data from agents and distribute it to a CandleNet Portal.

This procedure, called seeding, consists of adding product-specific seed data (parameters) to the CMS. Seed data includes SQL data for product-provided situations.

All products require that the CMS be restarted after being seeded before the product is fully functional. To minimize disruption, it is best to seed the CMS, then recycle (stop, then restart) the CMS before doing anything else.

Note: If the seed data is for an agent that reports to a remote CMS, complete this process for both the hub and the remote CMS. A hub CMS should be running before proceeding with a remote CMS seed.

Procedure

Perform the following steps to seed the CMS using Manage Candle Services at the workstation where the CandleNet Portal Server has been installed:

1. If you have not already done so, install support for Alert Adapter for AF/REMOTE from the OMEGAMON Platform and CandleNet Portal product CD on the workstations where the CMS and the CandleNet Portal Server have been installed.
   For a CMS installed on z/OS, you can install Alert Adapter for AF/REMOTE support for the CMS via ftp. Perform the following procedure:
   1. On the workstation where you installed the CandleNet Portal Server, select Start > Programs > Candle OMEGAMON XE > Manage Candle Services.
      The program displays the Manage Candle Services window.
   2. From the Actions menu, select Advanced > Utilities > FTP Catalog and Attribute files.
      The “Select attribute and catalog data for transfer” dialog box displays.
   3. Select the products for which you want to transfer attribute and catalog data to the CMS on z/OS, and click OK.
      The FTP CMS data to OS/390 dialog box displays.
   4. Enter the host name or address, user ID, password, and DSN for the z/OS CMS, and click OK.

2. If Manage Candle Services is not already open, on the workstation where you installed the CandleNet Portal Server, select Start > Programs > Candle OMEGAMON XE > Manage Candle Services.
Seeding the Candle Management Server in Manage Candle Services

The program displays the Manage Candle Services window.

3. From the Actions menu, select **Advanced > Seed CMS...**

The program displays the Seed CMS window.

4. Perform one of the following procedures:
   - For a CMS on your workstation, click the **On this computer** radio button and click **OK**.
   - For a CMS installed on a different computer, perform the following procedure:
     A. Click the **On a different computer** radio button.
     B. Type a value in the CMS Node ID field. (Click **What's this?** ... for a description of the CMS Node ID field.)
     C. Click the radio button next to the appropriate communications protocol.
     D. Click **OK**.

The program displays the Select Product to Seed CMS dialog box.

5. Select the products you want to seed the CMS for and click **OK**.

   **Note:** The selection CMS data for Alert Manager for Tivoli Enterprise Console Support actually refers to the data for Alert Adapter for Tivoli Enterprise Console.

   If you want to be able to use IBM Tivoli OMEGAMON XE for WebSphere MQ Configuration, the CMS must be seeded with data for CMS data for Generic Configuration.

Manage Candle Services seeds the CMS and displays the Seed Data Operation Complete dialog box indicating whether or not the seeding completed successfully.
Rebooting and Starting Services

IBM Tivoli servers and agents run as Windows system services. Use Manage Candle Services to start the services installed on this machine. Some services will start automatically when you reboot the machine, if they are configured for auto-start; however, you may need to start some services manually.

Order

Always start the services in the following order:

1. CMS
2. Agents
3. CandleNet Portal Server

Always stop the services in the reverse order.

Procedure

Perform the following procedure:

1. Reboot.
2. For each service, perform the following procedure:
   1. From the Manage Candle Services window, locate the service and be sure it has been configured. Never attempt to start an IBM Tivoli service which has not been configured.
   2. Select (highlight) the service name.
   3. Right-click and select Start from the drop-down menu.
   4. Wait for the Status to show that it is started.
3. Close the Manage Candle Services window.

CMS Shut Down Using IP.PIPE Protocol

On all CMS-supported platforms, outside clients connected using the IP.PIPE protocol may not immediately release the TCP port number on the CMS host machine after the CMS is shut down. This behavior may cause a hub or remote CMS to disable their IP.PIPE brokers upon startup because the TCP port is "in use". This is due to the fact that when TCP closes a TCP connection, it sends a final Acknowledgment (ACK). In order for that ACK to be sent, the TCP port remains in use and under a specific status; for example, the "TIME_WAIT", "FIN_WAIT" or "CLOSE_WAIT" for twice the Maximum Segment Lifetime (2 x MSL). After the Maximum Segment Lifetime (2 x MSL) time, the TCP port numbers are automatically released and can be used by the CMS's IP.PIPE brokers. Depending on how TCP/IP is set up on your machine determines how long you will have to wait until you can restart the hub or remote CMS to utilize the IP.PIPE brokers. This may require that you configure TCP/IP to change the MSL value.

If you have a problem restarting, you can execute the following command to return a list of any and all clients (and their state) using the IP.PIPE port number. If the command
returns an empty list, then the hub or remote CMS can be restarted using the IPPipe port number for its brokers.

Open a DOS window and enter the following:

`netstat -alfind port #`

where the variable `port #` is the IPPipe port number.
Starting and Configuring Candle Management Workstation

In this step you will start the CMW, if you installed it on this machine. (If you did not install a CMW on this machine, you may also wish to start a CMW installed on another machine to verify that agents on this machine are running properly.)

Procedure

Perform the following procedure:

1. From the desktop, select **Start > Programs > Candle OMEGAMON XE > Candle Management Workstation**.
   The startup and configuration dialog box for the CMW is displayed.

2. Select the CMS tab.

3. Identify the CMS you want to connect to. Perform one of the following procedures:
   - If your site is using TCP/IP or IPPPIPE for CMW-to-CMS communication:
     A. In the Socket Family Port Numbers block, the port number you specified during the installation is displayed. Click the **Add TCP/IP** button and enter the host machine name or IP address where your CMS is installed.
     B. In the Socket Families block, click **IP** if your site is using TCP/IP or **IP pipe** if your site is using IPPPIPE.
     C. Click **OK**.
     D. If the CMW must communicate across a firewall, specify the Partition ID (partition name) that the CMW resides in.
   - If your site is using SNA for CMW-to-CMS communication:
     A. Click the **Add SNA** button and enter values as described in the following table:

<table>
<thead>
<tr>
<th>Network Name</th>
<th>The SNA network ID of the machine where the CMS is installed</th>
</tr>
</thead>
<tbody>
<tr>
<td>LU Name</td>
<td>The CMS LU name</td>
</tr>
<tr>
<td>LU 6.2 LOGMODE</td>
<td>The LU6.2 logmode name assigned to the CMS</td>
</tr>
<tr>
<td>TP Name</td>
<td>The Transaction Program name of the CMS that this CMW connects to</td>
</tr>
</tbody>
</table>

4. Click **OK**.

5. Select the Logon tab.

6. Enter a logon ID. You may enter a password or leave the password field blank.

7. Click the **Add...** button under the Profile field and enter a name for the connection profile (up to 32 characters). The startup parameters currently in effect will be saved in this profile. You may define up to 10 connection profiles.

8. Click **OK** to start the CMW.
Using KIB_CLEAN=Y Environmental Variable, if Necessary

Migrating a CMS will often be accompanied by a CMS Node ID change for the affected CMS. When a Node ID is changed, the relationship between the node ID name of the CMS and other attached components, such as reporting agents, are affected by the name change. The most common problem is that the older (now defunct) node ID name relationships can appear for the new CMS, when managed systems or managed system list displays are used.

To eliminate unwanted entries, a feature has been added to newer CMW clients that can automatically discard unwanted references to the older node ID. This feature is invoked by using an environment variable setting for the CMW session being started. It is called KIB_CLEAN=Y. With this environment variable set, the CMW will proactively clean up the CMS node list table where bad node ID entries may still exist. The invocation of the CMW with the environment variable setting needs to run only once, after a migration with a node ID change has taken place.

Procedure to start the CMW to clean node IDs

To start a CMW session that is to perform the node list cleanup of unwanted node list entries, perform the following procedure:

1. Start the CMW.

2. When the CMW’s initial dialog box appears select the Advanced tab.

3. On this notebook page you will find two edit input fields. The first one is labeled Variable and the other is labeled Value. Enter KIB_CLEAN in the edit area labeled Variable, then the letter Y in the edit area labeled Value.

4. At anytime after step 3 is completed, click the OK button, which will start the CMW and apply the node list garbage collection.

Note: Remember to clear out the fields under the Advanced tab the next time the CMW is started as the node list cleanup has already taken place and becomes unnecessary afterward.
Starting CandleNet Portal Desktop Mode

To start the CandleNet Portal desktop interface, perform the following procedure:

1. From the Windows desktop, select **Start > Programs > Candle OMEGAMON XE > CandleNet Portal**.

2. When the Logon dialog box opens, enter your logon ID and click **OK** to start CandleNet Portal.

   If the CMS is set for ☑ **Security: Validate User**, enter the network domain or password assigned to your user ID on the CMS. If this configuration option has not been set, you will neither be required nor be able to use the password when you log on.

**Note:** IBM recommends a minimum Windows display setting of 1024 by 768 pixels.
Starting CandleNet Portal Browser Mode

In this step you will start the CandleNet Portal interface from your Internet Explorer browser.

The first time you start CandleNet Portal browser mode, support components are installed. Subsequent startups are much faster.

Before beginning, checking if no CLASSPATH has been set

Verify that you have no CLASSPATH environment variable defined on your Windows machine. From the command prompt, enter the following for Windows XP Professional Edition or Windows 2000:

`set classpath`

If you have a CLASSPATH environment variable defined, it is possible but unlikely that previously-specified Java directories or .jar files may be incompatible with the level required by CandleNet Portal and could affect performance.

As a precaution, you can assign the contents of your CLASSPATH environment variable to a new environment variable. This backup copy will be useful if problems develop later.

Starting CandleNet Portal

Perform the following procedure:

1. Start Internet Explorer 5.5 or higher.

2. In the Address field, type the URL for the CandleNet Portal browser client installed on your Web server. The URL for the IBM Tivoli Web server is:
   `http://systemname:1920///cnp/client`, where the variable `systemname` is the host name of the machine where the CandleNet Portal Server and browser component are installed.

   CandleNet Portal checks the JRE level on your machine. A screen may appear that instructs you to install the proper version of JRE.

3. If necessary, install the proper version of JRE.

   The Logon dialog box opens

4. Perform one of the following procedures:

   - Enter your logon ID and password and click **OK**.

   - If the CMS is set for **Security: Validate User**, enter the network domain or password assigned to your user ID on the CMS. If this configuration option has not been set, you will neither be required nor be able to use a password when you log on.

CandleNet Portal browser client will start.
Enabling Security (optional)

This step applies only to the hub CMS if it was or will be configured for ☑ Security: Validate User as referred to in Step 7. of “Configuring the CMS” on page 74, which requires users to enter a password as part of the user ID when logging on to CandleNet Portal or the CMW.

How security works

Initially, the CandleNet Portal Server has only one valid user ID, “sysadmin”. This enables the administrator to log on and create other users.

If you are using the CMW, the first user who connects to a new CMS becomes the default CMW system administrator. After that initial logon, any CMW user who is authorized to add CMW users can do so using the CMW Administration > Users folder.

If you want users to also enter a password, the same user IDs must be added to the user accounts on the network domain or on the host where the CMS is installed.

Enforcing logon validation

Perform the following procedure:

1. Create a Windows user ID for each CandleNet Portal or CMW user ID. Make sure the Windows user ID exactly matches the CMS user ID. On a Windows hub CMS, Windows user IDs are validated by the Microsoft WIN32 LogonUser API which checks the user ID and password in the following sequence:
   1. With the local machine
   2. With the domain controller if the local machine is part of a domain
   3. With any domain controller that has established a trusted relationship with the local domain

   Regardless of where you define the Windows user ID used for logging on to a Windows hub CMS, no Administrator authority is required. The minimum requirement is the user ID must be granted the “Log on locally” user rights policy on the hub CMS machine. Refer to your Windows documentation to learn how to configure security.

2. Once you have configured the CMS with security turned off, log onto the CMW and create at least one valid CMW user ID for this CMS.

3. Reconfigure the CMS to enable security, Perform the following procedure:
   1. On the machine where the CMS is installed, click Start > Programs > Candle OMEGAMON XE > Manage Candle Services.
   2. Right-click Candle Management Server and select Reconfigure from the pop-up menu.
   3. In the Candle Management Server Configuration dialog box, check ☑ Security: Validate User, then click OK.
   4. Restart the CMS.
Additional Configuration Steps

Additional configuration may be required for the following products:

Introduction

This chapter contains step-by-step instructions for installing and configuring OMEGAMON Platform on UNIX.

The instructions in this chapter use the IBM Tivoli GUI installation tool. If you prefer to use the command line installation scripts, go to “Command-Line Installation and Basic Configuration Steps on UNIX” on page 121.

Note: The installation procedure is based on a first-time installation of OMEGAMON Platform and CandleNet Portal. If this is an upgrade of your component products, see “Preparing for Upgrading and Migrating from a Previous Installation” on page 59 before continuing with these steps.

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Managing Log Files .................................................................................. 116
Verifying Processes ................................................................................... 117
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Running the Installation Program

In this step you run the installer through a shell script to install component products of OMEGAMON Platform.

**Note:** DO NOT press “Ctrl-C” to stop the installation and configuration process!
The installation and configuration process updates an install database while running. If values requested are not currently available, you should proceed with the process to completion by skipping the entry or entering a dummy value (and noting the location). When the values or resources needed to fill the dummy entries become available later (and before trying to execute the product), you should re-visit the configuration process and fill in the missing values. **If you abort the installation and configuration process pressing “Ctrl-C”, the recommendation is to completely re-install from scratch (for example, using a new $candlehome), as the integrity of the configuration database is no longer assured.**

Perform the following procedure:

1. Mount the OMEGAMON Platform and CandleNet Portal product CD at the location you have chosen on the host. Enter the following:

   ```
   mount device mount_point
cd mount_point
   ```

   where the variables are the following:
   - device = the device driver for the CD-ROM.
   - mount_point = the directory where the device will be mounted.

   **Note:** The OMEGAMON Platform and CandleNet Portal product CD conforms to ISO 9660 standards. The mount command may require additional options based on the OS platform you are running. IBM does not document basic operating systems commands that are the responsibility of your system administrator to oversee. Consult the man pages or your operating system documentation if necessary.

2. From the root directory of the CD-ROM, execute install.sh by entering the following:

   ```
   ./install.sh [-h $candlehome] [-d cdrom path] [-v] [-c]
   ```

   where the following are the variables:

   **Table 21. Parameters for install.sh Command**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-h</td>
<td>(optional) Used to specify $candlehome. If you do not include -h, and do not have an environmental variable named $candlehome present, install.sh prompts you for the installation directory. Also use this option to take action on a $candlehome other than the $candlehome in the current system.</td>
</tr>
<tr>
<td>$candlehome</td>
<td>A home directory created for the installation of the OMEGAMON Platform and CandleNet Portal</td>
</tr>
<tr>
<td>-d</td>
<td>(optional) Used to specify the path to the root of the CD-ROM drive</td>
</tr>
<tr>
<td>cdrom path</td>
<td>The full path to the root of the CD-ROM drive or the full path to the CD-ROM image</td>
</tr>
</tbody>
</table>
Running the Installation Program

One of the following will occur:

- If the directory specified exists already, you will see a prompt that tells you so and asks you if you want to use this as your home directory.
- If the directory specified does not exist, you will see a prompt that tells you so and asks you if you want to create this as your home directory.

3. Enter `y` and press Enter.

   The following prompt to choose the type of installation you want to complete displays.
   
   Select one of the following:
   1) Install products via GUI.
   2) Install products via command line.
   3) Create remote packages via GUI.
   4) Create remote packages via command line.
   5) Exit install.
   Please enter a valid number: 1

4. Enter the number of the type of install you want to complete.

   The following table lists the types:

   **Table 22. install.sh Prompts for Install Type to Use**

<table>
<thead>
<tr>
<th>Number</th>
<th>Install Type</th>
<th>Where to go next...</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Install products using GUI</td>
<td>Continue to the next step in this chapter.</td>
</tr>
<tr>
<td>2</td>
<td>Install products using command line</td>
<td>“Command-Line Installation and Basic Configuration Steps on UNIX” on page 121</td>
</tr>
<tr>
<td>3</td>
<td>Create remote packages using GUI</td>
<td>“UNIX CandleRemote Command” on page 203</td>
</tr>
<tr>
<td>4</td>
<td>Create remote packages using command line</td>
<td>“UNIX CandleRemote Command” on page 203</td>
</tr>
<tr>
<td>5</td>
<td>Exit install</td>
<td>Return to the command line.</td>
</tr>
</tbody>
</table>

5. If you entered 1 in the preceding step, click **Agree** in the window displaying the license agreement to accept the terms of the license agreement and proceed with the installation.

   The Candle Installation for UNIX screen displays.

   **Note:** If you receive error messages similar to the following, see “slibclean command” on page 31:

   ERROR - unarchive failed for prerequisite package axaix513.jar


ERROR - could not unzip the prerequisite package “axaix513.jar”

6. Click **Install**.
   The next screen displays.

7. Click the **Install** option at the bottom of the screen.
   The Install Candle Products window displays.

8. Do one or more of the following:
   - To select all of the component products, click **Select All**.
   - To select individual component products, click the box to the left of the component product.
   - To remove a component product from the install list, deselect the box to the left of the component product you want to remove.

   **Note:** *In selecting the component products to install, keep in mind that most agents must be installed on each system you wish to monitor. With NFS, the monitoring agents can all be installed under a single $candlehome. For non-NFS systems, installation can be performed on each server or installed under a single $candlehome followed by the use of CandleRemote to distribute the configured agents to the remote machines. See “Command-Line Installation and Basic Configuration Steps on UNIX” on page 121.*

9. In the drop-down list, select the operating system on which to install the OMEGAMON Platform and CandleNet Portal component products.

   **Note:** *To install component products for an additional operating system, select another operating system from the drop-down list and repeat selecting component products to install for that additional operating system. You can repeat this procedure for all the operating systems and component products you want to install.*

10. Click **Install**.
    After the selected component products are installed, you are presented with dialog boxes to complete the installation of the products selected for install.

11. If you are installing a CMS, the Configure Candle Management Server dialog box displays. Complete the Configure Candle Management Server dialog box as indicated in the following table:

   **Note:** *Click **Reload** to reload a previously saved configuration file. Click **Cancel** to exit the dialog box.

   **Table 23. CMS Configuration Basic Settings**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMS Type</td>
<td>Specify the CMS as <strong>HUB</strong> or <strong>REMOTE</strong>.</td>
</tr>
<tr>
<td>CMS Name</td>
<td>Enter the unique name you want to assign to this CMS. The name must be alphanumeric (2-32 characters) and must begin with an alpha character. No blanks or special characters are allowed.</td>
</tr>
</tbody>
</table>
Running the Installation Program

If you are configuring the hub CMS now on this machine, enter the hostname or IP address of this machine.

If you are configuring a remote CMS now, enter the hostname or IP address of the machine where the associated hub CMS resides.

If you have multiple NICs installed in your server, see “Multiple Network Interface Cards” on page 30. Specify the Optional Primary Network Name on the Advanced Settings Tab.

Protocol Type

You can select up to three of the following communications protocols (Priority 1, Priority 2, and Priority 3) for the CMS. The CMS will use Priority 1, if it is available. If not, it will use Priority 2. If that is not available, it will use Priority 3.

- TCP/IP
- SNA
- IP.PIPE (The ip.pipe network protocol is used for transport through a firewall. It supports address translation and allows you to edit or modify the Partition File.)

Initially, configure only one network protocol. Others can be added after installation has completed.

See the following table entries for descriptions of the fields for each protocol:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host Name</td>
<td>If you are configuring the hub CMS now on this machine, enter the hostname or IP address of this machine.</td>
</tr>
<tr>
<td></td>
<td>If you are configuring a remote CMS now, enter the hostname or IP address of the machine where the associated hub CMS resides.</td>
</tr>
<tr>
<td></td>
<td>If you have multiple NICs installed in your server, see “Multiple Network Interface Cards” on page 30. Specify the Optional Primary Network Name on the Advanced Settings Tab.</td>
</tr>
<tr>
<td>Protocol Type</td>
<td>You can select up to three of the following communications protocols (Priority 1, Priority 2, and Priority 3) for the CMS. The CMS will use Priority 1, if it is available. If not, it will use Priority 2. If that is not available, it will use Priority 3.</td>
</tr>
<tr>
<td></td>
<td>- TCP/IP</td>
</tr>
<tr>
<td></td>
<td>- SNA</td>
</tr>
<tr>
<td></td>
<td>- IP.PIPE (The ip.pipe network protocol is used for transport through a firewall. It supports address translation and allows you to edit or modify the Partition File.)</td>
</tr>
<tr>
<td></td>
<td>Initially, configure only one network protocol. Others can be added after installation has completed.</td>
</tr>
<tr>
<td></td>
<td>See the following table entries for descriptions of the fields for each protocol:</td>
</tr>
</tbody>
</table>

**TCP/IP Settings**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Number</td>
<td>The TCP/IP listening port for the CMS. IBM recommends that you use port number 1918; however, if you must change it (if port 1918 is already in use at your site), enter the new port number (1025 to 65535).</td>
</tr>
<tr>
<td></td>
<td>You must specify the same port number for the hub CMS and all remote CMSs reporting to it.</td>
</tr>
</tbody>
</table>

**SNA Settings**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Name</td>
<td>Your site’s SNA network identifier.</td>
</tr>
<tr>
<td>LU Name</td>
<td>Hub CMS:</td>
</tr>
<tr>
<td></td>
<td>The LU name for this CMS. This LU name corresponds to the Local LU alias in your SNA communications software. This is also referred to as the APPLID when setting up SNA on VTAM. Each APPLID must be unique.</td>
</tr>
<tr>
<td></td>
<td>Remote CMS:</td>
</tr>
<tr>
<td></td>
<td>The LU name (APPLID) for this remote CMS</td>
</tr>
<tr>
<td>LOG Mode</td>
<td>The name of the LU6.2 logmode table. This Log Mode table is created by CICAT for VTAM SNA communication configuration.</td>
</tr>
</tbody>
</table>

**IP.PIPE Settings**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Address Translation</td>
<td>Select the check box if you are using address translation at your site.</td>
</tr>
</tbody>
</table>
Running the Installation Program

12. Select the Advanced Settings tab.

The Advanced Settings dialog box is displayed.

13. Fill in the fields as indicated in the following table:

Table 24. CMS Configuration Advanced Settings

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional Primary Network Name: Network Name</td>
<td>If you have multiple network cards in the CMS designated machine, enter the name or ip address of the primary network card to use.</td>
</tr>
<tr>
<td>Configuration Auditing</td>
<td>Specifies whether or not configuration auditing data will be collected at this CMS. The default is that it is checked. To disable this feature, click it.</td>
</tr>
<tr>
<td>Security: Validate User</td>
<td>Check the box to turn User Security Validation on for OMEGAMON Platform on UNIX. See “Security Validation on UNIX” on page 113.</td>
</tr>
<tr>
<td>Specify Hot Standby</td>
<td>Specifies whether or not data being collected at this CMS will switch to a Hot Standby CMS if this CMS or its host goes offline. The default is no (not checked). To enable this feature, click it. Must also enter the name of the host machine where the Hot Standby CMS resides (see next item).</td>
</tr>
<tr>
<td>Standby CMS Site:</td>
<td>The name of the host machine where the Hot Standby CMS resides. No default.</td>
</tr>
</tbody>
</table>
Table 24. CMS Configuration Advanced Settings (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(for Hot Standby CMS) Protocol Type</td>
<td>You can select up to three of the following communications protocols (Priority 1, Priority 2, and Priority 3) for the Hot Standby CMS. The CMS will use Priority 1, if it is available. If not, it will use Priority 2. If that is not available, it will use Priority 3. Specify the protocol used by choosing from the dropdown listbox.</td>
</tr>
<tr>
<td>TCP/IP</td>
<td></td>
</tr>
<tr>
<td>SNA</td>
<td></td>
</tr>
<tr>
<td>IPPPIPE (The ip.pipe network protocol is used for transport through a firewall. It supports address translation and allows you to edit or modify the Partition File.)</td>
<td></td>
</tr>
<tr>
<td>The same protocols must be entered as requested for the Primary CMS. The priority order can be different. See the following table entries for descriptions of the fields for each protocol:</td>
<td></td>
</tr>
</tbody>
</table>

TCP/IP Settings

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP/IP Port Number</td>
<td>The TCP/IP listening port for the Hot Standby CMS. This is the same port number you entered for the hub CMS</td>
</tr>
</tbody>
</table>

SNA Settings

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Name</td>
<td>Your site’s SNA network identifier. Enter the same information you entered for the hub CMS</td>
</tr>
<tr>
<td>LU Name</td>
<td>Hot Standby CMS: Enter the same information you entered for the hub CMS</td>
</tr>
<tr>
<td>LOG Mode</td>
<td>Enter the same information you entered for the hub CMS</td>
</tr>
</tbody>
</table>

IPPIPE Settings

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Address Translation</td>
<td>Select the check box if you are using address translation at your site.</td>
</tr>
<tr>
<td>Port Number</td>
<td>Enter the same port number that you entered for the hub CMS</td>
</tr>
<tr>
<td>Partition File</td>
<td>(Required only by sites using address translation.) Enter the same information you entered for the hub CMS</td>
</tr>
<tr>
<td>Partition</td>
<td>(Required only by sites using address translation.) Enter the same information you entered for the hub CMS</td>
</tr>
</tbody>
</table>

14. When you have entered all the Basic and Advanced CMS Settings for your site, click **Save**.

The Setup program continues installing the remainder of the component products. Then the Manage Candle Services windows displays.
Manage Candle Services

After completing the OMEGAMON Platform and CandleNet Portal installations, you are presented with the Manage Candle Services window. The Manage Candle Services window allows you to configure the individual installed components. Additionally, it provides you the ability to start and stop the individual components from the correct operating system.

For example, components configured for sol2.6 must be started and stopped after logging onto that system. System messages are presented in the bottom dialog box. See “Starting and Stopping Products on UNIX” on page 183 for additional information.

Manage Candle Services Action menu

The Manage Candle Services Action menu provides the following options:

Table 25. Manage Candle Services Action Menu

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configure</td>
<td>Select to complete the Configuration, Basic and Advanced, for each product. The configuration dialog box has two tabs if advanced configuration is required.</td>
</tr>
<tr>
<td>Configure Advanced</td>
<td>Select to complete the Advanced Configuration for agents that require additional configuration steps such as the Distributed Databases.</td>
</tr>
<tr>
<td>Start Service</td>
<td>Select to start the selected component.</td>
</tr>
<tr>
<td>Stop Service</td>
<td>Select to stop the selected component.</td>
</tr>
<tr>
<td>Seed</td>
<td>Select to add Seed data to the CMS for all installed component products (“Quick Seed”). (If you want to selectively seed component products select “Advanced Seed” and see “Advanced seeding procedure” on page 109.)</td>
</tr>
<tr>
<td>Exit</td>
<td>Select to close the Manage Candle Services x-term window.</td>
</tr>
</tbody>
</table>

Manage Candle Services Options menu

The Manage Candle Services Options menu provides the following options.

Table 26. Manage Candle Services Options Menu

<table>
<thead>
<tr>
<th>Menu Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage Log Files</td>
<td>Select to manage the log files created by IBM Tivoli</td>
</tr>
<tr>
<td>Set Agent Permissions</td>
<td>A few of the products require root user authority. If you did not complete the Set Agent Permissions X-term window during the installation process, you can perform this action using this option.</td>
</tr>
</tbody>
</table>
Manage Candle Services icons

The icons to the left of the installed components indicate the status of the component, as described in the following table:

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🟢</td>
<td>Component is configured and ready to start.</td>
</tr>
<tr>
<td>🔴</td>
<td>Component has not been configured. You must complete the configuration before you can start the component.</td>
</tr>
<tr>
<td>🟤</td>
<td>Component is running.</td>
</tr>
</tbody>
</table>

You can also click the following buttons:

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Start Service" /></td>
<td>Start Service (Action menu option)</td>
</tr>
<tr>
<td><img src="image" alt="Stop Service" /></td>
<td>Stop Service (Action menu option)</td>
</tr>
</tbody>
</table>

Proceed to “Basic Configuration of Agents” on page 104.

Starting the Manage Candle Services window manually

To start the interface manually, perform the following procedure:

1. From a command prompt, change to the bin directory. Perform the following procedure:
   ```bash
cd $candlehome/bin
   ```
2. Enter the following and press Enter.
   ```bash
   ./CandleManage [-h $candlehome]
   ```
   where the following are the variables:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-h</td>
<td>(optional) Used to specify $candlehome.</td>
</tr>
<tr>
<td>$candlehome</td>
<td>A home directory created for the installation of the OMEGAMON Platform and CandleNet Portal</td>
</tr>
</tbody>
</table>

The Manage Candle Services window displays.
Basic Configuration of Agents

Perform this procedure if you have installed agents on this machine. The Setup program completes a default configuration for the CMS and the installed agents. To change the CMS basic configuration, see “CMS Configuration Changes” on page 107.

You can change the default configuration for the agents using the procedure below.

Configuring or changing the CMS connection for agents

To configure or change the CMS connection to the agents, use the following procedure. The CMS Connection tab is the same for all agents.

1. In the Manage Candle Services window, highlight the agent whose connection you want to configure. You can select multiple agents by holding down the Shift key or Control key and highlighting agents.

2. From the menu bar, select **Actions > Configure**.

   The CMS Connection dialog box is presented.

3. Complete the dialog box as indicated in the table below:

   **Table 30. CMS Connection to Agent Settings**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>No CMS</td>
<td>Select this box if the agent does not connect to a CMS.</td>
</tr>
<tr>
<td>CMS Hostname</td>
<td>This is the hostname of the UNIX machine this CMS will run on.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> In the main configuration dialog box, if ”No CMS” is checked, the entire dialog box except for ”Edit host specific configuration” is disabled.</td>
</tr>
<tr>
<td>Edit host specific</td>
<td>Selecting this option creates a configuration file that is specific for running on the specified host. This option overrides the generic OS configuration file. (Same as using the -t option during the command line configuration—See “Using CandleConfig to Configure or Reconfigure the Product” on page 127.)</td>
</tr>
<tr>
<td>configuration</td>
<td>This option should only be used in those instances where an agent configuration requires different parameters for the host OS on which it will run.</td>
</tr>
<tr>
<td></td>
<td><strong>Warning:</strong> If reconfiguring an agent that has been configured using this option, you must use this option again to update the existing configuration.</td>
</tr>
</tbody>
</table>
**Table 30. CMS Connection to Agent Settings (continued)**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol</td>
<td>You can select up to three of the following communications protocols (Protocol 1, Protocol 2, and Protocol 3) for the CMS that connects to the agent. The CMS will use Protocol 1, if it is available. If not, it will use Protocol 2. If that is not available, it will use Protocol 3.</td>
</tr>
<tr>
<td>TCP/IP</td>
<td></td>
</tr>
<tr>
<td>SNA</td>
<td></td>
</tr>
<tr>
<td>IP .PIPE</td>
<td>(The ip.pipe network protocol is used for transport through a firewall. It supports address translation and allows you to edit or modify the Partition File.)</td>
</tr>
<tr>
<td>Connect Through Firewall</td>
<td>If this box is selected, the Protocol Type is forced to IP .PIPE and the Protocol 2 and 3 tabs are disabled.</td>
</tr>
</tbody>
</table>

**TCP/IP Settings**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Number</td>
<td>The TCP/IP listening port for the CMS. IBM recommends that you use port number 1918; however, if you must change it (if port 1918 is already in use at your site), type the new port number (1025 to 65535).</td>
</tr>
</tbody>
</table>

**SNA Settings**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Name</td>
<td>Your site’s SNA network identifier.</td>
</tr>
<tr>
<td>LU Name</td>
<td>Hub CMS: The LU name for this CMS. This LU name corresponds to the Local LU alias in your SNA communications software. This is also referred to as the APPLID when setting up SNA on VTAM. Each APPLID must be unique. Remote CMS: The LU name (APPLID) for this remote CMS</td>
</tr>
<tr>
<td>LOG Mode</td>
<td>The name of the LU6.2 logmode table. This Log Mode table is created by CICAT for VTAM SNA communication configuration.</td>
</tr>
</tbody>
</table>

**IP .PIPE Settings**

*Note: If an agent will connect through a firewall, you must use the IP .PIPE protocol for communication with the CMS.*

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Address Translation</td>
<td>Select the check box if you are using address translation at your site.</td>
</tr>
<tr>
<td>Port Number</td>
<td>The listening port for the CMS. IBM recommends that you use port number 1918; however, if you must change it (if port 1918 is already in use at your site), enter the new port number (IBM recommends numbers 1025 to 65535).</td>
</tr>
<tr>
<td>Partition File</td>
<td>(Required only by sites using address translation.) A text file containing the name of a partition and its constituent interface address. Enter the fully-qualified path and name of the file.</td>
</tr>
</tbody>
</table>

**Optional Primary Network**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify Optional Primary Network</td>
<td>If you have multiple network cards in the CMS designated machine, check the box to specify the optional primary network.</td>
</tr>
</tbody>
</table>
4. Perform one of the following procedures:
   - Click **Save** to save your configuration.
   - Click **Cancel** to exit without saving.
   - Click **Reload** to reload a previously saved configuration file.

**Advanced configuration**

Several agents require advanced configuration to properly monitor the applications at your site.

To complete the Advanced configuration for agents, refer to “Additional Agent Configuration” on page 189. Keep the Manage Candle Services window open to complete the advanced configuration.
To change the basic configuration of the CMS, perform the following procedure.

1. In the Manage Candle Services window, highlight the CMS.

2. From the menu bar, select **Actions > Configure**.

   The Configure Candle Management Server dialog box displays.

3. Complete or change the field entries as needed. Refer to Table 23: CMS Configuration Basic Settings on page 98 for CMS Basic Settings and Table 24: CMS Configuration Advanced Settings on page 100 for CMS Advanced Settings.

   **Note:** Since support is available for multiple CMSs, in order to configure different CMSs you need to type in the CMS name of the one you want to change and then click **Reload**. When the CMS configuration dialog box comes up, a default CMS name is provided (the first CMS that was installed).

4. Perform one of the following procedures:
   - Click **Save** to save your configuration.
   - Click **Cancel** to exit without saving.
   - Click **Reload** to reload a previously saved configuration file.
Seeding Procedure in Manage Candle Services

Perform this procedure only if you have installed Alert Adapter for Tivoli Enterprise Console.

You do not need to perform this procedure if during installation you have already seeded the CMS for Alert Adapter for Tivoli Enterprise Console, as described in earlier sections of this chapter.

Overview of the CMS Seeding Process

After you install a CMS, you must prepare that CMS to collect data from agents and distribute it to a CandleNet Portal.

This procedure, called seeding, consists of adding product-specific seed data (parameters) to the CMS. Seed data includes SQL data for product-provided situations.

All products require that the CMS be restarted after being seeded before the product is fully functional. To minimize disruption, it is best to “seed” the CMS, then recycle (stop, then restart) the CMS before doing anything else.

The following three procedures are available for seeding the CMS:

- Using the Manage Candle Services window (recommended).
- Using the command-line seeding procedure. See “Seeding Procedure Using CandleSeed” on page 132.
- Using Manage Candle Services on a Windows machine with a CandleNet Portal Server installed on it (necessary for seeding of non-UNIX CMSs). Perform the procedure in “Seeding the Candle Management Server in Manage Candle Services” on page 85. For the purposes of seeding the CMS for Alert Adapter for Tivoli Enterprise Console, substitute Alert Adapter for Tivoli Enterprise Console for Alert Adapter for AF/REMOTE every time the latter is mentioned in that section.

Note: If the seed data is for an agent that reports to a remote CMS, complete this process for both the hub and the remote CMS. A hub CMS should be running before proceeding with a remote CMS seed.

You can perform a Quick Seed or an Advanced Seed procedure. Use the procedures that follow to complete the seeding procedure.

Installation of agent data for seeding at a remote UNIX CMS

If the CMS to which Alert Adapter for Tivoli Enterprise Console will connect is installed on a different UNIX machine, at the location of the CMS, perform the procedure described in “Running the Installation Program” on page 96, and in Step 9, instead of selecting an operating, select _CMS data for products running on UNIX. Then make the selection for Alert Adapter for Tivoli Enterprise Console.
Quick Seed procedure

The Quick Seed procedure adds seed data to all the products you installed at the location of the UNIX CMS.

Perform the following procedure:

1. Change to the bin directory:
   
   ```
   cd $candlehome/bin
   ```

2. Type the following and press Enter:

   ```
   ./CandleManage [-h $candlehome]
   ```

   where the following are the variables:

   Table 31. Parameters for Accessing Manage Candle Services

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-h</td>
<td>(optional) Used to specify $candlehome.</td>
</tr>
<tr>
<td>$candlehome</td>
<td>A home directory created for the installation of the OMEGAMON Platform and CandleNet Portal</td>
</tr>
</tbody>
</table>

   The Manage Candle Services window displays.

3. Highlight **Candle Management Server**.

4. From the menu bar, select **Actions > Seed > Quick Seed**.

   ![Manage Candle Services window](image)

   The seed process starts the CMS, adds the seed data for each product installed, and stops the CMS.

Advanced seeding procedure

Under certain circumstances, you might want to seed for individual products. If this is the case, use the Advanced Seed procedure.

To seed individual products, perform the following procedure:

1. On the Manage Candle Services window, highlight **Candle Management Server**.
2. Select **Actions > Seed > Advanced Seed**.

   The Seed Products dialog box displays.

3. Select one or more products to seed. To select more than one product, hold down the Shift or Ctrl key while highlighting the product with the mouse.

   **Note:** *If you want to be able to use IBM Tivoli OMEGAMON XE for WebSphere MQ Configuration, the CMS must be seeded with data for CMS Configurator.*

4. Click **Seed** to complete the seeding procedure.

   The seeding process starts the CMS, adds the seed data to the CMS, and stops the CMS.

   **Note:** *If the CMS is already started, the seeding process will add the seed data, stop the CMS, and then restart the CMS.*
File Permission Requirements

This section applies to both GUI and command-line installations.

During the installation procedure, you are required to enter the root password to change the permission settings for certain files required for OMEGAMON Platform and CandleNet Portal component products to function properly. If you have difficulty in connecting component products, run the procedure below to set file permissions to ensure that the permissions were set properly during the installation procedure.

Procedure to set file permissions

The $candlehome subdirectory and all files within the directory and below it must have the general file permissions of 755.

You can set all the file permissions using the Manage Candle Services window by selecting from the main menu Options > Set Agent Permissions, or perform the following procedure from the command line:

1. Log on as “root” on the machine that physically owns the disk (required in most UNIX installations).
2. Change to the $candlehome/bin subdirectory
3. Enter the following:
   
   ```bash
   ./SetPerm [-h $candlehome] [-a] [-s]
   ```
   
   where the following are the variables:

   **Table 32. Parameters for the SetPerm Command**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-a</td>
<td>(optional) Used to set permissions for all agents without user intervention</td>
</tr>
<tr>
<td>-h</td>
<td>(optional) Used when $candlehome is not defined in the current environment. Also use this option to take action on a $candlehome other than the $candlehome in the current system.</td>
</tr>
<tr>
<td>-s</td>
<td>(optional) Used to set security validation on selected CMSs. Refer to “Security Validation on UNIX” on page 113</td>
</tr>
<tr>
<td>$candlehome</td>
<td>The SetPerm command first looks at the value of $candlehome. If the value is not set, SetPerm sets $candlehome to the directory where SetPerm is located.</td>
</tr>
</tbody>
</table>

A product selection list appears. This list is sorted and contains the run architectures within each product description. Again, you must have logged on with root authority to run SetPerm, or the program will exit with the error message:

**SetPerm failure: you must be ‘root’ to run this command.**

4. From the list of installed products, enter a valid number or numbers separated by commas or spaces. The following are examples for entering numbers:

   1 2 3
File Permission Requirements

1, 2, 3, 4
Security Validation on UNIX

Overview

Some sites prefer to maintain security validation of users between the CMS and the CMW. The security validation procedure has been greatly simplified and no longer requires you to manually edit files or create links.

If you selected the **Security: Validate User** option from the GUI or command line install procedures, you must enable Security Validation between the CMS and CMW using the procedure below.

Procedure to enable Security Validation

*Note:* You must have already installed the CMW on Windows and set up a user ID and valid password (same as UNIX password) before completing this procedure.

Perform the following procedure:

1. Shut down the CMS using the procedure in “Starting and Stopping Products on UNIX” on page 183.
2. Log on as “root” on the machine that physically owns the disk (required in most UNIX installations).
3. From the command line, enter the following:

   ```
   cd $candlehome/bin
   ./SetPerm [-h $candlehome] -s
   ```

   where the following are the variables:

   Table 33. Parameters for the SetPerm Command

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-h</td>
<td>(optional) Use this option when $candlehome is not defined in the current environment. Also use this option to take action on a $candlehome other than the $candlehome in the current system.</td>
</tr>
<tr>
<td>-s</td>
<td>Used to set security validation on selected CMSs.</td>
</tr>
<tr>
<td>$candlehome</td>
<td>The SetPerm command first looks at the value of $candlehome. If the value is not set, SetPerm sets $candlehome to the directory where SetPerm is located.</td>
</tr>
</tbody>
</table>

   The following screen menu is displayed:

   Select from the following:

   1. CMS "aixcms" on host "vulcan"
   2. CMS "hpcms" on host "athens"
   3. CMS "suncms" on host "verdi"
   4. All of the above.
   5. Exit this program.

   Please enter a valid number or numbers separated by commas or spaces.

   Type your selection here:
4. From the list of configured CMSs, enter a valid number or numbers separated by commas or spaces. The following are examples for entering numbers:

   1 2 3
   1,2,3,4

5. If you are running on an HP workstation, you may see an additional prompt prior to the list of CMSs, as in the following:

   Is this a trusted system [ y or n; "y" is the default ]?  n

   Select from the following:
   1. CMS "aixcms" on host "vulcan"
   2. CMS "hpcms" on host "athens"
   3. CMS "suncms" on host "verdi"
   4. All of the above.
   5. Exit this program.

   Please enter a valid number or numbers separated by commas or spaces.

   Type your selection here:

Enter your response.

The SetPerm script changes the file permissions and creates the required links needed for security validation.

6. Make sure the user ID for the CMW is the same user ID as it is for your UNIX system.

7. Start the CMS using the procedure in “Starting and Stopping Products on UNIX” on page 183.

8. Start the CMW using the procedure in “Starting and Configuring Candle Management Workstation” on page 89.

9. When prompted for a user ID and password, type a valid user ID and password (the same user ID and password you use to log on to the UNIX system).
Starting and Stopping Products

This section describes the steps used to start and stop OMEGAMON Platform products along with managing Log files from the GUI interface on UNIX. The easiest way to start and stop IBM Tivoli products is to use the c window.

If you prefer to use the command line, you will find a complete description of the syntax, options, and arguments used to start and stop the CMS and agents in “Using CandleServer to Start and Stop the Candle Management Server” on page 134 and “Using CandleAgent to Start and Stop Agents” on page 136. Selected agents also contain start and stop command line syntax in the chapter “Additional Agent Configuration” on page 189.

Note: On UNIX, if you reconfigure a IBM Tivoli product that is currently started, you must manually stop and restart the component before any changes are implemented.

Starting or stopping components

To start or stop components, perform the following procedure:

1. If it is not already open, open the Manage Candle Services window. See “Starting the Manage Candle Services window manually” on page 103.

2. Highlight the component to start or stop.

3. Do one of the following:
   - Click the “Go” (Green) light or “Stop” (Red) light on the menu bar.
   - From the menu bar, select Actions > Start Service (or Stop Service).
Managing Log Files

Log files are created as a standard action when starting agents and the CMS. Depending on the number of products you install and the amount of activity on your system, managing the size and number of log files in your $candlehome can be critical. You can manage log files using the Manage Candle Services Options menu. Use the procedure below to manage Log files:

1. From the Manage Candle Services Main menu, select **Options > Manage Log Files**. The Manage Log Files dialog box displays:

2. Select the log files that you want to perform a particular action upon.

3. Do one of the following:
   - Select **Delete Files** and click **OK**.
   - Select **Delete files older than** and type the number of days (0 or more), then click **OK**.
   - Select **Trim files to** and type the number of Kbytes (0 or more). Trimming starts from the top of the files (oldest entries first). Click **OK**.

4. Click **Return** to close the window.

*Note*: The command line version of “Managing Log Files” is CandleAudit. See “Using CandleAudit to Manage Log Files” on page 137.
Verifying Processes

Introduction
As you start and stop components of OMEGAMON Platform and CandleNet Portal, you may want to verify that the processes associated with that component started or stopped successfully. To do so, check for the existence of log files. You can check for log files using the Manage Log Files option from the Manage Candle Services window (see “Managing Log Files” on page 116).

Log files
When a process is started a log file is created to record the activity of the process. When the component stops, using the appropriate command, the log is saved as part of the normal shut down process.

Note: When you issue most IBM Tivoli commands, you can set the -l option to delete the log unconditionally.

Log file naming format
In the past, log file names were based on the process ID (pid) of the process, for example, zola_ux_47598.log. Due to several technical issues, a naming convention to uniquely identify the log file has been instituted using a time stamp instead. This results in a long number at the end of the log file name which is actually an encoded time stamp.

Additionally, you will notice that there are actually two files generated for each execution of an agent, for example:

zola_ux_952453434.log
zola_ux_952453434.pid47598

The second (empty) file is generated to link the date and time stamp with the real process ID of the agent. This allows you to easily identify the true log file for a particular process by completing a simple “ls” command.

Verifying that the command executed successfully
To verify that the process or executable associated with the component has started or stopped, look for a log file. Perform the following procedure:

1. Change to the $candlehome/logs directory.
2. List the files in the directory.
3. Look for the appropriate log file. The name should mirror that of the corresponding log file: host_pc_timestamp.log
   where the following are the variables:

Table 34. Parameters of Log File Name

<table>
<thead>
<tr>
<th>host</th>
<th>The hostname of the system where the process is running</th>
</tr>
</thead>
</table>
Verifying Processes

If there is not a log file, either of the following has occurred:

- The process never started.
- The “-l” option was used to delete the log.

4. Check the contents of the log for more information.

**Note:** If the process stopped abnormally, the CandleAgent or CandleServer “STOP” command must still be issued to clean up left over records in the installer database.

<table>
<thead>
<tr>
<th>pc</th>
<th>The two-character product code. See “IBM Tivoli Product Codes” on page 225.</th>
</tr>
</thead>
<tbody>
<tr>
<td>timestamp</td>
<td>A dynamically assigned time and date stamp number</td>
</tr>
</tbody>
</table>
Additional Configuration Steps

Additional configuration may be required for the CMS. See “Additional CMS Configuration on UNIX” on page 169.

**Note:** To install a CandleNet Portal or other product on Windows, see “Installation and Basic Configuration Steps on Windows” on page 67.
Introduction

This chapter contains step-by-step instructions for installing and configuring OMEGAMON Platform products using command line scripts. If you prefer to use the IBM Tivoli GUI installation tool, go to “GUI Installation and Basic Configuration Steps on UNIX” on page 95.

Note: The installation procedure is based on a first-time installation of OMEGAMON Platform and CandleNet Portal. If this is an upgrade of your component products, see “Preparing for Upgrading and Migrating from a Previous Installation” on page 59 before continuing with these steps.

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Using install.sh to Install from CD ................................................................. 123
Using CandleConfig to Configure or Reconfigure the Product ................................. 127
Seeding Procedure Using CandleSeed ................................................................. 132
Using CandleServer to Start and Stop the Candle Management Server ..................... 134
Checking CMS Shutdown Using netstat ......................................................... 135
Using CandleAgent to Start and Stop Agents .................................................... 136
Using CandleAudit to Manage Log Files ......................................................... 137
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Using CandleExecute to Run Previously Defined Scripts or Commands .................. 143
Verifying Processes ......................................................................................... 144
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Additional Configuration Steps ........................................................................ 149
To complete a command line installation, follow these steps:

1. Run install.sh from the CD-ROM. See “Using install.sh to Install from CD” on page 123.
2. Configure the CMS and agents using CandleConfig. See “Using CandleConfig to Configure or Reconfigure the Product” on page 127.
3. Seed the hub CMS using the seeding procedure described in “Seeding Procedure Using CandleSeed” on page 132.
4. Seed any remote CMSs using the seeding procedure described in “Seeding Procedure Using CandleSeed” on page 132.
5. Check file permission settings if necessary. See “File Permission Requirements” on page 111.

Manually starting and stopping the CMS and agents

- To manually start or stop the CMS, refer to “Using CandleServer to Start and Stop the Candle Management Server” on page 134.
- To manually start or stop the agents, refer to “Using CandleAgent to Start and Stop Agents” on page 136.
Using install.sh to Install from CD

Description

Use install.sh to install the products from the OMEGAMON Platform and CandleNet Portal product CD. This optional command line installation procedure is available for those instances when an x-terminal is not available. The procedure assumes you are an experienced user on the UNIX operating system of choice.

Note: **DO NOT press “Ctrl-C” to stop the installation and configuration process!**

The installation and configuration process updates an install database while running. If values requested are not currently available, you should proceed with the process to completion by skipping the entry or entering a dummy value (and noting the location). When the values or resources needed to fill the dummy entries become available later (and before trying to execute the product), you should re-visit the configuration process and fill in the missing values.

*If you abort the install and configuration process pressing “Ctrl-C”, the recommendation is to completely re-install from scratch (for example, using a new $candlehome), as the integrity of the configuration database is no longer assured.*

Installing products

In this step you run the install.sh installation program through a shell script to install the OMEGAMON Platform and CandleNet Portal component product. The installation program installs both the CMS and the agents.

Follow these steps:

1. Mount the OMEGAMON Platform and CandleNet Portal product CD at the location you have chosen on the host. Enter the following:

   ```
   mount device mount_point
   cd mount_point
   ```

   where the following are the variables:
   - `device` = the device driver for the CD-ROM.
   - `mount_point` = the directory where the device will be mounted.

   **Note:** The OMEGAMON Platform and CandleNet Portal product CDs conform to ISO 9660 standards. The mount command may require additional options based on the operating system platform you are running. IBM Tivoli does not document basic operating systems commands that are the responsibility of your system administrator to oversee. Consult the man pages or your operating system documentation if necessary.

2. From the bin directory under the root directory of the CD-ROM, execute install.sh by entering the following:

   ```
   ./install.sh [-h $candlehome] [-d cdrom path] [-v] [-c]
   ```
where the following are the variables:

**Table 35. Parameters for Executing install.sh**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-h</td>
<td>(optional) Used to specify $candlehome. If you do not include -h, and do not have an environmental variable named $candlehome present, install.sh prompts you for the installation directory. Also use this option to take action on a $candlehome other than the $candlehome in the current system.</td>
</tr>
<tr>
<td>$candlehome</td>
<td>A home directory created for the installation of the OMEGAMON Platform and CandleNet Portal</td>
</tr>
<tr>
<td>-d</td>
<td>(optional) Used to specify the path to the CD-ROM drive</td>
</tr>
<tr>
<td>cdrom path</td>
<td>The full path to the root of the CD-ROM drive or the full path to the CD-ROM image</td>
</tr>
<tr>
<td>-c</td>
<td>(optional) Used to print diagnostic messages to the console</td>
</tr>
<tr>
<td>-v</td>
<td>(optional) Used to display the version and release levels of the current installer</td>
</tr>
</tbody>
</table>

One of the following will occur:

- If the directory specified exists already, you will see a prompt that tells you so and asks you if you want to use this as your home directory.
- If the directory specified does not exist, you will see a prompt that tells you so and asks you if you want to create this as your home directory.

3. Enter y and press Enter. The following prompt is presented:

   Select one of the following:
   1) Install products via GUI.
   2) Install products via command line.
   3) Create remote packages via GUI.
   4) Create remote packages via command line.
   5) View readme files
   6) Exit install.

   Please enter a valid number: 2

4. Enter the number of the type of installation you want to complete from the following selections:

**Table 36. Numbers for Types of Installations**

<table>
<thead>
<tr>
<th>Number</th>
<th>Install Type</th>
<th>Where to go next...</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Install products using GUI</td>
<td>See “GUI Installation and Basic Configuration Steps on UNIX” on page 95.</td>
</tr>
<tr>
<td>2</td>
<td>Install products using command line</td>
<td>Continue to the next step in this chapter.</td>
</tr>
<tr>
<td>3</td>
<td>Create remote packages using GUI</td>
<td>See “UNIX CandleRemote Command” on page 203.</td>
</tr>
<tr>
<td>4</td>
<td>Create remote packages using command line</td>
<td>See “UNIX CandleRemote Command” on page 203.</td>
</tr>
</tbody>
</table>
If you entered 2 in the preceding step, a numbered list of languages in which you may view the Software License Agreement displays.

5. Enter the number of the language.

6. Read the instructions for viewing the Software License Agreement and press Enter.

   The general terms of the Software License Agreement displays.

7. Press Enter to continue viewing the Software License Agreement until you reach the end of the agreement.

8. Enter 1 to accept the agreement.

   **Note:** Enter 99 to go back to Step

   A numbered list of operating systems on which to install the software displays.

9. Enter the number of the operating system.

   See “slibclean command” on page 31, if you receive error messages similar to the following:

   ERROR - unarchive failed for prerequisite package axaix513.jar
   ERROR - could not unzip the prerequisite package “axaix513.jar”

10. Enter y.

    A numbered list of products to install displays.

11. Enter the numbers of the products you want to install. If you enter more than one number, separate the numbers by a comma or a space. The following are examples for entering numbers:

    1 2 3
    1,2,3,4

12. A list of the products that will be installed displays.

13. If the list is correct, enter y.

14. If you are installing a CMS, a prompt to name the CMS displays. Enter a name for the CMS.

    The selected component products are installed. Then you are prompted to enter another operating system or complete the installation.

15. Enter n.

   **Note:** If you are using an NFS file system, you can install and configure agents for multiple operating systems during the install process. You can then use CandleRemote to transfer the configured agent to a remote system of the same OS architecture. You can also start the agent from the remote machine in this $candlehome.
After installing the products, you must configure the agent environments using the CandleConfig program. See “Using CandleConfig to Configure or Reconfigure the Product” on page 127.
Using CandleConfig to Configure or Reconfigure the Product

Use CandleConfig to configure or reconfigure the OMEGAMON Platform products on UNIX. Use CandleConfig to establish the following:

- The IP port that the hub CMS will use to listen for requests
- Which hosts can execute a product
- Where the hub CMS is in the network
- Which CMS an agent connects to
- Whether a CMS is a hub or a remote server

Only one product may be configured at a time. If you reconfigure a CMS, you must stop and restart that CMS before the changes will take effect.

CandleConfig has been simplified with less command line options. You are prompted for input for the parameters necessary.

Scripts are located in the $candlehome/bin directory, where the variable $candlehome is the directory into which you installed OMEGAMON Platform.

Refer to “IBM Tivoli Product Codes” on page 225 for a listing of IBM Tivoli product codes when necessary.

Syntax

To configure either an agent or a CMS, start by changing to the $candlehome/bin directory. Then execute one of the following:

- To configure an agent, enter the following:
  ```bash
  ./CandleConfig -A [-h $candlehome] [-a arch] [-t agent_host_name] pc
  ```
- To configure a CMS, enter the following:
  ```bash
  ./CandleConfig -S [-h $candlehome] [-a arch] [-u] -t cms_name
  ```

where the following are the variables:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-A</td>
<td>Used to configure an agent</td>
</tr>
<tr>
<td>-S</td>
<td>Used to configure a hub or remote CMS</td>
</tr>
<tr>
<td>-a</td>
<td>(optional) Specifies the architecture. This flag allows you to configure an agent and a CMS for an architecture other than the one that you are on. For example, if you are on AIX (version 5.1), and want to configure for an HP 10.20 machine, then this option is required. Otherwise the default is the machine you are on, which in this case is AIX (version 5.1). This allows you to install and configure on any machine.</td>
</tr>
<tr>
<td>arch</td>
<td>One of the abbreviations used by IBM Tivoli for the architecture. For the most current listing, see “IBM Tivoli Architecture Codes” on page 227.</td>
</tr>
</tbody>
</table>
### Table 37. Parameters in CandleConfig Commands (continued)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>-h</code></td>
<td>(optional) Used when <code>$candlehome</code> is not defined in the current environment. Also use this option to take action on a <code>$candlehome</code> other than the <code>$candlehome</code> in the current system.</td>
</tr>
<tr>
<td><code>$candlehome</code></td>
<td>A home directory created for the installation of the OMEGAMON Platform and CandleNet Portal</td>
</tr>
<tr>
<td><code>-t</code> (when used for agents)</td>
<td>(optional) Used for specific agent-to-CMS connectivity. Entering this flag creates a configuration file that is specific for running on the specified host. This option overrides the generic OS configuration file. (Same as “Edit host specific configuration file” from the GUI install procedure—See “CMS Connection to Agent Settings” on page 104.) This option should only be used in those instances where an agent configuration requires different parameters for the host OS on which it will run. <strong>Note:</strong> If reconfiguring an agent that has been configured using this option, you must use this option again to update the existing configuration.</td>
</tr>
<tr>
<td><code>agent_host_name</code></td>
<td>Host name for the agent</td>
</tr>
<tr>
<td><code>-t</code> (when used for CMS)</td>
<td>Used to specify the name of the CMS</td>
</tr>
<tr>
<td><code>host_name</code></td>
<td>Host name of the CMS</td>
</tr>
<tr>
<td><code>-u</code></td>
<td>(optional) Used to add seed data (catalog and attribute files) to a CMS for agents that were not installed or for non-UNIX based agents. This option is not required for the current install and manual seeding procedure. Only used with the <code>-S</code> option.</td>
</tr>
<tr>
<td><code>pc</code></td>
<td>Indicates the product code of the agent you are configuring. See “IBM Tivoli Product Codes” on page 225.</td>
</tr>
</tbody>
</table>

### Agent configuration

When configuring agents, some or all of the following prompts may display after executing CandleConfig without optional parameters:

- Will this agent connect to a CMS? [YES or NO] (Default is: YES): CMS Host Name (Default is: CANDLE):
- Will the agent connect through a firewall? [YES or NO] (Default is: NO):
- Network Protocol 1 [ip, sna, or ip.pipe] (Default is: ip):
- Network Protocol 2 (Default is: none):
- Network Protocol 3 (Default is: none):
- IP Port Number (Default is: 1918):
- Net Name (Default is: CANDLE):
- LU Name (Default is: LUNAME):
- Log Mode (Default is: LOGMODE):
- IP.PIPE Port Number (Default is: 1918):
- Enter name of KDC_PARTITION (Default is: null):
Configure connection for a secondary CMS? [YES or NO] (Default is NO):
Secondary CMS HostName (Default is: CMS):
Will the agent connect through a firewall? [YES or NO] (Default is: NO):
Secondary CMS protocol [ip, sna, ip.pipe] (Default is none):
Secondary CMS protocol 2 (Default is none):
Secondary CMS protocol 3 (Default is none):
Secondary CMS IP Port Number (Default is: 1918):
Secondary CMS Net Name (Default is: CANDLE):
Secondary CMS LU Name (Default is: LUNAME):
Secondary CMS Log Mode (Default is: LOGMODE):
Secondary CMS IP.PIPE Port Number (Default is: 1918)
Enter Optional Primary Network Name or "none" (Default is: none)

Note: Secondary IP and IP.PIPE port numbers should match any that were entered for primary.

After all questions are answered, a config file is generated for the agent in the $candlehome/config directory with the format pc.config, where the variable pc is the product code of the agent you are configuring.

Additional prompts
Some prompts, like Network Protocol 2, will have the allowed or suggested values displayed on separate lines preceding the actual prompt, as in the following example:

Now choose the next protocol from one of these:
   - ip.pipe
   - sna
   - none

Conditional prompts
Some prompts listed previously are a result of entering particular values, as in the following:

- If “sna” is specified above for Network Protocol, three additional prompts are requested:
  Net Name (Default is: CANDLE):
  LU Name (Default is: LUNAME):
  Log Mode (Default is: LOGMODE):
- If “ip.pipe” is specified above for Network Protocol, the following additional prompts display:
  IP.Pipe Port Number (Default is 1918):
  Name of KDC_PARTITION (Default is:Null):
Note: Secondary IP and IP.PIPE port numbers should match any that were entered for primary.

CMS configuration

When configuring the CMS, some or all of the following prompts may display after executing CandleConfig without optional parameters:

Hub or Remote [*LOCAL/*REMOTE] (Default is:*LOCAL):
CMS Host Name (Default is: goby):
HUB CMS Host Name (Default is CANDLE):
Network Protocol 1 [ip, sna, or ip.pipe] (Default is: ip):
Network Protocol 2 (Default is: none):
Network Protocol 3 (Default is: none):
IP Port Number (Default is: 1918):
Net Name (Default is: CANDLE):
LU Name (Default is: LUNAME):
Log Mode (Default is: LOGMODE):
IP.PIPE Port Number (Default is: 1918):
Enter name of KDC_PARTITION (Default is: null):
Enter path and name of KDC_PARTITIONFILE (Default is: ...CANDLE/partition.txt):
Configuration Auditing [YES or NO] (Default is: YES):
Hot Standby? (Default is: NO):
Standby CMS Site (Default is: $MIRROR$):
Hot Standby Protocol 1 [ip, sna, or ip.pipe) (Default is: ip):
Hot Standby Protocol 2 (Default is: none):
Hot Standby Protocol 3 ([Default is: none):
HS IP Port Number (Default is: 1918):
HS Net Name (Default is: CANDLE):
HS LU Name (Default is: LUNAME):
HS Log Mode (Default is: LOGMODE):
HS IP.PIPE Port Number (Default is: 1918):
Enter Optional Primary Network Name or "none" (Default is: none):
Security: Validate User? [YES or NO] (Default is: NO):

After all questions are answered, a config file is generated for the CMS in $candlehome/config directory with the format host_name_ms.cms_name.config, where the variables are the following:

- host_name = the name of the host.
- cms_name = the name of the CMS.

Additional prompts

Some prompts, like Network Protocol 2, will have the allowed or suggested values displayed on separate lines preceding the actual prompt, as shown in the following example:

Now choose the next protocol from one of these:
- ip.pipe
- sna
- none

**Conditional prompts**

Some prompts listed previously are a result of entering particular values, as in the following:

- If “sna” is specified above for Network Protocol, the following three additional prompts display:
  
  Net Name (Default is: CANDLE):
  
  LU Name (Default is: LUNAME):
  
  Log Mode (Default is: LOGMODE):

- If “ip.pipe” is specified above for Network Protocol, the following three additional prompts display:
  
  IP.Pipe Port Number (Default is 1918):
  
  Enter name of KDC_PARTITION (Default is: null):
  
  Enter path and name of KDC_PARTITIONFILE (Default is: ...
  CANDLE/partition.txt):

**Note:** Secondary IP and IP.PIPE port numbers should match any that were entered for primary.
Seeding Procedure Using CandleSeed

Perform this procedure only if you have installed Alert Adapter for Tivoli Enterprise Console.

You do not need to perform this procedure if during installation you have already seeded the CMS for Alert Adapter for Tivoli Enterprise Console, as described in earlier sections of this chapter.

Overview of the CMS Seeding Process

After you install a CMS, you must prepare that CMS to collect data from agents and distribute it to a CandleNet Portal.

This procedure, called seeding, consists of adding product-specific seed data (parameters) to the CMS. Seed data includes SQL data for product-provided situations.

All products require that the CMS be restarted after being seeded before the product is fully functional. To minimize disruption, it is best to seed the CMS, then recycle (stop, then restart) the CMS before doing anything else.

The following three procedures are available for seeding the CMS:

- Using the CandleSeed command-line seeding procedure
- Using the Manage Candle Services window (recommended). See “Seeding Procedure in Manage Candle Services” on page 108.
- Using Manage Candle Services on a Windows machine with a CandleNet Portal Server installed on it (necessary for seeding of non-UNIX CMSs). Perform the procedure in “Seeding the Candle Management Server in Manage Candle Services” on page 85. For the purposes of seeding the CMS for Alert Adapter for Tivoli Enterprise Console, substitute Alert Adapter for Tivoli Enterprise Console for Alert Adapter for AF/REMOTE every time the latter is mentioned in that section.

Note: If the seed data is for an agent that reports to a remote CMS, complete this process for both the hub and the remote CMS. A hub CMS should be running before proceeding with a remote CMS seed.

Procedure

This step describes how to execute the CandleSeed command in order to configure the CMS for the agents you want to connect to this CMS. CandleSeed adds agent-specific SQL data to the CMS tables. (See also the -u option in “Using CandleConfig to Configure or Reconfigure the Product” on page 127.)

To successfully complete this process, the CMS must be in the same $candlehome structure as defined by the $candlehome environment variable or the command line -h option. Scripts are located in $candlehome/bin.

Perform the following procedure:

1. Start the CMS. See “Using CandleServer to Start and Stop the Candle Management Server” on page 134.
2. To execute CandleSeed, enter the following:

```
./CandleSeed [-h $candlehome] -t cms_name pc pc pc pc pc ...
```

where the following are the variables:

Table 38. Parameters for the CandleSeed Command

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-h</td>
<td>(optional) Specifies $candlehome if it is not the one in which this script is located. Usually not necessary. Also use this option to take action on a $candlehome other than this one.</td>
</tr>
<tr>
<td>$candlehome</td>
<td>A home directory created for the installation of the OMEGAMON Platform and CandleNet Portal</td>
</tr>
<tr>
<td>-t</td>
<td>Specifies the CMS name</td>
</tr>
<tr>
<td>cms_name</td>
<td>Specifies the CMS name of the CMS you are configuring. This argument is required. <strong>Note:</strong> The CMS must be specified within the structure of $candlehome.</td>
</tr>
<tr>
<td>pc</td>
<td>The product code of the product that will connect to this CMS. You can specify one or more products to seed. If multiple products, you must separate the product codes with either a space or comma as illustrated above. See “IBM Tivoli Product Codes” on page 225 for a list of product codes.</td>
</tr>
</tbody>
</table>

3. Stop the CMS. See “Using CandleServer to Start and Stop the Candle Management Server” on page 134.

The CMS will pick up the new seed data the next time you start your CMS.

4. Restart the CMS. Execute the same command as in Step 1. on page 132.
Using CandleServer to Start and Stop the Candle Management Server

Use CandleServer to start and stop CMSs that are defined in directories under the $candlehome/tables subdirectory. You must invoke CandleServer from the executing host machine.

Syntax

Enter either of the following commands:

```
./CandleServer [-h $candlehome] start cms_name
./CandleServer [-h $candlehome] [-l] stop cms_name
```

where the following are the variables:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-h</td>
<td>(optional) Used to specify $candlehome if it is not the one in which the script is located. Also use this option to take action on a $candlehome other than the $candlehome in the current system.</td>
</tr>
<tr>
<td>$candlehome</td>
<td>A home directory created for the installation of the OMEGAMON Platform and CandleNet Portal</td>
</tr>
<tr>
<td>-l</td>
<td>(optional) Used to delete the log file associated with the server that is being stopped. The default is to save the log when the CMS is stopped.</td>
</tr>
<tr>
<td>start</td>
<td>Specifies whether you want to start or stop the designated CMS</td>
</tr>
<tr>
<td>stop</td>
<td>Specifies whether you want to start or stop the designated CMS</td>
</tr>
<tr>
<td>cms_name</td>
<td>Specifies the CMS name of the CMS you are configuring</td>
</tr>
</tbody>
</table>

**Note:** The CMS must be specified within the structure of $candlehome.
Checking CMS Shutdown Using netstat

Overview

On all CMS-supported platforms, outside clients connected using the IP.PIPE protocol may not immediately release the TCP port number on the CMS host machine after the CMS is shut down. This behavior may cause a hub or remote CMS to disable their IP.PIPE brokers upon startup because the TCP port is "in use". This is due to the fact that when TCP closes a TCP connection, it sends a final Acknowledgment (ACK). In order for that ACK to be sent, the TCP port remains in use and under a specific status; for example, the "TIME_WAIT", "FIN_WAIT" or "CLOSE_WAIT" for twice the Maximum Segment Lifetime (2 x MSL). After the Maximum Segment Lifetime (2 x MSL) time, the TCP port numbers are automatically released and can be used by the CMS's IP.PIPE brokers. Depending on how TCP/IP is set up on your machine determines how long you will have to wait until you can restart the hub or remote CMS to utilize the IP.PIPE brokers. This may require that you configure TCP/IP to change the MSL value.

If you have a problem restarting, you can execute the following command to return a list of any and all clients (and their state) using the IP.PIPE port number <port#>. If the command returns an empty list, then the hub or remote CMS can be restarted using the IP.PIPE port number for its brokers.

Execute the following from the command line:

```
netstat -a|grep port#
```

where the variable `port#` is the IP.PIPE port number.

CMS using IP.PIPE running on HP-UX

See the “Preparing for Installation” chapter under “IP.PIPE patch for HP-UX” on page 38.
Using CandleAgent to Start and Stop Agents

CandleAgent is used to start and stop most agents. It must be executed on the architecture for which the agent is installed.

Syntax

Execute the following command:

```
./CandleAgent [-h $candlehome] [-l] [-c] start | stop pc pc pc ...
```

where the following are the variables:

<table>
<thead>
<tr>
<th>Table 40. Options for the CandleAgent Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>-c</td>
</tr>
<tr>
<td>-h</td>
</tr>
<tr>
<td>$candlehome</td>
</tr>
<tr>
<td>start</td>
</tr>
<tr>
<td>-l</td>
</tr>
<tr>
<td>pc</td>
</tr>
</tbody>
</table>

**Note:** The logfile for the agent session is always saved, regardless of whether the agent was stopped using CandleAgent or any other means, unless the “-l” option is specified on the CandleAgent command. Additionally, when the agent is stopped using the CandleAgent command, the logfile for that session will end with a terminating message that reads ** Process terminated by user **.
Using CandleAudit to Manage Log Files

Use CandleAudit to manage log files from the command line.

**Note:** The functions of CandleAudit have been reduced from prior releases.

Depending on the number of products you install and the amount of activity on your system, managing the size and number of log files in your $candlehome can be critical. CandleAudit -l provides the means for you to remove or truncate log files according to your needs.

CandleAudit -l only takes action on those log files that are stored in the $candlehome/logs subdirectory for the $candlehome in which it is executed.

**Note:** IBM recommends that you run this command during off hours as, depending on your environment, it may be time and resource consuming. IBM recommends that you run CandleAudit to trim or delete files only when the agent is not running.

**Syntax**

To manage log files in the logs subdirectory of a $candlehome, execute one of the following commands:

```
./CandleAudit [-h $candlehome] [-c] -l age [LOGDAYS]
./CandleAudit [-h $candlehome] [-c] -l size [LOGSIZE]
./CandleAudit [-h $candlehome] [-c] -l both [LOGDAYS LOGSIZE]
```

where the following are the variables:

Table 41. Arguments for the CandleAudit Command

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-c</td>
<td>(optional) Used to send the results of the command to the console (monitor)</td>
</tr>
<tr>
<td>-h</td>
<td>(optional) Used to specify $candlehome if not defined in the current environment</td>
</tr>
<tr>
<td>-l</td>
<td>Used to run the log management function</td>
</tr>
<tr>
<td>age</td>
<td>Used to remove all log files that are older than a specified number of LOGDAYS. Age is determined by the last modification date. The default age is thirty (30) days.</td>
</tr>
<tr>
<td>size</td>
<td>Used to trim log files to LOGSIZE kilobytes. Trimming starts from the top of the file (oldest entries first). The default size is 1024 kilobytes.</td>
</tr>
<tr>
<td>both</td>
<td>Used to first remove log files older than LOGDAYS days and then to trim the remaining log files to LOGSIZE kilobytes</td>
</tr>
</tbody>
</table>

**Note:** The GUI version of CandleAudit is available by selecting Options > Manage Log Files in the Manage Candle Services window. See “Managing Log Files” on page 116.
Using cinfo to Show Product Information

Description

cinfo is intended to be an acronym for CandleI NFOrmation. The script, which resides in $candlehome/bin with all the other scripts, allows you to do the following:

- Show the running IBM Tivoli processes (such as agents or CMS)
- Show an inventory of installed IBM Tivoli products
- Show configuration settings for products
- Show the installed CD versions in the current $candlehome
- Show the configuration settings for products in the context of the actual variables used by the installer
- Show the running IBM Tivoli processes, after first performing an update on the tracking database, to remove stale PIDs (processes logged as running but not found when attempting to verify using the "ps" command)

Syntax

From the $candlehome/bin directory, execute the following command:

```
```

where the following are the variables:

Table 42. Options for the cinfo Command

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-c</td>
<td>(optional) Displays configuration prompts and values for the product</td>
</tr>
<tr>
<td>pc</td>
<td>The product code of the agent. You can specify one or more products to start or stop. If multiple products, you must separate the product codes with either a space or comma as illustrated above. See “IBM Tivoli Product Codes” on page 225 for a list of product codes.</td>
</tr>
<tr>
<td>-h</td>
<td>(optional) Used to specify $candlehome if it is not the one in which the script is located. Also use this option to take action on a $candlehome other than the $candlehome in the current system.</td>
</tr>
<tr>
<td>$candlehome</td>
<td>A home directory created for the installation of the OMEGAMON Platform and CandleNet Portal</td>
</tr>
<tr>
<td>-i</td>
<td>(optional) Displays an inventory of installed products</td>
</tr>
<tr>
<td>-r</td>
<td>(optional) Shows running processes</td>
</tr>
<tr>
<td>-v</td>
<td>Shows the installed CD versions in this $candlehome</td>
</tr>
<tr>
<td>-s</td>
<td>(optional) Displays configuration parameters and settings for the product</td>
</tr>
</tbody>
</table>
Table 42. Options for the cinfo Command (continued)

<table>
<thead>
<tr>
<th>pc</th>
<th>all</th>
<th>Specifies the agent you want to take action on</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>To get information on a specific agent, include the product code of the agent in the command. Only one product code can be specified at a time. See “IBM Tivoli Product Codes” on page 225.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If you want all products, use all instead of the product code.</td>
</tr>
</tbody>
</table>

The command can also be invoked without a menu, so the four numbered options above can be invoked by the following commands:

- cinfo -i
- cinfo -r
- cinfo -c pc
- cinfo -v

Enter the following:

```
cinfo -?
```

That will display the following help:

```
       -c <product> Displays configuration prompts and values
       -i Displays an inventory of installed products
       -r Shows running processes
       -s <product> Displays configuration parameters and settings
       -R Shows running processes, after updating a tracking database
       -v Shows the installed CD versions in this CandleHome
       -p <product> Shows associated platform codes for specified produ
```

**Sample output of the script options**

1. Enter the following to show installed products:

```
cinfo -i
```
Using cinfo to Show Product Information

That will display the following:

```
...Product inventory
ax Candle Shared Libraries
   aix433 Version: 350 Rel: 260
cf CMS Configurator
   aix433 Version: 370 Rel: 113
ms Candle Management Server
   aix433 Version: 350 Rel: 260
tv Tivoli Enterprise Console Alert Adapter
   aix433 Version: 250 Rel: 212
vt Tivoli Enterprise Console Alert Emitter
   aix433 Version: 250 Rel: 212
```

2. Enter the following to show running processes:

```
/cinfo -r
```

That will display the following:

```
Host   Prod   PID   Owner   Start      ID ..Status
manta  mq     104254 longl 07:48:13 larry ..running
manta  mq     44270   longl 07:48:13 moe ** process not running **
manta  mq     79456   longl 07:48:27 curley ..running
```

3. Enter the following to show configuration settings:

```
/cinfo -c vt
```

That will display the following:

```
Configuration    Setting
vt default "Secondary CMS Protocol 2 " = none
vt default "Network Protocol 2 " = none
vt default "Secondary CMS Protocol 3 " = none
vt default "Network Protocol 3 " = none
vt default "Secondary CMS IP.PIPE Port Number " = 1918
vt default "Secondary CMS Log Mode " = LOGMODE
vt default "Secondary CMS LU Name " = LUNAME
vt default "Secondary CMS Net Name " = CANDLE
vt default "Secondary CMS IP Port Number " = 1918
vt default "IP.PIPE Port Number " = 1918
vt default "Log Mode " = LOGMODE
vt default "LU Name " = LUNAME
vt default "Net Name " = CANDLE
vt default "Network Protocol [ip, sna, or ip.pipe] " = ip
vt default "IP Port Number " = 1918
vt aix433 "Secondary CMS Protocol 2 " = none
vt aix433 "Network Protocol 2 " = none
vt aix433 "Secondary CMS Protocol 3 " = none
vt aix433 "Network Protocol 3 " = none
vt aix433 "CMS Host Name " = goby
vt aix433 "Secondary CMS IP.PIPE Port Number " = 1918
vt aix433 "Secondary CMS Log Mode " = LOGMODE
vt aix433 "Secondary CMS LU Name " = LUNAME
vt aix433 "Secondary CMS Net Name " = CANDLE
vt aix433 "Secondary CMS IP Port Number " = 1918
vt aix433 "IP.PIPE Port Number " = 1918
vt aix433 "Log Mode " = LOGMODE
vt aix433 "LU Name " = LUNAME
vt aix433 "Net Name " = CANDLE
vt aix433 "Network Protocol [ip, sna, or ip.pipe] " = ip
vt aix433 "IP Port Number " = 1918
```

4. Enter the following to show installed CD versions:

```
/cinfo -v
```
That will display the following:

```
Installed CD release versions in this Candlehome
..  ctv360a3CD
..  detected possible 99Rx version directories
..  detected possible 99Rx version directories
```

### Advanced options

**[ -s ] Displaying the configuration parameters and settings**

This is somewhat similar to the [-c] option, but rather than showing the prompts for a configuration setting, it shows the variable used by the installer to store the setting.

This is considered an advanced option (not listed in the default menu) because many customers will not know about the installer variable names. This is primarily provided as a tool for the IBM Tivoli SE.

A sample output looks like the following:

```
Platform    Parameter=Setting
um          aix513  ARCHITECTURE = aix513
um          aix513  CANDLEHOME = /users/longl/inst/01r1g1
um          aix513  CELLNAME = CANDLE
um          aix513  PRODUCTCODE = um
um          aix513  PORTNUMBER = 3141
um          aix513  DATAPROVIDER = ASFS
um          aix513  NETWORKPROTOCOL = ip
um          aix513  NETNAME = CANDLE
um          aix513  LUNAME = LUNAME
um          aix513  LOGNAME = LOGMODE
um          aix513  BINARCH = aix513
um          aix513  HOSTNAME = manta
um          aix513  COMMENT = #
um          aix513  PRIMARYIP = none
um          aix513  IPPIPEPORTNUMBER = 1918
um          aix513  HSNETNAME = CANdle
um          aix513  HSLUNAME = LUNAME
um          aix513  HSLOGMODE = LOGMODE
um          aix513  HSPORTNUMBER = 1918
um          aix513  HSIPPIPEPORTNUMBER = 1918
um          aix513  BK1NETWORKPROTOCOL = none
um          aix513  BK2NETWORKPROTOCOL = none
um          aix513  BK1HSNETWORKPROTOCOL = none
um          aix513  BK2HSNETWORKPROTOCOL = none
um          aix513  CMSCONNECT = YES
um          aix513  FIREWALL = NO
um          aix513  FTO = NO
```

**[-R] Showing running processes after updating the tracking database**

All started IBM Tivoli processes started and stopped by IBM Tivoli commands are logged in a tracking database that does not automatically update itself if the process abnormally terminates or is stopped without using an IBM Tivoli command (for example, using the UNIX "kill" command directly on the process). The [-r] option normally shows even these defunct processes in its report. In contrast, the [-R] option updates the tracking database prior to reporting the results. This results in a cleaner report, but permanently erases the history of processes normally kept in the tracking database. The output of the [-R] option looks the same as the [-r] option, but any process not running messages will be absent.
Use of product codes

Some options accept a product code. For example, displaying the configuration settings [-c] or [-s] normally displays the settings for all installed products on all platforms. The following are considerations for using product codes:

- You can restrict the output to only a single product by adding the product code. For example, ./cinfo -c mq will only display the settings for the IBM Tivoli OMEGAMON XE for WebSphere MQ Monitoring agent.

- Likewise, on the following menu, you could enter 3 mq to do the same:

```
-- CINFO Menu --
1) Show products installed in this CandleHome
2) Show which products are currently running
3) Show configuration settings
4) Show installed CD release versions
X) Exit CINFO
```

- Only one product code is allowed, if any is entered at all, but you can also use “all” to display the values for all of the installed products, as in /cinfo -c all.

- Likewise, from the menu you could enter 3 all.

Output redirection

cinfo output can be directed to a file in case you or a IBM Tivoli SE needs to E-mail the information. For example, to output to a file called products.txt, enter ./cinfo -i > products.txt.
Using CandleExecute to Run Previously Defined Scripts or Commands

CandleExecute is used to run a user's script or command when its execution requires the same environment settings as for a particular IBM Tivoli product. CandleExecute does this by building the necessary environment settings for the intended script or command, and then combines them into a temporary shell script before executing it.

The process is similar to how the CandleAgent command processes an agent startup, but unlike CandleAgent, CandleExecute does not spawn a subshell to execute the script before deleting the script. Instead, CandleExecute sources the temporary shell script (in $candlehome/config/pc.sh so that the environment settings become available to the current shell, from which the user command is then also executed as the last instruction.

CandleExecute must run on the platform architecture for which the agent is installed.

To use this command, makes sure that you are in the right directory. Enter the following command:

```
cd $candlehome/bin
```

where the variable $candlehome is the location where you installed your IBM Tivoli software.

**Syntax**

Enter the following command:

```
./CandleExecute [-h $candlehome] [-k] pc [command]
```

where the following are the variables:

<table>
<thead>
<tr>
<th>Table 43. Options for the CandleExecute Command</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>pc</strong></td>
</tr>
<tr>
<td><strong>command</strong></td>
</tr>
<tr>
<td><strong>-k</strong></td>
</tr>
<tr>
<td><strong>-h</strong></td>
</tr>
<tr>
<td><strong>$candlehome</strong></td>
</tr>
</tbody>
</table>
Verifying Processes

As you start and stop components of the OMEGAMON Platform and CandleNet Portal, you may want to verify that the processes associated with that component started or stopped successfully. To do so, check for the existence of log files.

Log files

When a process is started, a log file is created to record the activity of the process. When the component stops, using the appropriate command, the log is saved as part of the normal shut down process.

**Note:** When you issue most IBM Tivoli commands, you can set the `-l` option to delete the log unconditionally.

Log file naming format

In the past, log file names were based on the process ID (pid) of the process, for example, `zola_ux_47598.log`. Due to several technical issues, a naming convention to uniquely identify the log file has been instituted using a time stamp instead. This results in a long number at the end of the log file name which is actually an encoded time stamp.

Additionally, you will notice that there are actually two files generated for each execution of an agent, for example, “zola_ux_952453434.log” and “zola_ux_952453434.pid47598“.

The second (empty) file is generated to link the date and time stamp with the real process ID of the agent. This allows you to easily identify the true log file for a particular process by completing a simple “ls” command.

Verifying that the command executed successfully

To verify that the process or executable associated with the component has started or stopped, look for a log file. Perform the following procedure:

1. Change to the `$candlehome/logs` directory.
2. List the files in the directory.
3. Look for the appropriate log file. The name should mirror that of the corresponding lock file `host_pc_timestamp.log`, where the following are the variables:

<table>
<thead>
<tr>
<th>Table 44. Parameters of Lock File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>host</td>
</tr>
<tr>
<td>pc</td>
</tr>
<tr>
<td>timestamp</td>
</tr>
</tbody>
</table>

4. If there is not a log file, either of the following has happened:
   - The process never started.
   - The `-l` option was specified to delete the log file.
5. Check the contents of the log for more information.
Silent Installations

UNIX input redirection is used to perform a silent install in command line mode. Basically you must provide, in advance, all the correct responses to the normal command-line installation prompts. This can be difficult without actually running the command-line installation interactively at least once and capturing the responses. The installation will vary by CD release, platform and applications selected to install.

The following are two ways to invoke the silent install:

- Use input redirection from an input text file.
- Use in-line input redirection.

Either way you will need to capture (or note) the required responses.

Capturing responses from an initial command-line installation

To capture responses from initial command-line installation, perform the following procedure:

1. Start a UNIX Command Shell.
2. Enter the following to start UNIX capture mode:
   ```
   script capture1.txt
   ```
3. Change to the directory containing the installation image (where install.sh reside).
4. Enter
   ```
   ./install.sh -h $candlehome –q
   ```
   where the following are the variables:

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-h</td>
<td>(optional) Used to specify $candlehome. If you do not include -h, and do not have an environmental variable named $candlehome present, install.sh prompts you for the installation directory. Also use this option to take action on a $candlehome other than the $candlehome in the current system.</td>
</tr>
<tr>
<td>$candlehome</td>
<td>A home directory created for the installation of the OMEGAMON Platform and CandleNet Portal</td>
</tr>
<tr>
<td>-q</td>
<td>Bypasses the installer display of the license agreement. You are automatically accepting the terms of the license.</td>
</tr>
</tbody>
</table>

5. Complete the command line installation as described in the latter steps of “Using install.sh to Install from CD” on page 123.
6. Enter exit.

The message Script command is complete. The file is capture1.txt will display to indicate that capture mode is no longer active.
Silent Installations

Generating the set of responses required for silent command-line installation

To generate the set of responses required for silent command-line installation, perform the following steps:

1. Start a UNIX Command Shell.
2. Create and edit the file /tmp/response1.txt.
3. Edit the file to reflect each of the installation prompt responses from “Capturing responses from an initial command-line installation” on page 146. Refer to capture1.txt to ensure that you are entering the correct values.
4. End the edit session.

The following is an example of the /tmp/response1.txt file:

Note: The third line is blank.

```
Y
2

Y
5 12 17 18 19
Y
cn1
candle
n
```

5. Create and edit the file /tmp/response1.sh.
6. Copy /tmp/response1.txt into it.
7. Insert the same command used to run the initial install in Step 4. on page 146.
8. At the end of this line, enter `<< EOF`.
9. At the end of the file, append a line and enter `EOF`.
10. End the edit session.
11. Set /tmp/response1.sh as executable by entering `chmod o+x /tmp/response1.txt`.

The following is an example of the /tmp/response1.txt file:

Note: The third line is blank.

```
./install.sh -h $CANDLEHOME -q << EOF
Y
2

Y
5 12 17 18 19
Y
cn1
```
Silent Installations

Note: These response files may only be used for similar installations onto the same level of the operating system and having the same initial content of the installation directory. For example, if the initial install was done into a new or empty directory, then these response files can only be used to install into a new or empty directory. Installations may be done on the same machine into different directories, or on different machine at the same operating system level.

Silent installation using input redirection from a file

To perform a silent installation using input redirection from a file, do the following:

1. Start a UNIX Command Shell.
2. Change to the directory containing this installation (where install.sh resides).
3. Enter the following:
   
   ```bash
   ./install.sh -h $candlehome -q < /tmp/response1.txt
   ```
   
   Ensure that the variable $candlehome is set before running this command.
4. Compare the results of this installation with the results in capture1.txt to ensure that the response file is correct.

Post-installation operations which require root user authority

Certain applications need a few post-installation operations which require root user authority. Root passwords are not read from and cannot be included in the response.txt file for security reasons and must be entered manually from the console window where the installation is being performed. Enter the password to have these operations automatically performed, or if you want to skip these operations, press Enter twice to complete the installation and run the SetPerm script later to complete the root-required operations.
Additional Configuration Steps

The following additional configuration may be required:

- For the CMS. See “Additional CMS Configuration on UNIX” on page 169.
- Checking file permission settings. See “File Permission Requirements” on page 111.

**Note:** To install a CandleNet Portal or other product on Windows, see “Installation and Basic Configuration Steps on Windows” on page 67.
Introduction


The instructions in this chapter assume that you have installed and configured the CMS using the procedure in “Configuring the CMS” on page 74.

The instructions in this chapter also assume that you have a basic understanding of SOAP, XML and XML Namespaces, and the Web Services Description Language (WSDL).

For complete information about customizing the SOAP interface for your site, refer to Administering OMEGAMON Products: CandleNet Portal.

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Verifying the Configuration........................................... 155
In this step you will use the Manage Candle Services dialog box to activate the SOAP server and define hubs with which the SOAP server may communicate.

Follow these steps:

1. From the Windows Start button, open the Manage Candle Services window. Select Programs > Candle OMEGAMON XE > Manage Candle Services. The Manage Candle Services window opens, showing the IBM Tivoli components you have installed.

2. Right-click Candle Management Server, and select Advanced from the pull-down menu.

3. Select Configure SOAP Server Hubs. The SOAP Server Hubs Configuration dialog box is displayed.

4. Click Add Hub.... The Hub Specification dialog box is displayed:

5. Select the communications protocol from the Protocol drop-down menu.

6. Type an alias name in the Alias field (For example: SOAP).

7. Do one of the following:
   - If you are using IP or IPPipe communications, specify the following:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hostname or IP Address</td>
<td>The host name or TCP/IP or IPPipe address of the host (machine issuing requests to the SOAP Server)</td>
</tr>
<tr>
<td>Port Number</td>
<td>The TCP/IP or IPPipe listening port for the host (machine issuing requests to the SOAP Server)</td>
</tr>
</tbody>
</table>
   | Note:                      | Make sure both the CMS and the host are not configured to use port 1920. That is the port number usually reserved for HTTP communications.
   |                            | In addition, if you are using IPPipe communications, the port number for the host must be the same as the port number that you configured for the hub CMS. See the table “Communication Settings for this CMS” on page 75. |

   - If you are using SNA communications, specify the following:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Name</td>
<td>Your site’s SNA network identifier.</td>
</tr>
<tr>
<td>LU Name</td>
<td>The LU name for the CMS. This LU name corresponds to the Local LU Alias in your SNA communications software</td>
</tr>
</tbody>
</table>
8. Click OK.

The server tree is displayed.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LU6.2 LOGMODE</td>
<td>The name of the LU6.2 logmode</td>
</tr>
<tr>
<td></td>
<td>Default: <strong>CANCTDCS</strong></td>
</tr>
<tr>
<td>TP Name</td>
<td>The Transaction Program name for the CMS</td>
</tr>
</tbody>
</table>
Adding Users

In this step you will define users on each hub and specify each user’s access rights (query or update).

Perform the following procedure:

1. Select the server (click anywhere within the server tree displayed), if necessary.
2. Under Add User Data, enter the user name.
   User IDs must be identical to those specified for CMS logon validation. Access is restricted to only that CMS to which a user has access.

   Note: If no user IDs are supplied, all users will be given permission to update data.
3. Click the type of user access (Query or Update).
4. Click Add User.
   The server tree is updated, showing the user and type of access.
5. To delete a user, select the user name from the tree and click Delete Item.
6. To delete a hub, click anywhere within the hub’s tree and click Clear Tree.
Verifying the Configuration

In this step you will verify that SOAP has been properly configured by starting the SOAP client and making a request using the command line utility kshsoap.

Perform the following procedure:

1. At a command prompt, change to the c:\candle\cms directory.

2. In the current directory, create a Notepad file named SOAPREQ.txt containing one of the following SOAP requests:
   - `<CT_Get><object>ManagedSystem</object></CT_Get>
   - If security has been enabled,
     `<CT_Get><userid>logonid</userid><password>password</password>
     <object>ManagedSystem</object></CT_Get>

3. Create another Notepad file named “URLS.txt” containing URLs that will receive the SOAP request, for example, containing http://hostname:1920///cms/soap.

4. Enter the following command:

   kshsoap SOAPREQ.txt URLS.txt

   (SOAPREQ.txt is the name of the file that contains the SOAP request and URLS.txt is the name of the file that contains the URLs.)

   The kshsoap utility processes the SOAPREQ.txt file and displays the output of the SOAP request in the DOS window. The SOAP request is sent to each URL listed in URLS.txt, and the SOAP response from each URL displays in the DOS window.

   For complete information about using the SOAP interface, refer to Administrating OMEGAMON Products: CandleNet Portal.
Verifying the Configuration
Introduction

This chapter discusses how and when to use the advanced configuration options for a CMS on Windows: enablement of security, Hot Standby, the Candle System Backup and Restore Utility, and unattended installation and configuration.

Chapter contents

- Enabling Security (optional) ................................................................. 158
- Hot Standby Feature (optional) .......................................................... 160
- Candle System Backup and Restore Utility ........................................... 164
- Unattended (Silent) Installations .......................................................... 167
- CMS Name (seeding error 171) ......................................................... 168
Enabling Security (optional)

This step applies only to the hub CMS if it was or will be configured for Security: Validate User, as referred to in Step 7 of “Configuring the CMS” on page 74, which requires users to enter a password as part of the user ID when logging on to CandleNet Portal or the CMW.

How security works

Initially, the CandleNet Portal Server has only one valid user ID, “sysadmin”. This enables the administrator to log on and create other users.

If you are using the CMW, the first user who connects to a new CMS becomes the default CMW system administrator. After that initial logon, any CMW user who is authorized to add CMW users can do so using the CMW Administration > Users folder.

If you want users to also enter a password, the same user IDs must be added to the user accounts on the network domain or on the host where the CMS is installed.

Enforcing logon validation

Perform the following procedure:

1. Create a Windows user ID for each CandleNet Portal or CMW user ID. Consider the following:
   - The Windows user ID must exactly match the CMS user ID.
   - On a Windows hub CMS: Windows user IDs are validated by the Microsoft WIN32 LogonUser API which checks the user ID and password in the following sequence:
     A. With the local machine
     B. With the domain controller if the local machine is part of a domain
     C. With any domain controller that has established a trusted relationship with the local domain
   Regardless of where you define the Windows user ID used for logging on to a Windows hub CMS, no Administrator authority is required. The minimum requirement is the user ID must be granted the “Log on locally” user rights policy on the hub CMS machine. Refer to your Windows documentation to learn how to configure security.

2. Once you have configured the CMS with security turned off, log onto the CMW and create at least one valid CMW user ID for this CMS.

3. Reconfigure the CMS to enable security. Perform the following procedure:
   1. On the machine where the CMS is installed, select Start > Programs > Candle OMEGAMON XE > Manage Candle Services.
   2. Right-click Candle Management Server and select Reconfigure from the pop-up menu.
   3. In the Candle Management Server Configuration dialog box, check Security: Validate User, then click OK.
4. Restart the CMS.
Hot Standby Feature (optional)

The Hot Standby feature lets you define a standby hub CMS. If the primary CMS hub should fail, OMEGAMON Platform will automatically switch hub functions to the standby hub.

The standby hub must be installed on UNIX, Windows XP Professional Edition, or Windows 2000. OMEGAMON Platform automatically reconnects all remote CMSs, agents, and CMWs to the standby hub.

Activation of this feature is only necessary in enterprises that must maintain 24 X 7 uptime.

How Hot Standby works

Hot Standby switches remote agents, CMSs, and CMWs to the Hot Standby in the following instances:

- When there is a failure on the acting primary hub CMS
- When the switch is initiated by a user on a CMW

There is no automatic switch done when the primary comes back up. Hot Standby expects the primary CMS hub and the alternate (Hot Standby) CMS hub to be at the same capacity. Internally Hot Standby considers them peers and doesn’t distinguish in terms of a primary and a secondary. Rather it handles them as acting-primary and acting-secondary. Both CMS hubs will alternate between being acting-primary and acting-secondary.

By default the algorithm that Hot Standby follows to determine which is the acting-primary CMS hub is to query the two CMSs to determine how long they have been up. The CMS hub that has been up the longest wins. There could be cases where your CMW is connected to a CMS which it thinks is the primary at a given time. This can happen for example when there is a disconnection between the primary and secondary or even during startup. In such cases when the Hot Standby tasks reconnect to their peers they make an independent determination as to who should be the acting-primary and acting-secondary. The algorithm above is followed.

Setting up Hot Standby

Perform the following tasks to successfully implement the Hot Standby feature:

Task 1: Installing CMS software

Before you can configure one CMS hub to be a Hot Standby for another CMS hub, install and configure the necessary CMS software on both machines.

Install and configure the CMS software on the second machine exactly as you did on the first, however, each CMS must always have a unique CMS name (the term “mirror CMS” encapsulates this concept). Insure that attributes and catalogs are at the same level on both the primary and alternate CMS hubs before proceeding.
**Task 2: Configuring each CMS for Hot Standby**

Configure the Hot Standby option on the primary CMS hub, the alternate CMS hub, and on all remote CMSs that reports to the primary CMS hub.

*Note:* The primary and alternate CMS hubs should be configured to be mirrors of each other.

Perform the following procedure from the Manage Candle Services window:

1. Highlight the CMS in the dialog box.

2. Right-click and select **Reconfigure** from the menu.

The Candle Management Server Configuration dialog box is displayed.

3. Select **Configure Standby CMS** and select the sequence of protocols to match the sequence of protocols on the left side of the dialog box.

4. Click **OK** and then **OK** again in the dialog box that displays to proceed to the next configuration dialog box.

One of the following will occur:

- If you chose a hub type CMS, the Hub CMS Configuration dialog box is displayed.
- If you chose a remote type CMS, the Remote CMS Configuration dialog box is displayed.

5. Click **OK**.

The CMS Configuration for Hot Standby dialog box displays.

6. Type a hostname or IP address that is different from the hostname or IP address assigned to the CMS on the first machine, and click **OK**.

**Task 3: Configuring tables to be replicated, if necessary**

Certain IBM Tivoli applications require you to configure the CMS tables that will be replicated when the Hot Standby is initiated. For these applications, the tables must be selected in advance. None are selected by default. To check, perform the following procedure:

1. Use the CMW to log on to the primary CMS.

2. From the Managed Systems - Details View, select the CMS, right-click and select the **Migrate Tables** action.

3. The Copy tables to CMS dialog box is displayed.

4. Select from the list of eligible tables, the tables to be copied to the backup CMS when the Hot Standby operation is performed.

**Task 4: Configuring agents**

Configure the Hot Standby option on all agents that connect to the primary CMS hub. Perform the following procedure from the Manage Candle Services window:

1. Highlight the agent.

2. Right-click and select **Reconfigure** from the menu.
The Agent Configuration Defaults dialog box is displayed.

3. Click **Configure Backup CMS** and fill in the appropriate configuration values for the alternate CMS hub on Windows 2000.

This dialog box is mentioned in “Configuring the CMS” on page 74.

**Task 5: Configuring the CMW**

Perform the following procedure:

1. In the Hot Standby tab of the Candle Management Workstation - Startup dialog box, type in the names of the primary and Hot Standby CMSs.

   ![Hot Standby Configuration Dialog](image)

   The Managed System Name is the CMS name you supplied on the first dialog box described in “Configuring the CMS” on page 74.

   If the Primary and Standby fields of this dialog box are left blank, then the Switch Hub action cannot be performed.

2. To have the CMW restart automatically after a takeover and connect to the secondary CMS, check the box at the bottom of the window.

   **Note:** The information you supply on this dialog box is associated with a logon profile.
3. In the CMS tab of the Candle Management Workstation - Startup dialog box, type in the information necessary to communicate with both the primary and Hot Standby CMS hubs.

![CMS Configuration Screen]

**Task 6: Testing Hot Standby**

The control to manually initiate the Hot Standby feature is accessed from the CMW Managed Systems container.

Perform the following procedure:

1. After all Hot Standby configuration is implemented, use the CMS to log on to the primary CMS.

2. From the Managed Systems - Detail View, select a CMS, right-click and select the **Switch Hub** action.

   **Note:** *Both the alternate and the primary CMS hubs must be running.*
Candle System Backup and Restore Utility

The Candle System Backup and Restore Utility is an IBM Tivoli Windows 2000 tool that backs up your IBM Tivoli registry entries and can be used to perform the following two distinct tasks:

- **Perform push installs.** This means the utility provides a convenient way to replicate OMEGAMON Platform (version 360) from an image installed and configured on one machine. For example, a typical use would be to replicate 3 or 4 identical CMW setups.

- **Back up your OMEGAMON Platform (version 360) image then select an instance, from among two or more instances of OMEGAMON Platform installed in different directories on the same machine, to make it the active instance.** For example, you could switch between version 360 and version CT300 of OMEGAMON Platform.

**Note:** This utility does not back up the CandleNet Portal Server database and presentation files. For details, see the CandleNet Portal Migration chapter in “Administering OMEGAMON Products: CandleNet Portal.”

CCC versions supported with this utility

The Candle System Backup and Restore Utility works with only versions CT200 98R2 or above of CCC.

Always use the latest version of the Candle System Backup and Restore Utility, in this case, the one that is installed when you install OMEGAMON Platform (version 360).

Rules for replicating

Adhere to the following rules to successfully replicate OMEGAMON Platform on a Windows 2000 image from one machine to another:

- **Machine number 2 (and 3, and 4, etc...) must be configured exactly like machine number 1 (the machine on which you create the original image).**

- **Machines must use the same directory names, such as OMEGAMON Platform directory names, Windows system directory names, and default directory names used by various agents.**

  For example, if the OMEGAMON Platform is installed into C:\Candle on machine number 1 then it must be installed into C:\Candle on all machines. (It is always a good idea to use the default names.)

- **Install on machine number 1 exactly (and only) the products that you want to replicate.**

Other requirements for replicating

You will need a 32-bit zip utility capable of handling long filenames.
Replicating an OMEGAMON Platform instance to one or more machines

Once you have installed and configured an image of a CMS (or any OMEGAMON Platform (version 360) image on Windows XP Professional Edition or Windows 2000) that you want to replicate, perform the following procedure to copy it to another machine:

1. Using Explorer or a similar utility, go to the \INSTALL subdirectory of the directory where you installed the OMEGAMON Platform software directory, for example, C:\Candle35\INSTALL.
2. Run the Kinregbu.exe program.
   The Candle System Backup and Restore Utility dialog box displays.
3. Select the Backup option and click OK.
   This ensures that your most recent customizations are preserved.
4. On the same machine, go back to the root directory where you downloaded the OMEGAMON Platform software, for example, C:\Candle35.
   Use a 32-bit zip utility to zip up the entire directory. Be sure to include all subdirectories and preserve the directory structure in the zip file you create.
5. Transport the zip file to the new machine. Use the same 32-bit zip utility to unzip the file (preserving the same directory structure).
6. Using Explorer or a similar utility, go to the \INSTALL subdirectory of the directory where you installed the OMEGAMON Platform software directory, for example, C:\Candle35\INSTALL.
7. Run the Kinregbu.exe program.
   The Candle System Backup and Restore Utility dialog box displays.
8. Choose the Restore option and click OK.
9. Reboot the machine. This completes the replication process.

Running multiple OMEGAMON Platform releases on a single machine

IBM recommends running only one release of OMEGAMON Platform per machine. This is called the active instance. However, if you have enough space, you can install an additional OMEGAMON Platform into a different directory.

For example, you might already have OMEGAMON Platform (version 350) running at your site that you wish to retain. If you have the disk space, you can install OMEGAMON Platform (version 360) into a different directory, instead of upgrading (installing over) your previous version.

Note: Since previous versions of CCC did not support this capability, the sequence of installed versions is very important. Always install the lower version of CCC first.

When you install OMEGAMON Platform (version 360) into a new directory on a machine with an older version installed in another directory, the version 360 installation process backs up the existing registry values and removes them from the registry, then updates the registry with the version 360 registry values. It also backs up and removes the previous release’s Program folder.
To continue the example of maintaining both OMEGAMON Platform (version 360) and an older version on the same machine—after installing and configuring OMEGAMON Platform (version 360), follow these steps to switch back to the previous version.

1. Using Explorer or a similar utility, go to the \INSTALL subdirectory of the directory where the previous release resides, for example, C:\Candle\INSTALL.

2. Run the Kinregbu.exe program.

   The Candle System Backup and Restore Utility dialog box displays.

3. Select the **Switch** option and click **OK**.

   The Utility backs up the registry values of the active OMEGAMON Platform (in this case, OMEGAMON Platform (version 360)) and removes them from the registry. The Program folder for version 360 is also backed up and removed.

   The Utility updates the registry with the previous release’s registry values and activates the previous release.

4. Reboot the machine. This completes the restore process.
Unattended (Silent) Installations

Included on the OMEGAMON Platform and CandleNet Portal product CD, in the WINDOWS subdirectory, is a file called SILENT.TXT. This is a driver file for silent (unattended) installation and configuration of OMEGAMON Platform (version 360) products that run on Windows XP Professional Edition or Windows 2000.

Complete instructions for using this file are contained within it. SILENT.TXT is provided for sites that want to distribute OMEGAMON Platform using a system management tool, such as Microsoft's SMS or Tivoli.

After any silent installation is completed, additional configuration may be required. See the configuration instructions in SILENT.TXT for more detail.
This error message generally occurs when a CMS is not up and running or perhaps the wrong "CMS Name" was keyed in—often users enter the host name instead of the CMS name.

**Where to find the CMS name?**

On distributed systems, the hub CMS Name is assigned to CMS_NODEID. If the hub CMS executes on Windows, you can view this value by right-clicking the CMS in the Manage Candle Services window and selecting **Browse Settings**.
Introduction

This chapter describes the advanced procedures available to configure a CMS on UNIX.

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Setting Permissions for a Non-NIS Solaris CMS

These permissions must only be set on a CMS that runs on a non-NIS system. You should not have to modify permissions for CMSs on NIS AIX, HP-UX, or Solaris systems.

Procedure

Set permissions for a CMS on a non-NIS Solaris system. Perform the following procedure:

1. Go to the CMS bin directory where kdsvlunx is located ($candlehome/arch/ms/bin, where the variable arch is the operating system on which the CMS was installed. See “IBM Tivoli Product Codes” on page 225.)

2. Change the su to root if you have the root password. Otherwise obtain the password from an administrator. Enter the following commands:

   chown root kdsvlunx
   chmod u+s kdsvlunx

3. Return to your regular ID once you have changed the su to root.
CMS Name (seeding error 171)

This error message generally occurs when a CMS is not up and running or perhaps the wrong "CMS Name" was keyed in—often users enter the host name instead of the CMS name.

Where to find the CMS name?

On distributed systems, the hub CMS Name is assigned to CMS_NODEID. If the hub CMS executes on UNIX, this value is visible in the KBBENV file located in the $candlehome/tables/cms_name subdirectory, where the following are the variables:

- $candlehome = the home directory for the installation.
- cms_name = the name of the folder created for the CMS during installation.
Hot Standby Operation (optional)

The Hot Standby feature lets you define a standby hub CMS. If the primary hub CMS should fail, the OMEGAMON Platform automatically switches hub functions to the standby hub.

The standby hub must be on the same platform type (operating system) as the primary hub. OMEGAMON Platform automatically reconnects all remote CMSs, agents, and CMWs to the standby hub.

Activation of this feature is only necessary in enterprises that must maintain 24 x 7 uptime.

How Hot Standby works

Hot Standby switches remote agents, CMSs, and CMWs to the standby in the following instances:

- When there is a failure on the acting primary hub CMS
- When the switch is initiated by a user on a CMW

There is no automatic switch done when the primary comes back up. Hot Standby expects the primary hub CMS and the alternate (standby) hub CMS to be at the same capacity. Internally, Hot Standby considers them peers and doesn’t distinguish in terms of a primary and a secondary. Rather it handles them as acting-primary and acting-secondary. Both hub CMSs will alternate between being acting-primary and acting-secondary.

By default the algorithm that Hot Standby follows to determine which is the acting-primary hub CMS is to query the two CMSs to determine how long they have been up. The hub CMS that has been up the longest wins. There could be cases where your CMW is connected to a CMS which it thinks is the primary at a given time. This can happen for example when there is a disconnect between the primary and secondary or even during startup. In such cases when the Hot Standby tasks reconnect to their peers they make an independent determination as to who should be the acting-primary and acting-secondary. The algorithm above is followed.

Setting up Hot Standby operation

To successfully implement the Hot Standby feature, make sure that the following items are true:

- The Hot Standby option is configured on the primary hub CMS.
  On each CMS, use the Manage Candle Services window to access the Candle Management Server Configuration dialog box.

  Note: The primary and standby hub CMSs must be configured to be backups for each other.
  For dialog box instructions see “CMS Configuration Changes” on page 107.
- Both the primary and standby hub CMSs must be running.
Seed data (attribute and catalog files) must be at the same level at both the primary and standby hub CMSs.

You must configure the CMS tables that will be replicated when the Hot Standby option is initiated, by selecting them in advance. None are selected by default. This control is accessed from the CMW Managed Systems container. Use the following procedure to configure the CMW Hot Standby option:

A. Log on to the primary CMS.
B. From the Managed Systems - Detail View, select the CMS, right-click and select the Migrate Tables action.
   The Copy tables to CMS dialog box is displayed. On this dialog box you can select from the list of eligible tables, the tables to be copied to the backup CMS when the Hot Standby operation is performed.
C. Fill in the Hot Standby tab of the CMW - Startup dialog box with the names of the primary and Hot Standby CMSs.
   If the Primary and Standby fields of this dialog box are left blank, then Hot Standby Operation cannot be performed.
D. To have the CMW restart automatically after a takeover and connect to the secondary CMS, check the box at the bottom of the window.

Testing Hot Standby

The control to manually initiate the Hot Standby feature is accessed from the CMW Managed Systems container.

Perform the following procedure:

1. After all Hot Standby configuration is implemented, logon to the primary CMS.
2. From the Managed Systems – Detail View, select a CMS.
3. Right-click and select the Switch Hub action.
Overview

This version of OMEGAMON Platform supports firewalls using the ip.pipe communications protocol which supports address translation. Agents connecting to the CMS must use the ip.pipe communications protocol.

If your site is using address translation, it is necessary to create a Partition File which is a text file containing the name of a partition and its constituent interface address. If you are installing using the GUI interface, you can create and modify the Partition File during the CMS configuration. If you are installing from the command line, you must create or modify this file before implementing firewall support with the CMS and agents.

When OMEGON Platform and CandleNet Portal component products need to communicate across a firewall that performs NAT, a component must be able to retrieve an ip address of the other component that is valid on its side of the firewall. To support this capability, the location broker namespace is logically divided into partitions with unique partition id’s. Partition id’s are specified using the KDC_PARTITION environment variable. The partition file is the means to insert appropriate ip addresses into the location broker namespaces.

When a component performs a location broker lookup operation, the partition id of its partition will automatically be supplied. The location broker will only return addresses that have been defined for that partition namespace and no other. In effect, the component will only see addresses that are valid for its partition.

A partition file is a standard text file (like this one) and is defined to the system using the KDC_PARTITIONFILE environment variable. Within this file, each line describes a partition name with its constituent ip addresses using space delimited tokens. The format is as follows: PARTITION-ID IP .PIPE:nn.nn.nn.nn IP .PIPE:nn.nn.nn.nn.

The first token on each line is used as a case-insensitive partition id. The partition id can be any alphanumeric string with a maximum length of 32 characters. Subsequent tokens specified are treated as interface addresses in standard NCS format (address-family:address). For communication across firewalls, only IP.PIPE should be used for address-family.

The expected default location of the file is /$candlehome/tables/cms_name.

Sample partition file

The following is a sample partition file illustrating the format and content expected.

```
# SAMPLE PARTITION FILE
#
# IMPORTANT: Do not overwrite this file. Copy to another directory
# before making changes.
#
# Lines beginning with a '#' are treated as comments and are ignored.
# Note: Do not specify a line that starts with an '*' as it might prevent
# the proper functioning of CCC.
#```


# Basic Format
#
# Procedure to edit this sample partition file.
# To create a CMS partition file for a typical CCC scenario (CMA/CMW outside of a NAT firewall connecting to a CMS behind the firewall). Do the following:
# 1) Replace the "$OUTSIDE-PID$" with the partition id of your CMA/CMW
# 2) Replace the "$OUTSIDE-CMS-HOST-ADDRESS$" with the ip address of the CMS host outside of the firewall.
# 3) Add additional IP.PIPE:nn.nn.nn.nn addresses on a single line for multiple Network Interface Cards (NICs) as in the format above.
#     Separate entries with 2 spaces.
#     Lines can be continued by placing a backslash (\') char at the end of the line.
#
$OUTSIDE-PID$  IP.PIPE:$OUTSIDE-CMS-HOST-ADDRESS$

Editing the partition file in Manage Candle Services

If you are using the Mange Candle Services interface, you can create or modify the partition file using the CMS Configuration option.

Perform the following procedure:

1. Highlight the CMS you want to configure.
2. Select **Action > Configure**.
   The Configure Candle Management Server dialog box displays.
3. In the Basic Settings tab choose IPPipe as the communications protocol.
4. Select the **Use Address Translation** checkbox.
5. Enter the full path and file name for the partition file.
6. Click **Modify** to create the file (if it does not exist) or to edit the file (if it does exist).
   The Edit Partition File dialog box displays.
7. Enter the partition ID in the first column.
8. Enter the ip address in the second column.
9. If you require a second ip address, enter it in the third column. (If more than two ip addresses are required for a partition ID, use a text editor to add the additional addresses. See “Sample partition file” on page 174.)
10. Click **Save** to save the file and exit or **Cancel** to return to the previous screen without modification of the file.
Using CandleMigrate to Migrate Enterprise Information Base Tables

Overview

CandleMigrate is a UNIX script you can use to migrate your EIB tables to your new OMEGAMON Platform (version 360) installation.

After completing the new installation, configuration, and seeding of your CMS you should run CandleMigrate to update the new installation with your previously modified product-provided situations and situations you created yourself. The installation can be done using the new graphical interface or from the command line. Remember that this is not an upgrade, the OLD and NEW directories need to be separate.

Overview of migration installation sequence

Migration should be done in the following sequence:

1. Install the CMS (use the GUI installer or command line install).
2. Configure the CMS (use the GUI installer or command line install).
3. Seed the product-provided objects (use CandleSeed from the command line or the Quick Seed option in the Manage Candle Services window).
4. Issue CandleMigrate.

Note: You should open an X-term session to issue this command when using GUI installation since there is no CandleMigrate support in the GUI installation.

IMPORTANT: The old CMS name and the new CMS must match exactly when migration is required. This includes case sensitivity.

Procedure for migrating

Use the following procedure to migrate the table information from your prior installation:

1. From the UNIX command line, enter the following command:

   cd /$candlehome/bin

   where the variable $candlehome is the new directory into which you installed OMEGAMON Platform (version 360).

2. Enter the following command:

   ./CandleMigrate [-h $candlehome] -o old$candlehome/tables/old_cms_name -n cms_name

   where the following are the variables:

   Table 48. Parameters for Commands for Migrating Tables

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-h</td>
<td>(optional) Used to specify $candlehome. Also use this option to take action on a $candlehome other than the $candlehome in the current system.</td>
</tr>
</tbody>
</table>
Table 48. Parameters for Commands for Migrating Tables (continued)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$$candlehome$$</td>
<td>A home directory created for the installation of the OMEGAMON Platform and CandleNet Portal</td>
</tr>
<tr>
<td>old$$candlehome$$</td>
<td>The former directory into which you installed OMEGAMON Platform</td>
</tr>
<tr>
<td>-o</td>
<td>Must include the fully-qualified path to the old CMS tables and includes old_cms_name</td>
</tr>
<tr>
<td>old_cms_name</td>
<td>The name for the CMS from which you are migrating EIB tables</td>
</tr>
<tr>
<td>-n</td>
<td>Signifies the name of the new CMS (See the Note below.)</td>
</tr>
<tr>
<td>cms_name</td>
<td>The name of the CMS in the current $$candlehome$$</td>
</tr>
</tbody>
</table>

**Note:** Users migrating from a version CT98 (version CT200) CMS to version CT99 (version CT300) or version 360 using CandleMigrate must specify the new CMS name (using the “-n” option) in upper case characters if they have a need to maintain compatibility with existing agents that reference the old CMS name.

**Maintaining the EIB**

To ensure the effective operation of your CMS, you should back up your EIB tables as part of your routine maintenance. The EIB contains the attributes and other data that define the agents to the CMS. Back up the files ending in .db or .idx, which are stored in the $$candlehome/tables$$ directory (where the variable $$candlehome$$ is the home directory for the CMS installation).
Introduction

This chapter discusses how to perform the following advanced configuration of CandleNet Portal components:

- Connection of the CandleNet Portal desktop client to an external Web server
- Defining the CandleNet Portal Server interface for configurations with a NATted firewall or multiple Network Interface Cards (NICs)

It also includes illustrations of firewall scenarios that can help in defining the CandleNet Portal Server interface.

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Firewall Scenarios ............................................................................................ 183
Connection to an External Web Server

Browser client

During installation, the IBM Tivoli integral Web server is installed as a component of the CandleNet Portal Server. You can also use an external Web server on your CandleNet Portal Server machine, as shown in “Firewall Scenarios” on page 183.

Currently, IBM supports an external Web server for Browser Client access only on the same machine as the CandleNet Portal Server.

Desktop client

Although the desktop client does not need a Web server to start CandleNet Portal, it does use it for common files stored on the CandleNet Portal Server, such as the graphic view icons and style sheets. If your CandleNet Portal Server setup disables the integral Web server and uses only an external Web server, you need to specify the Interoperable Object Reference (IOR) for every desktop client.

Perform the following procedure:

1. On the machine where the CandleNet Portal desktop client was installed, select Start > Programs > Candle OMEGAMON XE > Manage Candle Services.
2. Right-click CandleNet Portal – Desktop, then select Reconfigure from the pop-up menu.
   The Edit CandleNet Portal Parm dialog box will display.
4. In the Value field, enter the Web server address where the cnps.ior can be found.
   For example, if the Web server name is xyz.myserver.com and the document root for the Web server was configured to be \candle\cnb, the value to enter would be http://xyz.myserver.com/cnps.ior.
5. Check In Use and click OK.
Firewall Network Address Translation or Multiple Network Interface Cards

The URL for starting CandleNet Portal browser mode includes the CandleNet Portal Server machine’s hostname or IP address. The address for starting CandleNet Portal is set for the desktop client during installation or through Manage Candle Services. If any of the following is true in your configuration, you need to define a CandleNet Portal Server interface through Manage Candle Services:

- A firewall with Network Address Translation (NAT) is used between the client and CandleNet Portal Server.
- The CandleNet Portal Server was configured to be accessed via a secondary Network Interface Card (NIC).

Defining a CandleNet Portal Server interface

Perform the following procedure:

1. On the machine where the CandleNet Portal Server is installed, select **Start > Programs > Candle OMEGAMON XE > Manage Candle Services.**
2. Right-click **CandleNet Portal Server** to open the pop-up menu.
3. Point to **Advanced** and select **Configure CNPS Interfaces.**

The following CNPS Interface Definitions dialog box displays.

Initially, the list has one definition named “cnps”, using port 15001 for the CandleNet Portal Server, and the IBM Tivoli integrated Web server at http://mysystem:1920//cnp/client (where the variable mysystem is the host name). Port 80, for an external Web server, is assumed if the URL does not specify 1920 for the integrated Web server.

4. Click **Add.**
The following Define CNPS Interface dialog box displays.

5. Define the interface. Perform the following procedure:

1. Interface Name: Enter a one-word title for the interface.
2. Host: If you are defining an interface for a specific NIC or different IP address on this machine, enter the TCP/IP host address. Otherwise, leave this field blank.
3. Proxy Host: If address translation (NAT) will be used, enter the TCP/IP address used outside the firewall. This is the NATed address.
4. Port: Enter a new port number for the CandleNet Portal Server. The default 15001 is for the server’s host address, so a second host IP address or a NATed address requires a different port number.
5. Proxy Port: If the port outside the firewall will be translated to something different than what is specified for Port, set that value here.

6. Click **OK** to add the new CandleNet Portal Server interface definition to the list.
Firewall Scenarios

The following diagrams illustrate several firewall scenarios using various combinations of the IBM Tivoli integral Web server, a third-party Web server, NAT, and a second NIC on the CandleNet Portal Server machine. They can help you to define the CandleNet Portal Server interface:

Figure 4. Intranet with Integral Web Server

Figure 4 shows a configuration that has or does the following:

- Has an intranet firewall.
- Has no NAT.
- Uses the integral Web server.

The default CandleNet Portal Server interface “cnps” is used. No additional interface definitions were needed. Browser mode users, whether going through the firewall or not, start CandleNet Portal at http://10.10.10.10:1920///cnp/client, or substitute the host name for the IP address.

For configurations using only the IBM Tivoli Web server and these port numbers, use the default cnps interface definition.

In this scenario, the CMS and agents may or may not be installed on the CandleNet Portal Server system.
Figure 5. Intranet with External Web Server

Figure 5 shows a configuration that has or does the following:

- Has an intranet firewall
- Has no NAT
- Uses an external Web server (such as Apache or IIS)

Browser mode users, whether going through the firewall or not, start CandleNet Portal Server with http://10.10.10.10 or http://10.10.10.10/mydirectory (where mydirectory is the alias), or substitute the host name for the IP address.

For intranet configurations using an external Web server, with no NAT, you do not need to add a new interface definition. Web server port 80 is used automatically when none is specified in the URL.

In this scenario, the CMS and agents may or may not be installed on the CandleNet Portal Server system.
Figure 6 shows the following two-part configuration:

- Intranet firewall without NAT and using the integral Web server
- Internet firewall with NAT and using an external Web server

Intranet users can enter the URL for either the integral Web server or the external Web server: http://10.10.10.10:1920//cnp/client or http://10.10.10.10.

Internet users enter the URL for the NATed address:
http://198.210.32.34/?ior=internet.ior (or substitute the host name for the IP address).
The Internet configuration requires a new CandleNet Portal Server interface definition: proxy host address 198.210.32.34 and port number 15002. The intranet firewall uses the “cnps” definition.

![Define CNPS Interface](image)

In this scenario the CMS and agents may not be installed on the CandleNet Portal Server system.

**Figure 7. Intranet and Internet with Integral and External Web Servers**

Figure 7 shows the following three-part configuration:
- Intranet firewall with NAT through the firewall to the external Web server http://192.168.1.100/?ior=intranet.ior
- Without NAT inside the DMZ to the integral Web server http://10.10.10.10:1920///cnp/client
- Internet firewall with NAT through the firewall to the external Web server http://198.210.32.34/?ior=internet.ior

The intranet firewall configuration requires a new CandleNet Portal Server interface definition: proxy host 192.168.1.100 and port 15003.

The intranet DMZ configuration uses the default CandleNet Portal Server interface definition.

The Internet configuration uses the same CandleNet Portal Server “internet” interface definition as the previous scenario: proxy host 198.210.32.34 and port 15002.

In this scenario, the CMS and agents may not be installed on the CandleNet Portal Server system.

**Figure 8. Two Host Addresses, Intranet and Internet, and with Integral and External Web Servers**

Figure 8 shows the following two-part configuration:
- Intranet firewall with NAT through the firewall to the external Web server uses http://192.168.1.100, and without NAT inside the DMZ to the integral Web server uses http://10.10.10.10:1920///cnp/client
- Internet firewall with NAT through the firewall to the external Web server http://198.210.32.34

The intranet firewall configuration uses the same CandleNet Portal Server interface definition (named “intranet”) as in the previous scenario: host 10.10.10.10; proxy host 192.168.1.100; and port 15003.

The intranet DMZ configuration uses the default CandleNet Portal Server interface definition. CandleNet Portal Server interface definition: host 192.168.33.33; proxy host 198.210.32.34; port 15002; and proxy port 444.

In this scenario, the CMS and agents may not be installed on the CandleNet Portal Server system.

![Define CNPS Interface dialog box](image)
Additional Agent Configuration

Introduction

This chapter contains the configuration steps required for the agents in the OMEGAMON Platform and CandleNet Portal package. Do not attempt to start the monitoring agent or alert manager before completing the steps in this chapter.

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Alert Adapter for AF/REMOTE

The Alert Adapter for AF/REMOTE on Windows has its own manager. You will use this application to configure and monitor the status of individual AF/REMOTE agents.

To access the AF/REMOTE Alert Adapter Manager from the Manage Candle Services window, perform the following procedure:

1. Highlight **AF/REMOTE Adapter**, right-click then select **Configure Using Defaults**.
2. Click **Yes** at the prompt **Continue with detail configuration of AF/REMOTE Alert Adapter?**.
3. If necessary, click **Yes** on subsequent dialog boxes until the AF/REMOTE Alert Adapter Manager displays.

4. Use the AF/REMOTE Alert Adapter Manager to configure any of the following:
   - One AF/REMOTE Alert Adapter for each AF/REMOTE session you want to monitor
   - One AF/REMOTE Alert Emitter per AF/REMOTE REXX Management component

Online help is included for each screen of the AF/REMOTE Alert Adapter Manager. See the **Alert Adapter for AF/REMOTE Configuration and Customization Guide** for complete configuration information.

Troubleshooting

**When no AF/REMOTE monitoring data appears**

If no AF/REMOTE monitoring data appears after starting the CandleNet Portal or CMW, check to see that support for Alert Adapter for AF/REMOTE was selected when you selected the products for installation.
Perform the following procedure:

1. Open the Manage Candle Services window and check the list of installed products for Alert Adapter for AF/REMOTE.

2. If Alert Adapter for AF/REMOTE has not been selected, start another installation process, proceeding without changing or removing any of the items that were previously installed.

3. At Step 2. on page 69, select Alert Adapter for AF/REMOTE.

4. Proceed through the rest of the installation process without changing or removing any of the items that were previously installed.
Special requirements

The Warehouse Proxy has some special requirements and restrictions. Be aware of the following:

- You can configure only one Warehouse Proxy in your site’s IBM Tivoli network.
- Historical data collection can be configured to be stored at any combination of the CMS or the agents. To ensure that history data is received from all sources, you must configure a common shared network protocol between the Warehouse Proxy and the component that is sending history data to it (either from a CMS or from an agent).

For example, you might have a CMS configured to use both IP and IPPipe. In addition, one agent might be configured with IP and a second agent with IPPipe. In this example, the Warehouse Proxy would need to be configured to use both IP and IPPipe.

- If your IBM Tivoli product uses the Warehouse Proxy for warehousing historical data, install the CandleNet Portal Server on the same machine as the Warehouse Proxy, if possible, for ease of administration. The CandleNet Portal Server requires its own “Data Warehouse data” source if it is not installed on the same machine as the Warehouse Proxy.

- IBM recommends that your site install and configure the database client software provided by the database vendor on the machine where you intend to configure Warehouse Proxy.

The machine where Warehouse Proxy resides must have TCP/IP access to, and must also be configured to have ODBC database connectivity to, the machine where the database is running.

- Warehouse Proxy accesses the database using TCP/IP and ODBC with a user ID and password of Candle.

- You must ensure that the appropriate ODBC driver is installed on the machine where the Warehouse Proxy is installed. If it is not installed, consult your database documentation about installing the driver.

- The name of the database to which the historical data will be written can be anything that you like, but if you want the data source to be in a special database, that database must be created before configuring the datasource. You will most likely want to create a special database first.

- The Warehouse Proxy can only successfully connect to a hub CMS. It is the user’s responsibility to configure the Proxy to point to a hub CMS. If the CMS named in the configuration is not a hub, the Proxy cannot perform its function.

Setting up the ODBC connection

The following tasks must be completed before the Warehouse Proxy can operate successfully. These tasks are best performed by your database System Administrator:
1. Set up the historical database with the required IDs and authorities
   If you have not already done so, decide which existing database will receive the historical data or create a new database for this purpose. Refer to your database documentation for instructions on creating a database.

   For the database that will receive historical data, define a database user name (or login name, depending on your software) called Candle with a password of Candle. (If you have already configured a database agent, this user name and password should already be defined in the database.)

   **Note:** “Candle” is case-sensitive and must be typed exactly as shown.

   Grant the new IBM Tivoli user name (or login name) the following database permissions.
   - Grant both “create table” and “alter table” authority. (Alter Table authority is included in Create Table authority when using Microsoft SQL Server).
   - Grant “database access” to the database that will contain the warehoused data.

   Instructions may vary depending on your version of database software. Refer to your database documentation for instructions on granting authorities.

   **Note:** Microsoft SQL Server Users: The Warehouse Proxy will be inserting many rows of data to the database, which will generate many rows of Transaction log data in the System logs table. It is the user’s responsibility to ensure that the Transaction log does not fill up or Warehousing, along with other database updates, will cease. Therefore, ensure that you allocate sufficient space to the Transaction log. Also, IBM recommends setting the Truncate Log on Checkpoint option for the historical database.

2. Install the Database Client.
   Install the ODBC driver on the machine where you will install the Warehouse Proxy. Refer to your database documentation for instructions.

   **Oracle Users:** The Warehouse Proxy will not function properly if the Candle Data Warehouse ODBC datasource is created using an Oracle ODBC Driver Version previous to 8.00.05.00. This can be checked by opening the ODBC Data Source Administrator and clicking on the Drivers tab.

3. Configure the Database Client to connect to the database.
   Configure an ODBC database connection from the database client to the database that will receive the historical data.

4. Test the ODBC database connection before continuing.
   IBM recommends that you test the connection with the testing tool provided by the database client software before installing or configuring the Warehouse Proxy. When testing the ODBC database connection, specify both a user name of Candle and a password of Candle.

   **Note:** “Candle” is case-sensitive and must be typed exactly as shown.

   If you encounter difficulty with this process, consult the documentation that came with your database software.
Configuring and registering the Warehouse Proxy

To complete the configuration for Warehouse Proxy, proceed as follows.

1. From the Manage Candle Services window, select **Warehouse Proxy**.

2. Right-click and select **Configure Using Defaults**.

   The message *When configuring the Warehouse Proxy, remember that it must connect to a HUB CMS (not a remote CMS)* displays.

3. Click the **OK** button.

   The message *Would you like to configure your Candle Data Warehouse ODBC data source?* displays.

4. Click **Yes**.

   The ODBC Data Source Administrator displays:

5. Select the **System DSN** tab.

6. Configure the Data Source. Perform the following procedure:
   
   1. Select the driver for IBM DB2 ODBC and click **Configure**.
      
      The CLI/ODBC Settings dialog box displays.
      
      2. Name the ODBC data source: **Candle Data Warehouse**. **Candle Data Warehouse** is case-sensitive and must be typed exactly as shown.

      3. For Login ID, enter **Candle**.


4. For Password, enter Candle.
5. Do not select **Use Trusted Connection** if it is presented as an option.
6. When asked **How should SQL Server verify the authenticity of the login ID?**, select **SQL Server authentication using a login ID and password entered by the user.**
7. For Login ID, enter Candle.
8. For Password, enter Candle.
9. Do not select **Use Trusted Connection** if it is presented as an option.
10. Review the displayed configuration information and test the data source. The Warehouse Proxy will not function without a working ODBC database connection to the Candle Data Warehouse datasource.

7. When the tests complete successfully, click **OK** in all dialog boxes until you close the ODBC Administrator application.
   
   The Warehouse Proxy is ready to start.

**Reconfiguring Warehouse Proxy**

If you want to reconfigure the Warehouse Proxy perform the following procedure:

1. From the Manage Candle Services window, select **Warehouse Proxy**.
2. Right-click and select **Reconfigure**.

   The message **When configuring the Warehouse Proxy, remember that it must connect to a HUB CMS (not a remote CMS)** displays.

3. Click the **OK** button.
   
   The first Warehouse Proxy: Agent Advanced Configuration window appears.

4. Enter appropriate values in the fields for the window.
5. Click the **OK** button.

   The second Warehouse Proxy: Agent Advanced Configuration window appears.

6. Enter appropriate values in the fields for the window.
7. Click the **OK** button.

   The message **Would you like to configure your Candle Data Warehouse ODBC data source?** displays.

8. Click **Yes**.

9. Perform the steps in the previous procedure, starting at Step 4. of “Configuring and registering the Warehouse Proxy” on page 194.

**Configuring the ODBC Data Source with a CandleNet Portal Server installed on a different machine**

If your IBM Tivoli product uses the Warehouse Proxy for warehousing historical data and you installed your CandleNet Portal Server on a different machine than the one on which you installed the Warehouse Proxy, complete this step.
This step, which configures the Candle Data Warehouse data source, is the same step as required when you configure the Warehouse Proxy itself. Configure the ODBC data source used by your site’s CandleNet Portal Server to match the one used by your site’s Warehouse Proxy.

Ensure that the appropriate ODBC driver is installed on the machine where the CandleNet Portal Server is installed. If it is not installed, consult your database documentation about installing the driver.

Perform the following procedure:

1. Access Manage Candle Services from the machine on which you installed the CandleNet Portal Server.

2. On the Manage Candle Services main dialog box, highlight **CandleNet Portal Server**, right-click and select **Reconfigure**.

   Your current CandleNet Portal Server configuration settings are displayed on the CandleNet Portal Server Configuration dialog boxes.

3. Click **OK** to page through these.

4. Click **Yes** to the prompt “Would you like to configure a “Candle Data Warehouse” ODBC data source (uid->Candle pswd->Candle) for historical data collection?”.

   Manage Candle Services launches the Windows ODBC Administrator.

5. Configure the Candle Data Warehouse ODBC data source. Perform the following procedure:

   1. Select the **System DSN** tab and click the **Add** button.
      The Create New Data Source dialog box is displayed.

   2. Select the appropriate driver for the third-party database you have installed to receive data from the Warehouse Proxy.

   **Note:** IBM has tested and supports the Warehouse Proxy on Windows with the following database client software: Microsoft SQL Server (versions 6.7 and 7.0).

   3. Click **Finish**. Remaining configuration steps differ depending on the driver you have selected.
      Keep the following important notes in mind as you complete the configuration:
      – Name the ODBC data source **Candle Data Warehouse**.

      **Note:** “Candle Data Warehouse” is case-sensitive and must be typed exactly as shown.
      – Specify a user name of **Candle** (or a login ID of **Candle** and a password of **Candle**).

      **Note:** Microsoft SQL Server users: Do not select **Use Trusted Connection** if it is presented as an option.

6. Review the displayed configuration information and test the data source. Historical data collection will not function without a working ODBC database connection to the Candle Data Warehouse data source.
7. When the tests complete successfully, click **OK** on all dialog boxes until you close the ODBC Administrator application.

8. Click **Yes** at the prompt that reads **Press Yes to complete the configuration process . . . .**

9. Close Manage Candle Services and read subsequent instructions before starting.

**Warehouse Proxy error reporting**

Warehouse Proxy errors are reported in the Windows Event Viewer Application Log on the system running Warehouse Proxy.

**Behavior of the Warehouse Proxy**

Note the following behaviors of the Warehouse Proxy at startup and shutdown:

**Behavior at startup**

The first time the Warehouse Proxy inserts a record into the WAREHOUSELOG table it incurs an error (because the table has not been created yet). The first time this occurs, or whenever the table is deleted by the customer, an error is reported in the Event Viewer stating something to the effect that the table does not exist. This error can be ignored.

The Warehouse Proxy attempts to test the connection to the Candle Data Warehouse. It will do this repeatedly at startup for a period of time, and will log errors when it is unable to connect. This condition may be observed where the Warehouse Proxy has been installed on the same system as the database to which it will connect. If both the database and the Warehouse Proxy are set to start automatically, the Warehouse Proxy may come up first and will retry the connection to the database until it is successful, or until its retry count has been exceeded.

*Note:* The *Warehouse Proxy will not start successfully if it is unable to connect to the Candle Data Warehouse datasource.*

**Behavior at shutdown**

Since the Warehouse Proxy connects to a hub CMS, the Warehouse Proxy should be brought down before bringing down the hub. If the hub is brought down first, the Warehouse Proxy may still be shut down, but it will take a number of minutes to do so as it will try to disconnect from the hub first.

Note that it is not necessary to recycle the Warehouse Proxy when recycling the hub. The Warehouse Proxy reconnects with the hub on an hourly basis therefore manually recycling the Warehouse Proxy is not necessary.
Introduction

This appendix provides the procedures used on Windows and UNIX to uninstall component products of OMEGAMON Platform and CandleNet Portal.

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Uninstalling Component Products on Windows

If you want to uninstall a component product of OMEGAMON Platform and CandleNet Portal on Windows, perform the following procedure:

**Note:** This may procedure require that you redo some of the basic configuration steps that were performed earlier in this chapter.

1. From the desktop select **Start > Settings > Control Panel > Add/Remove Programs**.
2. Select the name of a component product of OMEGAMON Platform and CandleNet Portal.
3. Click **Change/Remove**.
   The Setup Maintenance Program welcome dialog box opens.
4. To uninstall particular components (but not the entire product installation) select **Modify**.
5. Click **Next**.
   The Add or Remove Features dialog box opens.
6. Click the + sign next to each main feature to expand the tree.
7. Deselect (uncheck) each component product or type of support that you want to uninstall.
8. Click **Next**.
   The Start Copying Files dialog box appears. This dialog box displays a list of features or types of support that will be uninstalled.
9. Review the list and click **Back** if you want to go back and change it. If you want to start uninstalling the features or types of support that are listed, click **Next**.
10. On the Setup Type dialog box, select the configuration tasks (if any) that you want to redo for the remaining products.
11. When you have made all desired configuration changes, click **Finish**.
Uninstalling Component Products on UNIX

If you want to uninstall a component product of OMEGAMON Platform and CandleNet Portal on UNIX, follow these steps.

1. From a command prompt, enter the following command to change to the appropriate bin directory:
   ```
   cd $candlehome/bin
   ```
   where the variable `$candlehome` is the path for the home directory for the OMEGAMON Platform and CandleNet Portal products.

2. Enter the following command:
   ```
   ./uninstall.sh
   ```
   A numbered list of product codes, architecture codes, version and release numbers, and product titles will appear for all installed products.

3. Enter the number for the installed product that you want to uninstall.
   Repeat this step for each additional installed product you want to uninstall.
Uninstalling Component Products on UNIX
Introduction

This chapter describes the newly revised CandleRemote optional program that allows you to create packages of IBM Tivoli products for installation on remote systems. These packages are created from an OMEGAMON Platform and CandleNet Portal product CD. The CandleRemote option can be completed in either GUI or command line mode.

To create remote packages of agents that have already been installed, see “UNIX CandleClone Command” on page 211.

Chapter contents

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CandleRemote Command .................................................................................................. 205
Using CandleRemote in GUI Mode .................................................................................. 206
Using CandleRemote in Command Line Mode ............................................................... 209
Differences between CandleRemote and CandleClone

The following table is a summary of the differences between the two commands.

<table>
<thead>
<tr>
<th>CandleRemote</th>
<th>CandleClone</th>
</tr>
</thead>
<tbody>
<tr>
<td>You select products including CMSs contained on the OMEGAMON Platform and CandleNet Portal product CD.</td>
<td>You select from the installed products in $candlehome.</td>
</tr>
<tr>
<td>Creates a remote package (tar file) containing a CD image (*.jar files) of the products selected.</td>
<td>Creates a cloned package (tar file) containing the selected products. This package consists of a fully-configured $candlehome directory structure.</td>
</tr>
<tr>
<td>Transfers the tar file to the remote machines you specify.</td>
<td>Transfers and unloads the cloned package on remote machines you specify.</td>
</tr>
<tr>
<td>After the transfer, you must log into each remote machine and untar the remote package. This creates a CD image on the remote machine. You must then install and configure the products from this image using install.sh.</td>
<td>Once the tar file is unloaded, the IBM Tivoli environment is ready to use. No installation or configuration is required.</td>
</tr>
<tr>
<td>Agents and CMSs can be contained in the CD image created.</td>
<td>Only agents can be cloned; you cannot clone a CMS.</td>
</tr>
</tbody>
</table>

Limitations and requirements for using CandleRemote

The following limitations exist in this release of the CandleRemote command.

- The transfer operation does not check the available disk space on the receiving (remote) machines. It is your responsibility to ensure that the required disk space exists on the remote machines. Remember that space is needed for both the tar file and the final cloned products.

- The transfer and installation procedure relies on the UNIX commands “rcp” and “remsh”. It is your responsibility to ensure that the remote machine does not prompt for a password when CandleRemote attempts a transfer and installation. If a password is required, the transfer will fail or hang.

Note: The operation of the new CandleRemote is different from that of the prior version, so custom shell scripts used to invoke the prior CandleRemote command will not work with the new one.
CandleRemote Command

The procedure that follows illustrates the GUI screen images with an explanation of the information required to complete the screen fields.

Command line prompts follow the GUI screen procedures for using CandleRemote.

**Note:** CandleRemote can also be started from install.sh. For the CandleRemote prompts in install.sh, see Table 22, “install.sh Prompts for Install Type to Use,” on page 97.

**Syntax**

Enter the following command:

```
./CandleRemote [-h $candlehome] [-d CD-ROM path] [-c]
```

where the following are the variables:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-h</td>
<td>(optional) Used to specify the $candlehome directory of the local host machine from which you are running CandleClone</td>
</tr>
<tr>
<td>$candlehome</td>
<td>A home directory created for the installation of the OMEGAMON Platform and CandleNet Portal</td>
</tr>
<tr>
<td>-d</td>
<td>(optional) Used to specify the path to the root of the CD-ROM drive</td>
</tr>
<tr>
<td>CD-ROM path</td>
<td>The full path to the root of the CD-ROM drive or the full path to the CD-ROM image</td>
</tr>
<tr>
<td>-c</td>
<td>(optional) Used to specify printing diagnostic messages to the console</td>
</tr>
</tbody>
</table>
Using CandleRemote in GUI Mode

Procedure to start CandleRemote

Perform the following procedure to start and use the CandleRemote command:

1. From the UNIX prompt, change to the $candlehome/bin directory.
2. Enter the following command:

   ```bash
   ./CandleRemote [-h $candlehome] [-d CD-ROM path] [-c]
   ```

   The prompt that displays includes the following options:

   **Table 51. Options for Creating Remote Packages**

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Create remote packages using GUI.</td>
</tr>
<tr>
<td>2</td>
<td>Create remote packages using command line.</td>
</tr>
<tr>
<td>3</td>
<td>Exit this program.</td>
</tr>
</tbody>
</table>

3. Enter 1 at the prompt, and press Enter.

   The following Candle Remote Packages dialog box is presented:

   ![Create Remote Packages dialog box]

   You can create (Create) a remote package or transfer (Trans) a previously created package. (See “Transferring a remote package” on page 207.)

Creating a remote package

To create a remote package, use the following procedure:
1. Select the operating system from the list box. (To view other operating systems, click the right-hand down arrow.)

2. Select the products to include in the package. Click the Select All button to choose all listed products.

3. Click Create. The Set Packaging Options dialog box prompts you for a Tar File Name.

4. Enter the name of the tar archive that will contain the remote package.

5. Click OK to create the tar file. You are returned to the Candle Remote Packages dialog box.

Transferring a remote package

To transfer a tar file, use the following procedure:

1. Click Trans (you do not have to select any products) to transfer and install a previously created tar file and complete the following Specify Receiving Locations dialog box.

2. In the Tar File Name field, specify the tar file you want to transfer.

3. In the Host Name column, specify where (on what machines) you want to install the remote packages. You can enter up to 20 remote machines on which to transfer the remote package.

4. In the Work Directory column, enter the temporary work directory to send the tar archive file on the remote machine.

5. Click OK, and the tar file is automatically copied to the work directory on the remote machines.
6. Once the file is copied, you must log into each remote machine and untar the remote package. This creates a CD image on the remote machine. You can then install and configure products from this image using install.sh.

**Note:** The `-d` option for `install.sh` should now point to the CD image location on the remote machine.

7. Click **Clear** to delete all entries in the table, or click **Cancel** to cancel the Trans operation and return to the previous screen.

**Note:** See “Limitations and requirements for using CandleRemote” on page 204 for user requirements in using CandleClone.
Using CandleRemote in Command Line Mode

Procedure to use CandleRemote from the command line

Use the following procedure to start and use the CandleRemote command in command line mode:

1. From the UNIX prompt, change to the $candlehome/bin directory
2. Enter the following command:
   ```bash
   ./CandleRemote [-h $candlehome] [-d CD-ROM path] [-c]
   ```

   The prompt that displays includes the following options:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Create remote packages using GUI.</td>
</tr>
<tr>
<td>2</td>
<td>Create remote packages using command line.</td>
</tr>
<tr>
<td>3</td>
<td>Exit this program.</td>
</tr>
</tbody>
</table>

3. Enter 2 at the prompt, and press Enter.

   The prompt that displays includes the following options:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Create a remote package (tar file).</td>
</tr>
<tr>
<td>2</td>
<td>Transfer a remote package.</td>
</tr>
<tr>
<td>3</td>
<td>Create a remote package, and transfer it.</td>
</tr>
<tr>
<td>4</td>
<td>Exit this program.</td>
</tr>
</tbody>
</table>

4. Select one of the options from the menu that appears.

   **Note:** The instructions that follow correspond to Option 3, since this option executes both Option 1 and Option 2.

5. Enter 3 and press Enter.

6. Enter the number of an operating system from the menu that appears and press Enter.
   You are asked to verify the operating system.

7. Enter y and press Enter.

8. Select the products for the operating system, and confirm your selections.

9. At this point, you can select products for another operating system. After you have made all your selections, enter the tar file name for the remote package.

10. Specify where (on what machines) you want to install the remote packages. The Host Name and Work Directory fields are described under “Transferring a remote package” on page 207. You can specify up to 20 Host/Work Directory pairs for transferring the remote packages.
11. After the file has been transferred, you must log into each remote machine and untar the remote package.

12. Perform a regular installation on the remote machine using install.sh.

**Note:** The `-d` option for install.sh should now point to the CD-ROM image location on the remote machine.
Introduction

CandleClone is a new command for migration of agents to remote systems. This program allows you to clone or copy existing installed agents into packages for installation on remote systems. This command compliments the functions performed by CandleRemote. CandleClone offers you the choice of using a GUI interface or command line interface.

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Using CandleClone in GUI Mode ........................................................................ 213
Using CandleClone in Command Line Mode ....................................................... 216
Differences between CandleClone and CandleRemote

The following table is a summary of the differences between the two commands:

<table>
<thead>
<tr>
<th></th>
<th>CandleClone</th>
<th>CandleRemote</th>
</tr>
</thead>
<tbody>
<tr>
<td>You select from the installed products in $candlehome</td>
<td>You select products including CMSs contained on the OMEGAMON Platform and CandleNet Portal product CD.</td>
<td></td>
</tr>
<tr>
<td>Creates a cloned package (tar file) containing the selected products. This package consists of a fully-configured $candlehome directory structure.</td>
<td>Creates a remote package (tar file) containing a CD image (*.jar files) of the products selected.</td>
<td></td>
</tr>
<tr>
<td>Transfers and unloads the cloned package on remote machines you specify.</td>
<td>Transfers the tar file to the remote machines you specify.</td>
<td></td>
</tr>
<tr>
<td>Once the tar file is unloaded, the IBM Tivoli environment is ready to use. No installation or configuration is required.</td>
<td>After the transfer, you must log into each remote machine and untar the remote package. This creates a CD image on the remote machine. You must then install and configure the products from this image using install.sh.</td>
<td></td>
</tr>
<tr>
<td>Only agents can be cloned; you cannot clone a CMS.</td>
<td>Agents and CMSs can be contained in the CD image created.</td>
<td></td>
</tr>
</tbody>
</table>

Limitations and Requirements for using CandleClone

The following limitations exist in this release of the CandleClone command:

- Root permissions are not maintained unless you are running as “root”. Before using a cloned environment for the first time, you will need to run SetPerm to establish the correct file permissions in the cloned environment.

  **Note:** The *SetPerm* command will be found in the `/candlehome/bin` directory on the remote machine. See “File Permission Requirements” on page 111.

- You cannot clone a CMS.

- The transfer operation does not check the available disk space on the receiving (remote) machines. It is your responsibility to ensure that the required disk space exists on the remote machines. Remember that space is needed for both the tar file and the final cloned products.

- The transfer and installation procedure relies on the UNIX commands “rcp” and “remsh”. It is your responsibility to ensure that the remote machine does not prompt for a password when CandleClone attempts a transfer and installation. If a password is required, the transfer will fail or hang.
Using CandleClone in GUI Mode

Procedure to start CandleClone

Use the following procedure to start and use the CandleClone command:

1. From the UNIX prompt, change to the $candlehome/bin directory.
2. Enter the following command:
   
   ```shell
   ./CandleClone [-h $candlehome] [-c]
   ```

   where the following are the parameters:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-h</td>
<td>(optional) Used to specify the $candlehome directory of the local host machine from which you are running CandleClone</td>
</tr>
<tr>
<td>$candlehome</td>
<td>A home directory created for the installation of the OMEGAMON Platform and CandleNet Portal</td>
</tr>
<tr>
<td>-c</td>
<td>(optional) Used to specify printing diagnostic messages to the console</td>
</tr>
</tbody>
</table>

   The prompt that displays includes the following options:

<table>
<thead>
<tr>
<th>Number</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clone/Transfer products in GUI mode.</td>
</tr>
<tr>
<td>2</td>
<td>Clone/Transfer products in command-line mode.</td>
</tr>
<tr>
<td>3</td>
<td>Exit this program.</td>
</tr>
</tbody>
</table>

3. Enter 1 at the prompt, and press Enter.
   The Clone Candle Products dialog box displays.

4. Go to one of the following steps:
   - If you want to create a clone: the next step in this procedure
   - If you want to transfer a previously created clone package: Step 10. on page 214

5. Select the operating system from the list box. (To view other operating systems, click the right-hand down arrow.)

6. Select the installed products to include in the cloned environment. Click **Select All** to choose all listed products.

7. Click **Clone**.
Using CandleClone in GUI Mode

The following Set Clone Options screen displays:

8. Complete the field information using the descriptions provided in the table below:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target CandleHome Directory</td>
<td>Enter the name of the remote directory into which the cloned environment will be installed.</td>
</tr>
<tr>
<td>Tar File Name</td>
<td>Enter the name of the tar archive which will contain the cloned environment.</td>
</tr>
</tbody>
</table>

9. Click **OK** to create the tar file. This file can then be sent to and installed on remote machines using the transfer (**Trans**) option.

After the tar file is created you are returned to the Clone Candle Products dialog box.

10. Click **Trans** (You do not have to select any products.) to transfer and install an existing env contained in a tar file created during a previous clone operation.

The Specify Receiving Locations dialog box displays:
11. In the Tar File Name field, specify the tar file you want to transfer.

12. In the Host Name column, specify where (on what machines) you want to install the cloned environment. You can enter up to 20 remote machines on which to clone the environment.

13. In the Work Directory column, enter the temporary work directory to send the tar archive file on the remote machine.

14. Click OK, and the cloned environment is automatically installed into the target $candlehome directory on the remote machines.

15. Perform one of the following procedures:
   - Click Clear to delete all entries in the table.
   - Click Cancel to cancel the transfer operation and return to the previous screen.

Note: See “Limitations and Requirements for using CandleClone” on page 212 for user requirements in using CandleClone.
Procedure to start CandleClone

Use the following procedure to start and use the CandleClone command:

1. From the UNIX prompt, change to the $candlehome/bin directory
2. Enter the following command:

   ```
   ./.CandleClone [-h $candlehome] [-c]
   ```

   where the following are the parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>-h</code></td>
<td>(optional) Used to specify the $candlehome directory of the local host machine from which you are running CandleClone</td>
</tr>
<tr>
<td><code>$candlehome</code></td>
<td>A home directory created for the installation of the OMEGAMON Platform and CandleNet Portal</td>
</tr>
<tr>
<td><code>-c</code></td>
<td>(optional) Used to specify printing diagnostic messages to the console</td>
</tr>
</tbody>
</table>

The prompt that displays includes the following options:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clone/Transfer products in GUI mode.</td>
</tr>
<tr>
<td>2</td>
<td>Clone/Transfer products in command-line mode.</td>
</tr>
<tr>
<td>3</td>
<td>Exit this program.</td>
</tr>
</tbody>
</table>

3. Enter 2 at the prompt, and press Enter.

The prompt that displays includes the following options:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Create a remote package (tar file).</td>
</tr>
<tr>
<td>2</td>
<td>Transfer a remote package.</td>
</tr>
<tr>
<td>3</td>
<td>Create a remote package, and transfer it.</td>
</tr>
<tr>
<td>4</td>
<td>Exit this program.</td>
</tr>
</tbody>
</table>

4. Select one of the options from the menu that appears.

**Note:** The instructions that follow correspond to Option 3, since this option executes both Option 1 and Option 2.

5. Enter 3 and press Enter.

6. Enter the number of an operating system from the menu that appears and press Enter. You are asked to verify the operating system.
7. Enter y.

8. Select the products for cloning and press Enter.

9. Enter y.

   You are asked if you want to select products for another operating system.

10. Enter y or n.

11. Enter the options for the cloned environment (env). These options are described in Table 57: Set Clone Options Fields and Descriptions on page 214.

12. Enter y.

13. Specify where (on what machines) you want to transfer and install an existing env contained in a tar file created during a previous clone operation.

14. Enter the temporary work directory to send the tar archive file on the remote machine.

15. Enter y.

   You are asked if you want to send the tar archive file to another temporary work directory possibly on another machine.

16. Enter y or n.

   The cloned env is then installed into the Target CandleHome Directory on each host that you specified.
Using CandleClone in Command Line Mode
Introduction

This appendix discusses the configuration files used by the UNIX multi-platform installation program. The configuration files can be modified to customize your installation.

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- Configuration File Types ................................................................. 221
Overview

The old UNIX installer stored configuration information in the application code, for example, CandleNet® Commands, and in external files. Values for environmental variables (needed by the agents) were then derived at runtime from this information. Since configuration data was stored in multiple locations, it was not clear what data were assigned to the variables. Additionally, configuration information could only be changed, separate from installation, by manually editing the various files.

The new UNIX installer removes configuration information from the application code and stores the information in external files that are logically linked. It is more obvious what information is being assigned to the environmental variables. With the linking of files, both basic and complex environments are supported. A basic or default agent to CMS configuration is presented when the agent configuration process is started. An advanced configuration tab is available to configure more complex environments.

Configuration information is generated from and stored in the following file types:

- User-Input
- Template
- Custom-Configuration
Configuration File Types

User-Input type

A User-Input file is generated automatically from information entered by the user, whether in dialog boxes or at the command line. The user-input data is stored in a database for reconfiguration. User-Input files are named according to the format kpcev, where the variable pc is the 2-character product code, for example, ktvenv for the Alert Adapter for Tivoli Enterprise Console. (See “IBM Tivoli Product Codes” on page 225.)

Template type

Template files are shipped in the ./config directory and installed in $candlehome/config. These files contain all of the possible environmental variables for a product. Template files are edited manually, only when a variable needs to be added permanently to the environment. Each variable value (for example, CANDLEHOME), that will be replaced from the user-input file, needs to be surrounded by the $ character, as seen in the example below. These variable values keywords are not reserved words, but rather must match the keyword in the user-input file.

Template files are named according to the format pc.ini, where the variable pc is the 2-character product code.

The Template and User-Input files are used to generate a Custom-Configuration file for a product.

Note: Any customization done to the .ini files will be overwritten when the products is upgraded or reinstalled. IBM suggests that you keep a backup of any .ini files that you customize.

Sample template file

The following is contents of a sample vt.ini file.

```bash
# =============================================
# Generic Settings
# =============================================
KGL_KGLMSGBASE=$CANDLEHOME$/$BINARCH$/bin/KGLMSENU
ATTRLIB=$CANDLEHOME$/$BINARCH$/$PRODUCTCODE$/tables/ATTRLIB
CT_CMMLIST=$NETWORKPROTOCOL$:$HOSTNAME$;$HSNETWORKPROTOCOL$:$MIRROR$
CTIRA_HIST_DIR=$CANDLEHOME$/$BINARCH$/$PRODUCTCODE$/hist
CTIRA_LOG_PATH=$CANDLEHOME$/logs
KBB_RAS1=ERROR
KDC_FAMILIES=$NETWORKPROTOCOL$
LD_LIBRARY_PATH=$CANDLEHOME$/$BINARCH$/$PRODUCTCODE$/lib:$CANDLEHOME$/$ARCHITECTURE$/lib
LIBPATH=$CANDLEHOME$/$BINARCH$/$PRODUCTCODE$/lib:$CANDLEHOME$/$ARCHITECTURE$/lib
PATH=/usr/bin:$CANDLEHOME$/$BINARCH$/$PRODUCTCODE$/bin:$CANDLEHOME$/$ARCHITECTURE$/bin
SHLIB_PATH=$CANDLEHOME$/$BINARCH$/$PRODUCTCODE$/lib:$CANDLEHOME$/$ARCHITECTURE$/lib
SQLLIB=$CANDLEHOME$/tables/cicatrsq/SQLLIB
KDCB0_HOSTNAME=$HOSTNAME$
KDC_PARTITION=$KDC_PARTITIONNAME$
$COMMENT$TIRA_STANDALONE=Y
# =============================================
# Agent Specific Settings
```
Custom-Configuration type

All variables (those surrounded by the dollar ($) sign) in the Template file are replaced with their values from the User-Input file to create a Custom-Configuration file. This file is generated automatically if it doesn’t already exist during the configuration of an agent or CMS. Custom-Configuration files can be edited by the user using the Advanced option in the installer. These files are named according to the following formats:

**Agent**

The format for agents is `pc.config`, where the variable `pc` is the two-character product code.

**CMS**

The format for the CMS is `host_ms_cmsname.config`, where the variable `host_ms_cmsname` is the name of the host CMS.

**Example**

The configuration file for Alert Adapter for Tivoli Enterprise Console would be `tv.config`.

Sample `tv.config` file

The following is the contents of a sample `tv.config` file:

```
#!/bin/ksh
# '============================================'
# Generic Settings
# '============================================'
KGL_KGLMSGBASE='/users/jwoo/goby10/aix433/bin/KGLMSENU'
ATTRLIB='/users/jwoo/goby10/aix433/tv/tables/ATTRLIB'
export CT_CMSLIST='ip:goby'
CTIRA_HIST_DIR='/users/jwoo/goby10/aix433/tv/hist'
CTIRA_LOG_PATH='/users/jwoo/goby10/logs'
KBB_RAS1='ERROR'
export KDC_FAMILIES='ip port:1918  ip.pipe use:n sna use:n'
LD_LIBRARY_PATH='/users/jwoo/goby10/aix433/tv/lib:/users/jwoo/goby10/aix433/lib'
LIBPATH='/users/jwoo/goby10/aix433/tv/lib:/users/jwoo/goby10/aix433/lib'
PATH='/usr/bin:/users/jwoo/goby10/aix433/tv/bin:/users/jwoo/goby10/aix433/bin'
SHLIB_PATH='/users/jwoo/goby10/aix433/tv/lib:/users/jwoo/goby10/aix433/lib'
SQLLIB='/users/jwoo/goby10/aix433/tv/lib:/users/jwoo/goby10/aix433/lib'
KDC_PARTITION=''
#TIRA_STANDALONE='Y'
# '============================================'
# Agent Specific Settings
# '============================================'
KAA_ADAPTER_ID='KTV'
# '============================================'
# Install Specific Settings
# '============================================'
COMMAND='ktvagent'
```
Additional configuration file support

To maintain configuration flexibility as implemented in the current installer, the following .config files are also supported:

Table 61. Additional Configuration Files Supported

<table>
<thead>
<tr>
<th>File Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>host_pc.config</td>
<td>Read by a specific product on a specific system (host)</td>
</tr>
<tr>
<td>host_pc_opt.config</td>
<td>Read by a specific product on a specific system using a specific option (opt)</td>
</tr>
<tr>
<td>env.config</td>
<td>A configuration file that is used to store any environment variables applicable to all agents and the CMS. The file is located in the $candlehome/config directory.</td>
</tr>
</tbody>
</table>

The order in which the files are read is from the most general to the most specific. 

`pc.config` is created during agent configuration and `host_ms_cmsname.config` is created during CMS configuration. The other .config files can be created and edited manually.
Introduction

This appendix lists product codes that are used in many of the IBM Tivoli commands to designate the product you want to take action on. This table also indicates whether the product requires its seed data to be provided to the CMS to ensure proper coordination between the two.

Product Codes

The following table lists IBM Tivoli products and their associated product codes:

Table 62. IBM Tivoli Product Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Seed</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>a2</td>
<td>✔</td>
<td>Alert Adapter for AF/REMOTE</td>
</tr>
<tr>
<td>tv</td>
<td>✔</td>
<td>Alert Adapter for Tivoli Enterprise Console</td>
</tr>
<tr>
<td>vt</td>
<td>NO</td>
<td>Alert Emitter for Tivoli Enterprise Console</td>
</tr>
<tr>
<td>ms</td>
<td>NO</td>
<td>Candle Management Server</td>
</tr>
<tr>
<td>cw</td>
<td>NO</td>
<td>CandleNet Portal browser client</td>
</tr>
<tr>
<td>cj</td>
<td>NO</td>
<td>CandleNet Portal desktop client</td>
</tr>
<tr>
<td>cq</td>
<td>NO</td>
<td>CandleNet Portal Server</td>
</tr>
<tr>
<td>hd</td>
<td>NO</td>
<td>Warehouse Proxy</td>
</tr>
</tbody>
</table>
Introduction

IBM Tivoli uses an abbreviation to represent the various operating system architectures. This information can also be found in the following file on UNIX: $candlehome/registry/archdsc.tbl.

Architecture Codes

The following table is the most current listing of these abbreviations:

Table 63. IBM Tivoli Operating System Architecture Abbreviations

<table>
<thead>
<tr>
<th>OS Architecture</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIX v5.1 (32 bit)</td>
<td>aix513</td>
</tr>
<tr>
<td>AIX v5.1 (64 bit)</td>
<td>aix516</td>
</tr>
<tr>
<td>AIX v5.2 (32 bit)</td>
<td>aix523</td>
</tr>
<tr>
<td>AIX v5.2 (64 bit)</td>
<td>aix526</td>
</tr>
<tr>
<td>Citrix® Metaframe™</td>
<td>citrix</td>
</tr>
<tr>
<td>Digital UNIX (prior to V5.0)</td>
<td>osf1</td>
</tr>
<tr>
<td>HP-UX v10.01/10.10</td>
<td>hp10</td>
</tr>
<tr>
<td>HP-UX v10.20</td>
<td>hp102</td>
</tr>
<tr>
<td>HP-UX v11</td>
<td>hp11</td>
</tr>
<tr>
<td>HP-UX v11 (64 bit)</td>
<td>hp116</td>
</tr>
<tr>
<td>Linux Intel v2.2</td>
<td>li622</td>
</tr>
<tr>
<td>Linux Intel v2.2 (32 bit)</td>
<td>li6223</td>
</tr>
<tr>
<td>Linux Intel v2.4</td>
<td>li624</td>
</tr>
<tr>
<td>Linux Intel v2.4 (32 bit)</td>
<td>li6243</td>
</tr>
<tr>
<td>Linux Intel v2.4 (64 bit)</td>
<td>li6246</td>
</tr>
<tr>
<td>Linux zSeries, 2.2 kernel</td>
<td>ls322</td>
</tr>
<tr>
<td>Linux zSeries, v2.2 (32 bit)</td>
<td>ls3223</td>
</tr>
<tr>
<td>Linux zSeries, v2.2 (64 bit)</td>
<td>ls3226</td>
</tr>
</tbody>
</table>
Table 63. IBM Tivoli Operating System Architecture Abbreviations (continued)

<table>
<thead>
<tr>
<th>OS Architecture</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux zSeries, v2.4</td>
<td>ls324</td>
</tr>
<tr>
<td>Linux zSeries, v2.4 (32 bit)</td>
<td>ls3243</td>
</tr>
<tr>
<td>Linux zSeries, v2.4 (64 bit)</td>
<td>ls3246</td>
</tr>
<tr>
<td>OS/400</td>
<td>os400</td>
</tr>
<tr>
<td>Solaris v2.4</td>
<td>sol24</td>
</tr>
<tr>
<td>Solaris v2.5</td>
<td>sol25</td>
</tr>
<tr>
<td>Solaris v2.6</td>
<td>sol26</td>
</tr>
<tr>
<td>Solaris v7 (32 bit)</td>
<td>sol273</td>
</tr>
<tr>
<td>Solaris v7 (64 bit)</td>
<td>sol276</td>
</tr>
<tr>
<td>Solaris v8 (32 bit)</td>
<td>sol283</td>
</tr>
<tr>
<td>Solaris v8 (64 bit)</td>
<td>sol286</td>
</tr>
<tr>
<td>Solaris v9 (32 bit)</td>
<td>sol293</td>
</tr>
<tr>
<td>Solaris v9 (64 bit)</td>
<td>sol296</td>
</tr>
<tr>
<td>Tru64 v5.0</td>
<td>tsf50</td>
</tr>
<tr>
<td>UNIX</td>
<td>unix</td>
</tr>
<tr>
<td>Windows 2000 and Windows 2003 Server</td>
<td>winnt</td>
</tr>
<tr>
<td>z/OS</td>
<td>os390</td>
</tr>
</tbody>
</table>
If you have a problem with your IBM software, you want to resolve it quickly. This section describes the following options for obtaining support for IBM software products:

- “Searching knowledge bases” on page 229
- “Obtaining fixes” on page 230
- “Receiving weekly support updates” on page 230
- “Contacting IBM Software Support” on page 231

**Searching knowledge bases**

You can search the available knowledge bases to determine whether your problem was already encountered and is already documented.

**Searching the information center**

IBM provides extensive documentation that can be installed on your local computer or on an intranet server. You can use the search function of this information center to query conceptual information, instructions for completing tasks, and reference information.

**Searching the Internet**

If you cannot find an answer to your question in the information center, search the Internet for the latest, most complete information that might help you resolve your problem.

To search multiple Internet resources for your product, use the **Web search** topic in your information center. In the navigation frame, click **Troubleshooting and support > Searching knowledge bases** and select **Web search**. From this topic, you can search a variety of resources, including the following:

- IBM technotes
- IBM downloads
- IBM Redbooks®
- IBM developerWorks®
- Forums and newsgroups
- Google
Obtaining fixes

A product fix might be available to resolve your problem. To determine what fixes are available for your IBM software product, follow these steps:

2. Click Downloads and drivers in the Support topics section.
3. Select the Software category.
4. Select a product in the Sub-category list.
5. In the Find downloads and drivers by product section, select one software category from the Category list.
6. Select one product from the Sub-category list.
7. Type more search terms in the Search within results if you want to refine your search.
8. Click Search.
9. From the list of downloads returned by your search, click the name of a fix to read the description of the fix and to optionally download the fix.

For more information about the types of fixes that are available, IBM Software Support Handbook at http://techsupport.services.ibm.com/guides/handbook.html.

Receiving weekly support updates

To receive weekly e-mail notifications about fixes and other software support news, follow these steps:

2. Click My Support in the upper right corner of the page.
3. If you have already registered for My Support, sign in and skip to the next step. If you have not registered, click register now. Complete the registration form using your e-mail address as your IBM ID and click Submit.
4. Click Edit Profile.
5. In the Products list, select Software. A second list is displayed.
6. In the second list, select a product segment, for example, Application servers. A third list is displayed.
7. In the third list, select a product sub-segment, for example, Distributed Application & Web Servers. A list of applicable products is displayed.
8. Select the products for which you want to receive updates, for example, IBM HTTP Server and WebSphere Application Server.
9. Click Add products.
10. After selecting all products that are of interest to you, click Subscribe to email on the Edit profile tab.
11. Select Please send these documents by weekly email.
12. Update your e-mail address as needed.

13. In the Documents list, select Software.

14. Select the types of documents that you want to receive information about.

15. Click Update.

If you experience problems with the My support feature, you can obtain help in one of the following ways:

**Online:** Send an e-mail message to erchelp@ca.ibm.com, describing your problem.

**By phone:** Call 1-800-IBM-4You (1-800-426-4968).

**Contacting IBM Software Support**

IBM Software Support provides assistance with product defects.

Before contacting IBM Software Support, your company must have an active IBM software maintenance contract, and you must be authorized to submit problems to IBM. The type of software maintenance contract that you need depends on the type of product you have:

- For IBM distributed software products (including, but not limited to, Tivoli, Lotus®, and Rational® products, as well as DB2® and WebSphere® products that run on Windows or UNIX operating systems), enroll in Passport Advantage® in one of the following ways:
  - **Online:** Go to the Passport Advantage Web page ([http://www.lotus.com/services/passport.nsf/WebDocs/Passport_Advantage_Home](http://www.lotus.com/services/passport.nsf/WebDocs/Passport_Advantage_Home)) and click How to Enroll
  - **By phone:** For the phone number to call in your country, go to the IBM Software Support Web site at [http://techsupport.services.ibm.com/guides/contacts.html](http://techsupport.services.ibm.com/guides/contacts.html) and click the name of your geographic region.

- For customers with Subscription and Support (S & S) contracts, go to the Software Service Request Web site at [https://techsupport.services.ibm.com/ssr/login](https://techsupport.services.ibm.com/ssr/login).


- For IBM eServer™ software products (including, but not limited to, DB2 and WebSphere products that run in zSeries, pSeries, and iSeries environments), you can purchase a software maintenance agreement by working directly with an IBM sales representative or an IBM Business Partner. For more information about support for eServer software products, go to the IBM Technical Support Advantage Web site at [http://www.ibm.com/servers/eserver/techsupport.html](http://www.ibm.com/servers/eserver/techsupport.html).

If you are not sure what type of software maintenance contract you need, call 1-800-IBMSERV (1-800-426-7378) in the United States. From other countries, go to the contacts page of the **IBM Software Support Handbook** on the Web at
To contact IBM Software Support, follow these steps:

1. “Determining the business impact” on page 232
2. “Describing problems and gathering information” on page 232
3. “Submitting problems” on page 233

Determining the business impact

When you report a problem to IBM, you are asked to supply a severity level. Therefore, you need to understand and assess the business impact of the problem that you are reporting. Use the following criteria:

<table>
<thead>
<tr>
<th>Severity 1</th>
<th>The problem has a critical business impact. You are unable to use the program, resulting in a critical impact on operations. This condition requires an immediate solution.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity 2</td>
<td>The problem has a significant business impact. The program is usable, but it is severely limited.</td>
</tr>
<tr>
<td>Severity 3</td>
<td>The problem has some business impact. The program is usable, but less significant features (not critical to operations) are unavailable.</td>
</tr>
<tr>
<td>Severity 4</td>
<td>The problem has minimal business impact. The problem causes little impact on operations, or a reasonable circumvention to the problem was implemented.</td>
</tr>
</tbody>
</table>

Describing problems and gathering information

When explaining a problem to IBM, be as specific as possible. Include all relevant background information so that IBM Software Support specialists can help you solve the problem efficiently. To save time, know the answers to these questions:

- What software versions were you running when the problem occurred?
- Do you have logs, traces, and messages that are related to the problem symptoms? IBM Software Support is likely to ask for this information.
- Can you re-create the problem? If so, what steps were performed to re-create the problem?
- Did you make any changes to the system? For example, did you make changes to the hardware, operating system, networking software, and so on.
- Are you currently using a workaround for the problem? If so, be prepared to explain the workaround when you report the problem.
- What software versions were you running when the problem occurred?
Submitting problems

You can submit your problem to IBM Software Support in one of two ways:

- **Online**: Click **Submit and track problems** on the IBM Software Support site at http://www.ibm.com/software/support/probsub.html. Type your information into the appropriate problem submission form.

- **By phone**: For the phone number to call in your country, go to the contacts page of the IBM Software Support Handbook (http://techsupport.services.ibm.com/guides/contacts.html) and click the name of your geographic region.

If the problem you submit is for a software defect or for missing or inaccurate documentation, IBM Software Support creates an Authorized Program Analysis Report (APAR). The APAR describes the problem in detail. Whenever possible, IBM Software Support provides a workaround that you can implement until the APAR is resolved and a fix is delivered. IBM publishes resolved APARs on the Software Support Web site daily, so that other users who experience the same problem can benefit from the same resolution.
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