Installing Candle Products
on HP NonStop Kernel

Version CT350

GC32-9215-00

June 2004

Candle Corporation
100 North Sepulveda Blvd.
El Segundo, California 90245
Installing Candle Products on HP NonStop Kernel (version CT350)


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Introduction

This guide explains how to install OMEGAMON® XE on the HP NonStop Kernel (formerly known as Tandem NonStop Kernel) operating system.

The following Candle® products comprise the OMEGAMON XE product family on HP NonStop Kernel:

- OMEGAMON XE for WebSphere MQ Configuration agent
- OMEGAMON XE for WebSphere MQ Monitoring agent

The term “installation” in this guide refers to the following tasks:

- Restoring files to disk
- Copying restored files to the appropriate volumes and subvolumes
- Customizing template files with your site-specific configuration values
- Executing template files to start the agents

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About this Book

Who should read this book

This guide was written for systems, maintenance, or installation programmers, as well as Candle system administrators. Although most operating system commands necessary to complete the tasks in this guide are provided, it is assumed that users of this guide are familiar with the HP NonStop Kernel operating system and have access to system manuals. They should also have a working knowledge of IBM’s WebSphere MQ product.

Users of this guide must know the target configuration for their OMEGAMON XE for WebSphere MQ environment. Users of this guide must know the planned configuration for their OMEGAMON XE environment. They should consult with their Candle system administrator to ensure that they know where the Candle Management Server® (CMS™), CandleNet Portal® Servers, Candle Management Workstation® (CMW™), CandleNet Portal, and the agents are to be installed.

Scope of this book

This guide contains instructions to start the agents with a minimal configuration. This guide does not contain instructions for implementing advanced configuration or customization features such as customizing the monitoring options associated with OMEGAMON XE for WebSphere MQ Monitoring or securing the configuration database.

This guide does not contain instructions on how to use OMEGAMON XE. For example, it does not explain how to view reports using the CandleNet Portal interface.

This guide does not explain how to install prerequisite software such as WebSphere MQ. That information can be found in the related IBM installation documentation.

This guide addresses issues that are specific to installing Candle product components. General issues such as maintaining, fine-tuning, or securing your OMEGAMON XE environment as a whole are beyond the scope of this guide.
Documentation set information

This guide covers the HP NonStop Kernel operating system; however most Candle installations comprise several platforms. Refer to the following guides:

- Installation and Configuration of Candle Products on OS/390 and z/OS
- Candle Management Server on OS/390 and z/OS Configuration and Customization Guide
- Installing Candle Products on Windows
- Installing Candle Products on OS/400
- Installing Candle Products on UNIX

As in previous releases, product-specific Configuration and Customization Guides may also be provided.

Where to look for more information

For more information about a Candle product, see:

- Online help.
- Technical documentation CD-ROM (if one came with the product).

We would like to hear from you

Candle welcomes your comments and suggestions for changes or additions to the documentation set. A user comment form located at the back of this manual provides simple instructions for communicating with the Candle Information Development department. You can also send E-mail to UserDoc@candle.com. Please include "Installing Candle Products on HP NonStop Kernel" in the subject line.
Adobe Portable Document Format

Printing this book
Candle supplies documentation in the Adobe Portable Document Format (PDF). The Adobe Acrobat Reader will print PDF documents with the fonts, formatting, and graphics in the original document. To print a Candle document, do the following:

1. Specify the print options for your system. From the Acrobat Reader Menu bar, select File > Page Setup… and make your selections. A setting of 300 dpi is highly recommended as is duplex printing if your printer supports this option.

2. To start printing, select File > Print… on the Acrobat Reader Menu bar.

3. On the Print pop-up, select one of the Print Range options for
   - All
   - Current page
   - Pages from: [ ] to: [ ]

4. (Optional). Select the Shrink to Fit option if you need to fit oversize pages to the paper size currently loaded on your printer.

Printing problems?
The print quality of your output is ultimately determined by your printer. Sometimes printing problems can occur. If you experience printing problems, potential areas to check are:

- settings for your printer and printer driver. (The dpi settings for both your driver and printer should be the same. A setting of 300 dpi is recommended.)

- the printer driver you are using. (You may need a different printer driver or the Universal Printer driver from Adobe. This free printer driver is available at www.adobe.com.)

- the halftone/graphics color adjustment for printing color on black and white printers (check the printer properties under Start > Settings > Printer). For more information, see the online help for the Acrobat Reader.

- the amount of available memory in your printer. (Insufficient memory can cause a document or graphics to fail to print.)

For additional information on printing problems, refer to the documentation for your printer or contact your printer manufacturer.
Contacting Adobe

If additional information is needed about Adobe Acrobat Reader or printing problems, see the Readme.pdf file that ships with Adobe Acrobat Reader or contact Adobe at www.adobe.com.

Adding annotations to PDF files

If you have purchased the Adobe Acrobat application, you can add annotations to Candle documentation in .PDF format. See the Adobe product for instructions on using the Acrobat annotations tool and its features.
Documentation Conventions

Introduction
Candle documentation adheres to accepted typographical conventions for
command syntax. Conventions specific to Candle documentation are
discussed in the following sections.

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

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

beBA*ServiceMonitor50990221161551000

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 OS/390, VM, 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>
</table>
| | 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 | NO**  
In this example, YES or NO may be specified. |
| [] | Denotes optional arguments. Those arguments not enclosed in square brackets are required. Example:  
**APPLDEST DEST [ALTDEST]**  
In this example, DEST is a required argument and ALTDEST is optional. |
| {} | Some documents use braces to denote required arguments, or to group arguments for clarity. Example:  
**COMPARE {workload} - REPORT={SUMMARY | HISTOGRAM}**  
The workload variable is required. The REPORT keyword must be specified with a value of SUMMARY or HISTOGRAM. |
| _ | Default values are underscored. Example:  
**COPY infile outfile - [COMPRESS={YES | NO}]**  
In this example, the COMPRESS keyword is optional. If specified, the only valid values are YES or NO. If omitted, the default is YES. |
Candle Customer Service and Satisfaction

Background

To assist you in making effective use of our products, Candle offers a variety of easy-to-use online support resources. The Candle Web site provides direct links to a variety of support tools that include these services:

- **eSupport**: allows you to create and update service requests opened with Customer Service and Satisfaction (CSS).
- **eDelivery**: allows you to download products, documentation, and maintenance 24 hours a day, 7 days a week.
- **eNotification**: notifies you of product updates and new releases.

In addition, you can find information about training, maintenance plans, consulting and services, and other useful support resources. Refer to the Candle Web site at [www.candle.com](http://www.candle.com) for detailed customer service information.

**Candle Customer Service and Satisfaction contacts**

You will find the most current information about how to contact Candle CSS by telephone or email on the Candle Web site. Go to the [www.candle.com](http://www.candle.com) support section, and choose the link to Support Contacts to locate your regional support center.
How to Proceed

About the two-phase installation process

The installation is a two-phase process as follows:

1. Planning and preparation.
   In this phase you will verify that prerequisite hardware and software is in place, that you are installing the components of OMEGAMON XE for WebSphere MQ Monitoring and OMEGAMON XE for WebSphere MQ Configuration in the correct order, that you have sufficient disk space, and that you have compiled all site-specific values that are required during the installation.
   Completing these steps ensures that your installation will be performed as efficiently as possible.

2. Installation and configuration.
   In this phase you will restore the agent software and copy it to appropriate volumes and subvolumes. You will then edit the template files that define agent-to-CMS and CandleNet Portal connections and execute them to start the agents.

When you complete the above steps OMEGAMON XE will be operational for your site; however, you may wish to refer to the OMEGAMON XE for WebSphere MQ Monitoring User’s Guide to change options for the OMEGAMON XE for WebSphere MQ Monitoring agent.
How to Proceed
What’s New in This Release

Major enhancements and changes affecting installation of the OMEGAMON XE product family are summarized below.

Product versions

The information in this installation guide applies to the products and versions shown below, some of which involve enhancements from the previous release.

Table 2. Products and Versions for Current Release

<table>
<thead>
<tr>
<th>Product</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alert Adapter™ for OMEGACENTER Gateway™ for MVS</td>
<td>150</td>
</tr>
<tr>
<td>Alert Adapter for Peregrine ServiceCenter</td>
<td>202</td>
</tr>
<tr>
<td>Alert Adapter for Remedy ARS</td>
<td>202</td>
</tr>
<tr>
<td>Alert Adapter for TME 10 NetView for AIX</td>
<td>200</td>
</tr>
<tr>
<td>Alert Adapter for AF/Remote®</td>
<td>121</td>
</tr>
<tr>
<td>CandleNet Portal</td>
<td>195</td>
</tr>
<tr>
<td>CMS</td>
<td>350</td>
</tr>
<tr>
<td>CMW</td>
<td>350</td>
</tr>
<tr>
<td>Command &amp; Control™</td>
<td>110</td>
</tr>
<tr>
<td>Log Alert Agent</td>
<td>200</td>
</tr>
<tr>
<td>OMEGAMON Alert Manager for HP OpenView IT/Operations</td>
<td>201</td>
</tr>
<tr>
<td>OMEGAMON Alert Manager for HP OpenView NNM</td>
<td>201</td>
</tr>
<tr>
<td>OMEGAMON Alert Manager for Tivoli/Enterprise Console</td>
<td>250</td>
</tr>
<tr>
<td>Product</td>
<td>Version</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>OMEGAMON DE</td>
<td>195</td>
</tr>
<tr>
<td>OMEGAMON Monitoring Agent® for eBA Solutions</td>
<td>251</td>
</tr>
<tr>
<td>OMEGAMON Web Services</td>
<td>350</td>
</tr>
<tr>
<td>OMEGAMON XE for BEA WebLogic Server</td>
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<tr>
<td>OMEGAMON XE for CICS</td>
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</tr>
<tr>
<td>OMEGAMON XE for CICSplox</td>
<td>220</td>
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<tr>
<td>OMEGAMON XE for DB2 Universal Database (DB2 UDB)</td>
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<tr>
<td>OMEGAMON XE for DB2plex</td>
<td>220</td>
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<tr>
<td>OMEGAMON XE for IBM Cryptographic Coprocessors</td>
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</tr>
<tr>
<td>OMEGAMON XE for IMS</td>
<td>100</td>
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<tr>
<td>OMEGAMON XE for IMSplex</td>
<td>220</td>
</tr>
<tr>
<td>OMEGAMON XE for Linux</td>
<td>120</td>
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<tr>
<td>OMEGAMON XE for Microsoft SQL Server</td>
<td>301</td>
</tr>
<tr>
<td>OMEGAMON XE for Mainframe Networks</td>
<td>100</td>
</tr>
<tr>
<td>OMEGAMON XE for NetWare</td>
<td>301</td>
</tr>
<tr>
<td>OMEGAMON XE for Oracle</td>
<td>301</td>
</tr>
<tr>
<td>OMEGAMON XE for OS/390</td>
<td>140</td>
</tr>
<tr>
<td>OMEGAMON XE for OS/390 UNIX System Services</td>
<td>220</td>
</tr>
<tr>
<td>OMEGAMON XE for OS/400</td>
<td>300</td>
</tr>
<tr>
<td>OMEGAMON XE for R/3™ a</td>
<td>301</td>
</tr>
<tr>
<td>OMEGAMON XE for Storage</td>
<td>100</td>
</tr>
<tr>
<td>OMEGAMON XE for Sybase</td>
<td>301</td>
</tr>
<tr>
<td>OMEGAMON XE for Sysplex</td>
<td>220</td>
</tr>
<tr>
<td>OMEGAMON XE for Tuxedo</td>
<td>301</td>
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<tr>
<td>OMEGAMON XE for UNIX</td>
<td>201</td>
</tr>
<tr>
<td>OMEGAMON XE for WebSphere Application Server</td>
<td>120</td>
</tr>
<tr>
<td>OMEGAMON XE for WebSphere Integration Brokers</td>
<td>120</td>
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</table>
Table 2. Products and Versions for Current Release (continued)

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<thead>
<tr>
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<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>OMEGAMON XE for WebSphere MQ Configuration</td>
<td>360</td>
</tr>
<tr>
<td>OMEGAMON XE for WebSphere MQ Monitoring</td>
<td>360</td>
</tr>
<tr>
<td>OMEGAMON XE for Windows</td>
<td>301</td>
</tr>
<tr>
<td>OMEGAMON XE for Windows Management Web Service</td>
<td>100</td>
</tr>
<tr>
<td>OMEGAVIEW II® for the Enterprise</td>
<td>300</td>
</tr>
<tr>
<td>Universal Agent</td>
<td>410</td>
</tr>
<tr>
<td>Warehouse Proxy</td>
<td>350</td>
</tr>
</tbody>
</table>

a. R/3 is a trademark of SAP AG.

CandleNet Portal (version 195)
CandleNet Portal supersedes the CMW as the primary interface into your OMEGAMON XE products. CandleNet Portal (version 195) is included in the current release. For information on installing CandleNet Portal, refer to Installing Candle Products on Windows.

CMS (version 350)
Version 350 of the CMS is included in the current release.

Renamed products or platforms

- The product formerly known as Candle Command Center® for MQSeries has been renamed to OMEGAMON XE for WebSphere MQ Monitoring.
- The product formerly known as Candle Command Center for MQSeries Configuration has been renamed to OMEGAMON XE for WebSphere MQ Configuration.
- The operating system formerly known as Tandem NonStop Kernel has been renamed to HP NonStop Kernel.
Preparing for Installation

Introduction
The steps required for planning and preparation are summarized below, along with the page number where detailed instructions for each step begin.

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What Are OMEGAMON XE and OMEGAMON DE?

What OMEGAMON XE does

OMEGAMON XE is a suite of Candle 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 OMEGAMON XE

You can use OMEGAMON XE to:

- 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 XE platform

The client, server, and agent implementation includes

- 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.
What Are OMEGAMON XE and OMEGAMON DE?

- 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 OS/390, z/OS, UNIX, or Windows XP Professional Edition or Windows 2000.
- Agents installed on the systems or subsystems you want to monitor. These 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 Candle monitored environment, the CMW still offers some features not otherwise available, such as the Universal Message Console and the Policy Microscope.

Figure 1. OMEGAMON XE Platform Components
What Are OMEGAMON XE and OMEGAMON DE?

What OMEGAMON DE does

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 OS/390, and a transaction processor on CICS on the mainframe. 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 or Windows 2000, CandleNet Portal is the interface into your OMEGAMON XE 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.

Also see “CandleNet Portal Components in This Package” on page 30.

Two modes of operation

- Desktop mode, whereby the CandleNet Portal client is installed on your workstation and runs as a desktop application.
- Browser mode, whereby the administrator installs the CandleNet Portal Browser Client with the CandleNet Portal Server and Candle web client on the same machine. You can then 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.
What Are OMEGAMON XE and OMEGAMON DE?

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 MQ), and applications (such as R/3).

- **Alert Managers**
  
  These agents monitor non-Candle monitoring products for a remote system, subsystem, or application, and relay alert information to 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 Candle alerts to a non-Candle monitoring product.

- **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.

- **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 OS/390, 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.
What Are OMEGAMON XE and OMEGAMON DE?

CMS

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, OS/390, z/OS, Windows XP Professional Edition, or Windows 2000.

Hub CMS

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 CMSs

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.

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, Candle 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, “candle” and “candleremote” 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.
What Are OMEGAMON XE and OMEGAMON DE?

Figure 2. Configuration Including a Remote CMS

CMA on managed system

Hub CMS on UNIX

Remote CMS on Win NT

CMA on managed system

CMA on managed system

CandleNet Portal Server or CMW

Preparing for Installation
CandleNet Portal Components in This Package

CandleNet Portal
CandleNet Portal includes its own server and two types of client interface components. Here 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
The installation choice labeled “CandleNet Portal Client (Browser Edition)” installs Java-based interface support and the Candle web server on the same systems as your CandleNet Portal Server.
Once the Browser Client component is installed and configured as a web site, users can enter the URL for the web site to start CandleNet Portal browser mode.

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.

Candle products compatible with this release
For a list of the Candle products that are compatible with CandleNet Portal (version 195), see the What’s New in This Release chapter of this manual.
Agent Components in This Package

What OMEGAMON XE for WebSphere MQ Monitoring does
OMEGAMON XE for WebSphere MQ Monitoring enables you to collect and analyze WebSphere MQ data for all your remote and local queue managers from a single vantage point, thereby providing all the information you need to manage your WebSphere MQ environment effectively.

The OMEGAMON XE for WebSphere MQ Monitoring agent obtains its information by writing WebSphere MQ query commands to the WebSphere MQ command server. It makes available the following information, on both a real-time or historical (persistent) basis:

- Queue Manager Status
- Queue Definitions and Statistics
- Channel Definitions and Performance Data
- WebSphere MQ Events

What OMEGAMON XE for WebSphere MQ Configuration does
OMEGAMON XE for WebSphere MQ Configuration enables you to create and configure WebSphere MQ queue managers across your enterprise.

The OMEGAMON XE for WebSphere MQ Configuration agent enables you to:

- Design the WebSphere MQ environment for your entire network, including queue managers, queues, channels, and processes. You can then prototype and implement your design.
- Reconfigure all or part of your existing WebSphere MQ environment by modifying the prototypes upon which it is based.
- Use existing WebSphere MQ components to create OMEGAMON XE for WebSphere MQ Configuration prototypes, which you can then use to build other WebSphere MQ components exactly like the first.
- Group queue managers into collections known as configured system groups, enabling you to perform operations upon all members of a group by applying just one action.
Agent Components in This Package

- Group other resources (such as queues, channels, or processes) into collections known as resource groups, enabling you to perform operations upon all members of a group by applying just one action.

- Copy or move components in your WebSphere MQ environment to another part of your network, or delete them. For example, you can copy a queue manager and all its objects from one workstation to another, thereby ensuring parallel configurations.

- Quickly and automatically define channels and transmission queues between queue managers.

OMEGAMON XE for WebSphere MQ Configuration stores all information about your WebSphere MQ environment, including your prototypes, in a special database called the Configuration Database.
Importance of Preparation Steps

Overview

OMEGAMON XE for WebSphere MQ Monitoring and OMEGAMON XE for WebSphere MQ Configuration operate on an enterprise-wide basis, their components running on various operating systems, networked together through one of two network protocols. The installation or upgrade of these components and their prerequisites is frequently performed by different personnel, often geographically dispersed. For these reasons, ensuring the successful installation of OMEGAMON XE for WebSphere MQ Monitoring and OMEGAMON XE for WebSphere MQ Configuration requires coordination, communication, planning, and preparation.


Note also that while the components of OMEGAMON XE for WebSphere MQ Monitoring and OMEGAMON XE for WebSphere MQ Configuration may support a firewall configuration on some supported operating systems, they do not support a firewall on HP NonStop Kernel.
Step 1. Determining Where to Install Each Component

Purpose of this step
This step ensures that you know where (on which operating systems and which machines) to install each component of OMEGAMON XE for WebSphere MQ Monitoring and OMEGAMON XE for WebSphere MQ Configuration.

Procedure

1. Determine where you wish to collect data generated by the agents.
   This is where you must install the CMS. Depending upon the complexity of your environment, the number of agents you install, and the amount of data you choose to collect, you may need to install 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. Note that only a hub CMS can have a CMW connected to it.
   
   Your site may install a CMS on OS/390, z/OS, UNIX, or Windows XP Professional Edition or Windows 2000. Refer to the guides listed below, as needed, for instructions:
   - Installation and Configuration of Candle Products on OS/390 and z/OS
   - Candle Management Server on OS/390 and z/OS Configuration and Customization Guide
   - Installing Candle Products on UNIX
   - Installing Candle Products on Windows

   Note: OMEGAMON XE for WebSphere MQ Monitoring supports all the platforms listed above. However, OMEGAMON XE for WebSphere MQ Configuration does not support a CMS on Solaris. Note further that OMEGAMON XE for WebSphere MQ Configuration does not support a hot-standby CMS.

2. Determine where you wish to install the CandleNet Portal and (if necessary) the CMW. Your site may install these on Windows XP Professional Edition or Windows 2000. Refer to Installing Candle Products on Windows for instructions.
Step 1. Determining Where to Install Each Component

3. Determine where your WebSphere MQ application is running. This is where you must install the OMEGAMON XE for WebSphere MQ Monitoring agent and the OMEGAMON XE for WebSphere MQ Configuration agent.
Step 2. Checking Order of Component Installation or Upgrade

Purpose of this step
This step ensures that new and existing customers install or upgrade their CMS, CandleNet Portal, CMW, and agents in the correct order.

Procedure
New and existing customers should install or upgrade in the following order:

1. Hub CMS
2. Remote CMS
3. CandleNet Portal Server and CandleNet Portal Browser Client
4. CandleNet Portal Desktop Client and (if necessary) CMW
5. Agents

Note: Once the CMSs have been installed, the CMW and the agents can be installed in any order.

For new customers, this order provides maximum efficiency. For existing customers, this order prevents communication problems between components.
Step 3. Checking Installation Prerequisites

Purpose of this step
This step ensures that prerequisites are in place for installing OMEGAMON XE for WebSphere MQ Monitoring and OMEGAMON XE for WebSphere MQ Configuration.

Procedure
Review the prerequisites below and verify that your site is in compliance.

Network communications
Your site must be using Transmission Control Protocol/Internet Protocol (TCP/IP) for network communication. OMEGAMON XE for WebSphere MQ Monitoring and OMEGAMON XE for WebSphere MQ Configuration do not support SNA on the HP NonStop Kernel platform.
TCP/IP network services such as NIS, DNS, and the /etc/hosts file should be configured to return the fully qualified hostname of the CMS and the agents (for example: #HostName.candle.com). This configuration minimizes the risk of inconsistent values being returned for the hostname.

WebSphere MQ
Your site must have installed WebSphere MQ for HP NonStop Kernel (version 5.1).
The instructions in this guide assume that WebSphere MQ default objects, such as SYSTEM.DEFAULT.MODEL.QUEUE, exist. If they do not currently exist in your environment, you must create them before attempting to start the agent.
If you wish to monitor WebSphere MQ events, use the appropriate IBM WebSphere MQ command to ensure that the following WebSphere MQ parameters are enabled (refer to your WebSphere MQ documentation if necessary):

- INHIBTEV
- LOCALEV
- PERFMEV
Step 3. Checking Installation Prerequisites

- **REMOTEENV**
- **STRSTPEV**

**Hardware**
Your site must have installed NonStop Himalaya machines in the K-series or S-series hardware range (for example: K2000, K10000, S7000, S74000).

**Software**
Your site must be running HP NonStop Kernel operating system in the D-series or G-series (for example: D20, D30, D40, G03, G06).

**Release media**
The software that comprises the monitoring and configuration agents is released either on tape cartridge in 36-track format or as an archive file (ARCCCMQ). If you plan to install from the archive file, you must have the UNPAK utility.

UNPAK is a shareware utility (not supported by Candle) available on the Internet.

The utility must reside in a location that is in the default search path for the group, user performing the installation (MQM.MANAGER).

**Accounts**
Both the monitoring and configuration agents must be installed and executed under the MQM.MANAGER account.

**Additional utilities**
The following standard HP NonStop Kernel utilities are used during installation and should be installed on your machine:
- **TACL**
- **EDIT or TEDIT**
- **RESTORE/BACKUP or PAK/UNPAK**
- **ENSCRIBE**
- **PATHWAY**
- **PERUSE/SPOOLCOM**
Step 4. Checking Installation Limitations

Purpose of this step
This step ensures that you are aware of two limitations in configuring your OMEGAMON XE environment.

Procedure
Note the following limitations as you plan your configuration:

- OMEGAMON XE for WebSphere MQ Configuration may not report to a Solaris-based CMS.
- OMEGAMON XE for WebSphere MQ Configuration does not support a hot-standby CMS.
Step 5. Completing the Installation Worksheet

Purpose of this step
This step assists you in compiling site-specific values that must be supplied during installation, such as the version of WebSphere MQ that you are running, the name of your CMS, and the name of the volume where you will install the agents.

Procedure
For each of the variables on the worksheet below, enter the corresponding value used at your site.

Table 3. Installation Worksheet

<table>
<thead>
<tr>
<th>Variable Description</th>
<th>Default or Symbolic Value</th>
<th>Your Site-Specific Value . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>The version of WebSphere MQ that your site is running (v5.1)</td>
<td>5.1</td>
<td></td>
</tr>
<tr>
<td>The logical name of your tape drive.</td>
<td>$tape</td>
<td></td>
</tr>
<tr>
<td>The name of a scratch volume where you will restore the installation script.</td>
<td>$scratch</td>
<td></td>
</tr>
<tr>
<td>The name of the target volume where the OMEGAMON XE software will reside.</td>
<td>$VOL</td>
<td></td>
</tr>
<tr>
<td>The name of the subvolume where the OMEGAMON XE executables will reside.</td>
<td>CCMQEXE</td>
<td></td>
</tr>
<tr>
<td>The name of the subvolume where the OMEGAMON XE configuration and log files will reside.</td>
<td>CCMQDAT</td>
<td></td>
</tr>
<tr>
<td>The machine name (hostname) of the hub CMS.</td>
<td>CMSHOSTNAME</td>
<td></td>
</tr>
</tbody>
</table>
Table 3. Installation Worksheet (continued)

<table>
<thead>
<tr>
<th>The listening port for the agents and the CMS</th>
<th>(2 135 1918)</th>
<th>Candle strongly recommends that you retain the default value.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The name of the PATHMON process where the agents will run.</td>
<td>PATHMON process name</td>
<td></td>
</tr>
<tr>
<td>The name of the home terminal.</td>
<td>Home terminal</td>
<td></td>
</tr>
<tr>
<td>The name of the WebSphere MQ DefaultPrefix</td>
<td>MQDefaultPrefix</td>
<td></td>
</tr>
</tbody>
</table>
Step 6. Verifying Disk Space

Purpose of this step
This step ensures that you have enough disk space to install the software.

Procedure
1. Log on to your machine as “MQM.MANAGER.”
   TACL> LOGON MQM.MANAGER
   PASSWORD: password
2. Verify that there is enough space on the installation volume. The software requires a minimum of 10 MB.
   TACL> DSAP $vol SHORT
   where $vol is the volume where you will install the OMEGAMON XE software.
   This completes planning and preparation.
3. Proceed to “Installation Steps” on page 43.
Introduction

This chapter contains step-by-step instructions for installing and configuring OMEGAMON XE for WebSphere MQ Monitoring and OMEGAMON XE for WebSphere MQ Configuration.

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Step 2. Restoring the Remaining Files ......................................................... 45
Step 3. Verifying Installation Results ......................................................... 49
Step 4. Customizing the Template Files ..................................................... 50
Step 5. Starting the Agents  ......................................................................... 57
Step 6. Adding Agents to a PATHWAY Configuration (optional) .............. 59
Step 7. Configuring Multiple OMEGAMON XE for WebSphere MQ Monitoring Agents (optional). ......................................................... 61
Step 1. Restoring the Installer Program (CCCMQINS)

Purpose of this step
This step restores the installer program (from either tape cartridge or from an archive file) to a scratch volume ($scratch) and the default subvolume CCCMQINS.

Procedure
1. If you are installing from tape cartridge, mount the tape on your tape drive ($tape) now.
2. Move to a scratch volume.
   TACL> VOLUME $scratch
   where scratch is any convenient volume.
3. Do one of the following:
   - If you are installing from tape cartridge:
     TACL> RESTORE $(tape), $*.*.CCCMQINS, &
     TACL> & MAP NAMES ($*.*. TO $scratch.*.*), &
     TACL> & NOUNLOAD, LISTALL, MYID
     where tape is the tape drive where you mounted the tape cartridge.
   - If you are installing from the ARCCCMQ archive file:
     TACL> UNPAK ARCCCMQ, $*.*.CCCMQINS, &
     TACL> & MAP NAMES ($*. TO $scratch.*.), &
     TACL> & NOUNLOAD, LISTALL, MYID
     The CCCMQINS file is restored to $scratch.CCCMQINS:
Step 2. Restoring the Remaining Files

Purpose of this step

This step executes the installation program CCCMQINS to restore the remaining files that comprise OMEGAMON XE for WebSphere MQ Monitoring and OMEGAMON XE for WebSphere MQ Configuration.

As the program executes, you are prompted for values for installation variables such as the names of the volume and subvolumes where you wish to restore the files. These values should have been compiled in “Step 5. Completing the Installation Worksheet” on page 40.

Procedure

1. If you are not at the volume and subvolume where you restored the installation program, move to it now.
   
   `TACL> VOLUME $scratch.CCCMQINS`

2. Execute the installation program.
   
   `TACL> CCCMQINS`
   
   The program responds with information messages.

3. At:
   
   **Enter the version of WebSphere MQ for Tandem [5.1]:**
   
   Press “Enter” to accept the default.

4. At:
   
   **Enter the install option [1]:**
   
   do one of the following:
   
   - If you wish to install both the OMEGAMON XE for WebSphere MQ Monitoring agent and the OMEGAMON XE for WebSphere MQ Configuration agent, press “Enter” to accept the default.
   
   - If you wish to install only the OMEGAMON XE for WebSphere MQ Monitoring agent (MQ), enter “2”.
   
   - If you wish to install only the OMEGAMON XE for WebSphere MQ Configuration agent (MC), enter “3”.

5. At:
Step 2. Restoring the Remaining Files

Enter TAPE or ARCHIVE [TAPE]:
do one of the following:
  - If you are installing from tape cartridge, press “Enter”, then enter the
    name of your tape drive; for example,
    $TAPE
  - If you are installing from the archive file, do the following:
    a. enter
    ARCHIVE
    b. Then enter the full path name where the archive file resides; for
       example,
    $VOL.SUBVOL.ARCCCMQ

6. At:
Enter the name of the spooler process [$S]:
do one of the following:
  - Press “Enter” to accept the default spooler process name ($S).
  - Enter a different spooler process name.
Output will be written to the spooler as job $sp.#CCINST, where sp is
your spooler process name.

7. At:
Enter the Volume name []:
enter the volume (up to 8 characters, preceded by $) where you wish to
install the OMEGAMON XE software.

8. At:
Enter the subvolume name [CCMQEXE]:
do one of the following:
  - Press “Enter” to accept the default subvolume where you wish to
    install the executables.
  - Enter a different subvolume name, up to 8 characters.

9. At:
Enter the subvolume name [CCMQDAT]:

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do one of the following:

– Press “Enter” to accept the default subvolume where you wish to install the installation tools and configuration files.

– Enter a different subvolume name, up to 8 characters.

The installation script displays the values you have entered.

10. At:

   **Ready to install? [YES]**

   do one of the following:

   – If you are satisfied with the values, press “Enter”.
   – If you wish to change any values, do the following:
     a. Enter
     b. Then re-execute the install script, making your changes where needed.

11. Wait for the following message:

   **Installation completed**

**Results**

**Table 4. executable Files Restored to $vol.CCMQEXE**

<table>
<thead>
<tr>
<th>KMCRCA</th>
<th>Starts the OMEGAMON XE for WebSphere MQ Configuration agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>KMQIRA</td>
<td>Starts the OMEGAMON XE for WebSphere MQ Monitoring agent</td>
</tr>
<tr>
<td>KRARLOFF</td>
<td>Converts the historical data file to a neutral file format for use with various analytical programs (refer to the Historical Data Collection Guide for OMEGAMON XE and CandleNet Command Center® (CCC™) for more information)</td>
</tr>
</tbody>
</table>

The following installation tools are restored to $vol.CCMQDAT (refer to “Step 4. Customizing the Template Files” on page 50 for a description of these files):

- PWADDMCT
- PWADDMQT
Step 2. Restoring the Remaining Files

- PWDELMC
- PWDELMQ
- PWSTPMC
- PWSTPMQ
- PWSTRMC
- PWSTRMQ
- SAMPLET
- STRMCT
- STRMQT
Step 3. Verifying Installation Results

Purpose of this step
This step verifies that your installation completed successfully with no errors.

Procedure
1. From a TACL prompt, use the PERUSE command to verify results.
   
   TAACL> PERUSE
   
   The system responds by listing jobs and their status.

2. At the PERUSE prompt, type this command to make current the installation job number:
   
   _ JOB jobnum
   
   where jobnum is the installation job number.

3. Locate any errors and warnings:
   
   _ FB /WARNING/
   
   _ FB /ERROR/

4. Resolve any problems. If necessary, re-execute the installation program.

5. When all problems have been resolved, delete the job from the spooler:
   
   _ DEL jobnum

6. Exit PERUSE:
   
   _ EXIT
Step 4. Customizing the Template Files

Purpose of this step

Your product tape (or archive file) contains several files that facilitate installation. These files are macros that help you perform such tasks as adding agents to a PATHWAY configuration or starting agents as a TACL process. Some of the files are template files containing default values, symbolic names, or sample values for environment variables such as volume or subvolume names. Template files cannot be used until the defaults are replaced with the actual values used at your site, a process referred to as customization.

Note: Template file names always end in T.

The table below describes each installation file. In this step you will customize the template files. Later, you will execute several of the files to start the agents.

Table 5. Installation Files

<table>
<thead>
<tr>
<th>File Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWADDMQT</td>
<td>Adds the OMEGAMON XE for WebSphere MQ Monitoring agent to a PATHWAY configuration.</td>
</tr>
<tr>
<td>PWADDMCT</td>
<td>Adds the OMEGAMON XE for WebSphere MQ Configuration agent to a PATHWAY configuration.</td>
</tr>
<tr>
<td>PWSTRMQ</td>
<td>Starts the OMEGAMON XE for WebSphere MQ Monitoring agent as a PATHWAY server.</td>
</tr>
<tr>
<td>PWSTRMC</td>
<td>Starts the OMEGAMON XE for WebSphere MQ Configuration agent as a PATHWAY server.</td>
</tr>
<tr>
<td>PWSTPMQ</td>
<td>Stops the OMEGAMON XE for WebSphere MQ Monitoring agent when running as a PATHWAY server.</td>
</tr>
<tr>
<td>PWSTPMC</td>
<td>Stops the OMEGAMON XE for WebSphere MQ Configuration agent when running as a PATHWAY server.</td>
</tr>
<tr>
<td>PWDELMQ</td>
<td>Deletes the OMEGAMON XE for WebSphere MQ Monitoring agent from a PATHWAY configuration.</td>
</tr>
<tr>
<td>PWDELMC</td>
<td>Deletes the OMEGAMON XE for WebSphere MQ Configuration agent from a PATHWAY configuration.</td>
</tr>
<tr>
<td>STRMQT</td>
<td>Starts the OMEGAMON XE for WebSphere MQ Monitoring agent as a TACL process.</td>
</tr>
</tbody>
</table>
Step 4. Customizing the Template Files

Table 5. Installation Files (continued)

<table>
<thead>
<tr>
<th>STRMCT</th>
<th>Starts the OMEGAMON XE for WebSphere MQ Configuration agent as a TACL process.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLET</td>
<td>This file is sometimes referred to as the “monitoring file”. Defines the monitoring options you wish to set, such as the name of the queue manager or channels to be monitored. In this step you will make a copy of SAMPLET called MQCFG.</td>
</tr>
<tr>
<td></td>
<td>This file is supplied with sample data that is sufficient to start the OMEGAMON XE for WebSphere MQ Monitoring agent to verify that CMS-to-agent connections are functioning. Later, as an optional step, you can customize the monitoring options in the MQCFG version of the file. Because SAMPLET may be overwritten with future maintenance, you must always customize the MQCFG version of the file.</td>
</tr>
</tbody>
</table>

Procedure

1. Do the following:
   1. If you are not already at the volume and subvolume containing the configuration and log files, move there now:
      
      TACL> VOLUME $vol.CCMQDAT
      
      where vol is your installation volume.
   2. If you changed the name of the default subvolume, enter the new name.

2. To preserve the original files, make a copy of each template file:
   
   TACL> FUP DUP PWADDMCT, PWADDMCA
   TACL> FUP DUP PWADDMQT, PWADDMQA
   TACL> FUP DUP SAMPLET, MQCFG
   TACL> FUP DUP STRMCT, STRMCA
   TACL> FUP DUP STRMQT, STRMQA

PWADDMCA

This file adds the OMEGAMON XE for WebSphere MQ Configuration agent to a PATHWAY configuration.

Edit PWADDMCA and do the following:
Step 4. Customizing the Template Files

1. Locate each instance of “<$VOL.CCMQDAT>”. Remove the angle brackets and change the values to reflect the volume and subvolume where your data files are located; for example,

   $MQVOL.CCMQDAT

2. Locate each instance of “<$VOL.CCMQEXE>”. Remove the angle brackets and change the values to reflect the volume.subvolume where your executables are located; for example,

   $MQVOL.CCMQEXE

3. Locate each instance of “<(2 135 1918)>”. Remove the angle brackets. If you are using a listening port other than 1918, change the last four digits to reflect that number. Candle recommends that you retain 1918 as the listening port for your production system.

4. Locate each instance of “<ip:CMSHOSTNAME>”. Remove the angle brackets and change CMSHOSTNAME to the name of the host machine where your CMS resides; for example,

   IP:CMS1

**PWADDMQA**

This file adds the OMEGAMON XE for WebSphere MQ Monitoring agent to a PATHWAY configuration.

Edit PWADDMQA and do the following:

1. Locate each instance of “<$VOL.CCMQDAT>”. Remove the angle brackets and change the values to reflect the volume.subvolume where your data files are located; for example,

   $MQVOL.CCMQDAT

2. Locate each instance of “<$VOL.CCMQEXE>”. Remove the angle brackets and change the values to reflect the volume.subvolume where your executables are located; for example,

   $MQVOL.CCMQEXE

3. Locate each instance of “<(2 135 1918)>”. Remove the angle brackets. If you are using a listening port other than 1918, change the last four digits to reflect that number. Candle recommends that you retain 1918 as the number of the listening port for your production system.

4. Locate each instance of “<ip:CMSHOSTNAME>”. Remove the angle brackets and change “CMSHOSTNAME” to the name of the host machine where your CMS resides; for example,
Step 4. Customizing the Template Files

**IP:CMS1**

If your site has configured a hot-standby CMS to which the agent will report in the event that the primary CMS becomes disabled, append the name of the host machine where the hot-standby CMS resides. For example, if the primary CMS is named “CMS1” and the hot-standby CMS is named “CMS2”, then the following entry is required:

**IP:CMS1;CMS2**

For information about configuring a hot-standby CMS:

- On Windows, refer to Installing Candle Products on Windows.
- On UNIX, refer to Installing Candle Products on UNIX.

Note that the hot-standby CMS feature is not currently supported on OS/390 and z/OS.

5. Locate each instance of “<SAMPLET>“. Remove the angle brackets and change “SAMPLET” to

**MQCFG**

**STRMCA**

This file starts the OMEGAMON XE for WebSphere MQ Configuration agent as a TACL process.

Edit STRMCA and do the following:

1. Locate each instance of “<$VOL.CCMQDAT>“. Remove the angle brackets and change the values to reflect the volume.subvolume where your configuration and log files are located; for example,

**$MQVOL.CCMQDAT**

2. Locate each instance of “<$VOL.CCMQEXE>“. Remove the angle brackets and change the values to reflect the volume.subvolume where your executables are located; for example,

**$MQVOL.CCMQEXE**

3. Locate each instance of “<(2 135 1918)>“. Remove the angle brackets. If you are using a listening port other than 1918, change the last four digits to reflect that number. Candle recommends that you retain 1918 as the listening port for your production system.
Step 4. Customizing the Template Files

4. Locate each instance of “<ip:CMSHOSTNAME>”. Remove the angle brackets and change “CMSHOSTNAME” to the name of the host machine where your CMS resides; for example,
   IP:CMS1

5. Candle products use the primary local network adapter for communications. If your site supports multiple network adapters and you are using an alternate adapter for Candle products, verify that the following statement is uncommented: “PARAM KDCB0^HOSTNAME THISHOST”.
   Change “THISHOST” to the host name of the adapter you are using.

6. See also “Routing agent output to a file (optional)” on page 56.

STRMQA
This file starts the OMEGAMON XE for WebSphere MQ Monitoring agent as a TACL process.

Edit STRMQA and do the following:

1. Locate each instance of “<$VOL.CCMQDAT>”. Remove the angle brackets and change the values to reflect the volume.subvolume where your data files are located; for example,
   $MQVOL.CCMQDAT

2. Locate each instance of “<$VOL.CCMQEXE>”. Remove the angle brackets and change the values to reflect the volume.subvolume where your executables are located; for example,
   $MQVOL.CCMQEXE

3. Locate each instance of “<(2 135 1918)>”. Remove the angle brackets. If you are using a listening port other than 1918, change the last four digits to reflect that number. Candle recommends that you retain 1918 as the listening port for your production system.

4. Locate each instance of “<ip:CMSHOSTNAME>”. Remove the angle brackets and change “CMSHOSTNAME” to the name of the host machine where your CMS resides; for example,
   IP:CMS1

   If your site has configured a hot-standby CMS to which the agent will report in the event that the primary CMS becomes disabled, append the name of the host machine where the hot-standby CMS resides. For
example, if the primary CMS is named “CMS1” and the hot-standby CMS is named “CMS2”, then the following entry is required:

**IP:CMS1;CMS2**

For information about configuring a hot-standby CMS:
- On Windows, refer to Installing Candle Products on Windows.
- On UNIX, refer to Installing Candle Products on UNIX.

Note that the hot-standby CMS feature is not currently supported on OS/390 and z/OS.

5. Locate each instance of “<SAMPLET>”. Remove the angle brackets and change “SAMPLET” to **MQCFG**

6. Candle products use the primary local network adapter for communications. If your site supports multiple network adapters and you are using an alternate adapter for Candle products, verify that the following statement is uncommented: “PARAM KDCB0^HOSTNAME THISHOST”.

   Change “THISHOST” to the host name of the adapter you are using.

7. See also “Routing agent output to a file (optional)” on page 56.

**Routing agent output to a file (optional)**

You can modify the startup job for the OMEGAMON XE for WebSphere MQ Monitoring agent or the OMEGAMON XE for WebSphere MQ Configuration agent to re-direct the agent's log output to a file. This can be an advantage if you are troubleshooting. The disadvantage of this modification is that you will not be able to view the log output while the agent is in use.

To route the agent’s output to a file, follow these steps:

1. Preallocate the file that will contain the agent’s log output.

   The file should have the following characteristics:
   - code set to “180”
   - EXT set to “1048”
   - REC set to “4072”
   - MAXEXTENTS set to “500”
Step 4. Customizing the Template Files

- BUFFERED and ODDUNSTR as special options

For example, from the volume and subvolume where your executables are located (we named ours $MQVOL.CCMQEXE) issue the following command to create a file called MCAGT:

```plaintext
TACL> FUP CREATE MCAGT, CODE 180, EXT 1048, REC 4072, MAXEXTENTS 500, ODDUNSTR, BUFFERED
```

2. Modify the command that starts the agent, to send the agent’s log output to the file you created in Step 1.

For example, our command to start the configuration agent (in STRMCA) and send the log output to a file is:

```plaintext
$MQVOL.CCMQEXE.KMRCA /NAME $KMC1, NOWAIT, PRI 170, CPU 0, TERM $ZTN0.#PTZHKTJ, OUT $mqvol.ccmqexe.mcagt / MQCFG
```

Where mqvol.ccmqexe.mcagt is the log file.

Routing agent output to Event Management Service (optional).

You can also modify the startup job for the OMEGAMON XE for WebSphere MQ Monitoring agent or the OMEGAMON XE for WebSphere MQ Configuration agent to re-direct the agent's log output to Event Management Service (EMS).

To route the agent’s output to EMS, modify the command that starts the agent as follows:

```plaintext
$MQVOL.CCMQEXE.KMCRCA /NAME $KMC1, NOWAIT, PRI 170, CPU 0, OUT $o /
```

Where $o is your EMS Collector.
Step 5. Starting the Agents

Purpose of this step
This step verifies CMS-to-agent connections by starting the monitoring and configuration agents as TACL processes named $KMQ1 and $KMC1, respectively. This step then optionally stops the agents.

For verification, the agents are started with default monitoring characteristics. Once you are satisfied that the agents, the CandleNet Portal, and the CMS are all communicating properly, you can perform the remaining optional steps in this chapter to customize your environment.

Procedure
1. Verify that the default queue manager and its command server are running.
   Note: If the queue manager to be monitored is not running, the OMEGAMON XE for WebSphere MQ Monitoring agent and the OMEGAMON XE for WebSphere MQ Configuration agent will not indicate they are online. This condition can also occur after connection if the queue manager being monitored is brought down. The agent will appear grayed out in CandleNet Portal’s Navigator physical view. This is the expected behavior due to the single thread nature of the agent on HP NonStop Kernel. The agent waits for the queue manager to be available and is unable to respond to the heartbeat request from the CMS.

2. Verify that your CMS is running.

3. Start the OMEGAMON XE for WebSphere MQ Monitoring agent:
   `TACL> STRMQA`

4. Check your home terminal for the following message:
   `Agent Successfully Connected to the Server`

5. Start another TACL session, and start the OMEGAMON XE for WebSphere MQ Configuration agent:
   `TACL> STRMCA`

6. Check your home terminal for the following message:
   `Agent Successfully Connected to the Server`
Step 5. Starting the Agents

7. Verify that the agents are online.
   1. Log on to CandleNet Portal, right-click the Enterprise icon and, from the pop-up menu, select “Workspace > Managed System Status”.
   2. Verify that the OMEGAMON XE for WebSphere MQ Monitoring agent and the OMEGAMON XE for WebSphere MQ Configuration agent are displayed as online.

Alternatively: if you have installed a CMW:
   1. Log on to your CMW, open the Managed Systems folder.
   2. Verify that the OMEGAMON XE for WebSphere MQ Monitoring agent and the OMEGAMON XE for WebSphere MQ Configuration agent are displayed as online.

8. When you are satisfied that the agents are running successfully, you can stop them to proceed with the following optional steps, or leave them running.

To stop the agents, break from your TACL session and enter the following commands:

   ```tcl
   TACL> STOP $KMQ1
   TACL> STOP $KMC1
   ```
Step 6. Adding Agents to a PATHWAY Configuration (optional)

Purpose of this step

This step adds a single instance of the OMEGAMON XE for WebSphere MQ Monitoring agent and the OMEGAMON XE for WebSphere MQ Configuration agent to a PATHWAY configuration.

Note: Candle recommends that you do not add the agents to the PATHWAY configuration for WebSphere MQ Monitoring and WebSphere MQ Configuration. In that configuration the agents need to be stopped explicitly before stopping the queue manager; otherwise, the queue manager would shut down incorrectly.

Procedure

1. Verify that the PATHMON process for the PATHWAY configuration where you wish to add the agents is running.

2. Execute the following command to add the OMEGAMON XE for WebSphere MQ Monitoring agent to the PATHWAY configuration:

   TACL> PWADDMQA $ccmq hometerm mqprefix

   where $ccmq is the name of the PATHMON process for the PATHWAY configuration where you will add the monitoring agent, hometerm is the name of your home terminal, and mqprefix is the name of the WebSphere MQ default prefix (MQDEFAULTPREFIX).

3. Execute the following command to add the OMEGAMON XE for WebSphere MQ Configuration agent:

   TACL> PWADDMQA $ccmq hometerm mqprefix

   where $ccmq is the name of the PATHMON process for the PATHWAY configuration where you will add the configuration agent, hometerm is the name of your home terminal, and mqprefix is the name of the WebSphere MQ default prefix (MQDEFAULTPREFIX).

4. To start the agents, verify that the queue manager, its command server, and your CMS are started, then execute the following commands:

   1. Start the OMEGAMON XE for WebSphere MQ Monitoring agent:

      TACL> PWSTRMQ $ccmq
Step 6. Adding Agents to a PATHWAY Configuration (optional)

where $ccmq$ is the name of the PATHMON process where the OMEGAMON XE for WebSphere MQ Monitoring agent is running.

2. Start the OMEGAMON XE for WebSphere MQ Configuration agent:

```
TACL> PWSTRMQ $ccmq
```

where $ccmq$ is the name of the PATHMON process where the OMEGAMON XE for WebSphere MQ Configuration agent is running.

5. If you wish to stop the agents, execute the following commands:

1. Stop the OMEGAMON XE for WebSphere MQ Monitoring agent:

```
TACL> PWSTPMQ $ccmq
```

where $ccmq$ is the name of the PATHMON process where the OMEGAMON XE for WebSphere MQ Monitoring agent is running.

2. Stop the OMEGAMON XE for WebSphere MQ Configuration agent:

```
TACL> PWSTPMQ $ccmq
```

where $ccmq$ is the name of the PATHMON process where the OMEGAMON XE for WebSphere MQ Configuration agent is running.

6. If you wish to delete the agents from the PATHWAY configuration, execute the following commands:

1. Delete the OMEGAMON XE for WebSphere MQ Monitoring agent:

```
TACL> PWDELMQ $ccmq
```

where $ccmq$ is the name of the PATHMON process where the OMEGAMON XE for WebSphere MQ Monitoring agent is running.

2. Delete the OMEGAMON XE for WebSphere MQ Configuration agent:

```
TACL> PWDELMQ $ccmq
```

where $ccmq$ is the name of the PATHMON process where the OMEGAMON XE for WebSphere MQ Configuration agent is running.
Step 7. Configuring Multiple OMEGAMON XE for WebSphere MQ Monitoring Agents

Purpose of this step

This step configures multiple instances of the OMEGAMON XE for WebSphere MQ Monitoring agent, each instance monitoring a separate single queue manager. If your site has multiple queue managers and you wish to monitor them all, complete the procedure below. Instructions are given to configure multiple agents in PATHWAY configurations or as TACL processes.

Configuring multiple agents for OMEGAMON XE for WebSphere MQ Monitoring requires that you make copies of the MQCFG monitoring file and the various installation tools. You must then edit each file to control monitoring of a specific queue manager.

Procedure

1. If you are not at volume and subvolume where the data files are stored, move there now:

   TACL> VOLUME $vol.CCMQDAT

   where vol is your installation volume.

2. If you changed the name of the default subvolume, enter the new name.

Copying and updating the monitoring file

1. Make additional copies of the MQCFG file, one copy for each additional queue manager that you wish to monitor.

   For example, if you wanted to monitor three queue managers, you would duplicate the MQCFG file three times:

   TACL> FUP DUP MQCFG, MQCFG1
   TACL> FUP DUP MQCFG, MQCFG2
   TACL> FUP DUP MQCFG, MQCFG3

2. Edit each MQCFGx file and change the SET MANAGER command to reflect the queue manager you want to monitor; for example:

   SET MANAGER NAME(QMGR1)
Step 7. Configuring Multiple OMEGAMON XE for WebSphere MQ Monitoring Agents

3. Add, delete, or change other commands in each MQCFGx file to reflect your site’s monitoring requirements. Refer to the OMEGAMON XE for WebSphere MQ Monitoring User’s Guide as needed.

Configuring multiple agents to be run in a PATHWAY configuration

Complete the steps below if you wish to run the agents in a PATHWAY configuration. If you wish to run them at TACL, refer to “Configuring multiple agents to be run as TACL processes” on page 65.

Copying and updating the PWADDMQA file

1. Copy file PWADDMQA once for each additional OMEGAMON XE for WebSphere MQ Monitoring agent that you wish to configure in a PATHWAY configuration. For example:
   
   TACL> FUP DUP PWADDMQA, PWADDMQ1
   TACL> FUP DUP PWADDMQA, PWADDMQ2
   TACL> FUP DUP PWADDMQA, PWADDMQ3

2. Edit each new file that you created and do the following:
   1. Change “MQCFG” to the name of the monitoring file for this instance of the OMEGAMON XE for WebSphere MQ Monitoring agent, for example, MQCFG1
   2. Do the following:
      A. Locate the following statements: “ADD SERVER KMQIRA00” and “INFO SERVER KMQIRA00”.
      B. Change “KMQIRA00” to reflect a unique serverclass for this instance of the agent; for example:
         ADD SERVER KMQIRA01
         INFO SERVER KMQIRA01

Copying and updating the PWSTRMQ file

1. Copy file PWSTRMQ once for each additional OMEGAMON XE for WebSphere MQ Monitoring agent that you wish to configure in a PATHWAY configuration. For example:
   
   TACL> FUP DUP PWSTRMQ, PWSTRMQ1
   TACL> FUP DUP PWSTRMQ, PWSTRMQ2
Step 7. Configuring Multiple OMEGAMON XE for WebSphere MQ Monitoring Agents

**TACL> FUP DUP PWSTRMQ, PWSTRMQ3**

2. Edit each new file that you created and do the following:
   1. Locate the following statement: “START SERVER KMQIRA00”.
   2. Change “KMQIRA00” to reflect the name of the serverclass for the instance of the OMEGAMON XE for WebSphere MQ Monitoring agent that you want started; for example:

   ```plaintext
   START SERVER KMQIRA01
   ```

**Copying and updating the PWSTPMQ file**

1. Copy file PWSTPMQ once for each additional OMEGAMON XE for WebSphere MQ Monitoring agent that you wish to configure in a PATHWAY configuration. For example:

   ```plaintext
   TACL> FUP DUP PWSTPMQ, PWSTPMQ1
   TACL> FUP DUP PWSTPMQ, PWSTPMQ2
   TACL> FUP DUP PWSTPMQ, PWSTPMQ3
   ```

2. Edit each new file that you created and do the following:
   1. Locate the following statements: “FREEZE SERVER KMQIRA00, STOP SERVER KMQIRA00”, and “THAW SERVER KMQIRA00”.
   2. Change “KMQIRA00” to reflect the name of the serverclass for the instance of the OMEGAMON XE for WebSphere MQ Monitoring agent that you want stopped; for example:

   ```plaintext
   FREEZE SERVER KMQIRA01
   STOP SERVER KMQIRA01
   THAW SERVER KMQIRA01
   ```

**Copying and updating the PWDELMQ file**

1. Copy file PWDELMQ once for each additional OMEGAMON XE for WebSphere MQ Monitoring agent that you wish to configure in a PATHWAY configuration. For example:

   ```plaintext
   TACL> FUP DUP PWDELMQ, PWDELMQ1
   TACL> FUP DUP PWDELMQ, PWDELMQ2
   TACL> FUP DUP PWDELMQ, PWDELMQ3
   ```

2. Edit each new file that you created and do the following:
   1. Locate the following statement: “DELETE SERVER KMQIRA00”.

---

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Step 7. Configuring Multiple OMEGAMON XE for WebSphere MQ Monitoring Agents

2. Change “KMQIRA00” to reflect the name of the serverclass for the instance of the OMEGAMON XE for WebSphere MQ Monitoring agent that you want deleted; for example:

DELETE SERVER KMQIRA01

Configuring multiple agents to be run as TACL processes

Copying and updating the STRMQA file

1. Copy file STRMQA once for each additional queue manager that you wish to monitor; for example:

   TACL> FUP DUP STRMQA, STRMQA1
   TACL> FUP DUP STRMQA, STRMQA2
   TACL> FUP DUP STRMQA, STRMQA3

2. Change “MQCFG” to the name of the monitoring file for this instance of the agent; for example,

   MQCFG1
address A location of data, usually in main memory or on a disk.

Adobe Acrobat Reader An application that allows you to view various types of files.

affinity A symbol for dependence on, or support of, a certain collection of agents that may be installed as a unit on a user’s system.

agent An executable file that gathers and distributes information about system performance. There is always one agent per managed system.

alert A warning message that appears at a console to indicate that an event has occurred that may require intervention.

Alert Adapter An agent that monitors and relays alerts to OMEGAMON XE products.

Alert Emitter A feature of an Alert Adapter that acts as an agent and relays OMEGAMON XE data to other products. The destination can be either Candle or third-party products.

Alert Manager An agent that monitors non-Candle monitoring products for a remote system, subsystem, or application, and relays alert information to the CMS.

architecture Term used in this guide to refer to the operating system upon which a product is intended to execute. Also used as a variable, arch, in many Candle commands.

argument A value or reference passed to a function, procedure, subroutine, command or program, by the caller. There are many different conventions for passing arguments to functions and procedures including call-by-value, call-by-name, call-by-need. These affect whether the value of the argument is computed by the caller or the callee (the function) and whether the callee can modify the value of the argument as seen by the caller (if it is a variable). Arguments to a program are usually given after the command name.

attribute A discrete characteristic or piece of information, or a property of that information, such as type, source, or severity, about a managed system. CandleNet Portal users use attributes to build predicates.

authorization The process of granting or denying access to a network resource. Most computer security systems are based on a two-step process. The first
stage is authentication, which ensures that a user is who he or she claims to be. The second stage is authentication, which allows the user access to various resources based on the user’s identity.

**B**

**browser** A software application used to locate and display Web pages.

**C**

**Candle Management Server (CMS)** The host data management component in an OMEGAMON XE environment. It sends out requests to, and receives data from, monitored systems having a monitoring agent or Alert Adapter installed. It also sends the information it receives to the CandleNet Portal.

**Candle Management Workstation (CMW)** A workstation that may be a component of an OMEGAMON XE environment. It provides a programmable workstation-based graphical user interface for OMEGAMON XE, and allows users to define and control all the monitoring and automation that OMEGAMON XE products provide. The CMW uses symbol and color changes to reflect the status changes of every object you are monitoring.

**CandleNet Portal** A Java-based programmable graphical user interface that allows the user to view, define and control all the monitoring and automation of the CT environment.

**CandleNet Portal Server** A collection of software services for the CandleNet Portal that enables retrieval, manipulation, and analysis of data from agents. It connects to both the CandleNet Portal and the CMS.

**Candle Technologies (CT)** An integrated, layered architecture consisting of data access, communication, and presentation components that enable cross-platform operation and integration of data for systems management applications.

**client** an application that runs on a personal computer or workstation and relies on a server to perform some operations. For example, an e-mail client is an application that enables you to send and receive e-mail.

**client and server** an architecture in which the client (personal computer or workstation) is the requesting machine and the server is the supplying machine. Servers can be high-speed microcomputers, minicomputers or even mainframes. The client provides the user interface and may perform some or all of the application processing. A database server maintains the databases and processes requests from the client to extract data from or update the database. An application server provides additional business processing for the
clients. Client and server architecture is the equivalent of a mainframe system on a network of smaller computers.

CMS  See Candle Management Server (CMS).

CMW  See Candle Management Workstation (CMW).

command  A character string which tells a program to perform a specific action. Most commands take arguments which either modify the action performed or supply it with input. Commands may be typed by the user or read from a file by a command interpreter. It is also common to refer to menu items as commands.

CT  See Candle Technologies (CT).

database server  A stand-alone computer in a local area network that holds and manages the database. It implies that database management functions, such as locating the actual record being requested, is performed in the server computer.

development environment  An integrated suite of tools to aid the development of software in a particular language or for a particular application. Usually, this consists of a compiler and editor and may also include one or more of a debugger, profiler, and source code manager.

development tool  See development environment.

distributed environment  A collection of (probably heterogeneous) automata whose distribution is transparent to the user so that the system appears as one local machine. This is in contrast to a network, where the user is aware that there are several machines, and their location, storage replication, load balancing and functionality is not transparent. Distributed systems usually use some kind of client and server organization.

DNS  See Domain Name System (DNS).

domain  A specific phase of the software life cycle in which a developer works. Domains define developers' and users' areas of responsibility and the scope of possible relationships between products.

Domain Name System (DNS)  An Internet service that translates domain names into IP addresses. Because domain names are alphabetic, they're easier to remember. The Internet however, is really based on IP addresses. Every time you use a domain name, therefore, a DNS service must translate the name into the corresponding IP address. For example, the domain name www.example.com might translate to 198.105.232.4.
environment variable A variable that is bound in the current environment. When evaluating an expression in some environment, the evaluation of a variable consists of looking up its name in the environment and substituting its value.

event A change in the status of a situation being monitored.

executable A binary file containing a program in machine language which is ready to be executed (run).

filter A higher-order function which takes a predicate and a list and returns those elements of the list for which the predicate is true.

firewall Router or access server, or several routers or access servers, designated as a buffer between any connected public networks and a private network. A firewall router uses access lists and other methods to ensure the security of the private network.

framework The component of an agent that provides an interval timer and manager objects for managing agents and requests.

function A method of evaluating the information that an attribute supplies. The functions used in CandleNet Portal are

1. Average *AVG
2. Count *COUNT
3. Make time *TIME
4. Maximum *MAX
5. Minimum *MIN
6. String scan *SCAN
7. Substring *STR
8. Sum *SUM
9. Value

Gateway An agent that communicates events to any management application.

historical data collection A capability of reports that enables the user to access monitoring data in order to analyze past system performance.

host A computer system that is accessed by a user working at a remote location. Typically, the term is used when there are two computer systems connected by modems and telephone lines. The system that contains the data is called the host, while the computer at which the user sits is called the remote terminal.

hostname The unique name by which a computer is known on a network, used to identify it in electronic mail, Usenet news, or other forms of electronic information interchange.
On the Internet, the hostname is an ASCII string which consists of a local part and a domain name. The hostname is translated into an Internet address either via the /etc/hosts file, NIS or by the DNS or resolver. It is possible for one computer to have several hostnames (aliases) though one is designated as its canonical name.

**hub**  
A central host system that collects the status of the situations and policies running on your managed systems.

**hub server**  
A centrally configured CMS. The hub server accepts data from other servers (the remote servers) and from agents.

**individual managed object**  
A managed object that corresponds to a single resource at the user’s site.

**installer**  
A utility program to ease the installation of another, probably larger, application. It is also possible for hardware to have an installer accompany it, to install any low level device drivers required.

**instance**  
An individual object of a certain class. While a class is just the type definition, an actual usage of a class is called "instance". Each instance of a class can have different values for its instance variables.

**Internet Protocol (IP)**  
The network layer for the TCP/IP protocol suite widely used on Ethernet networks, defined in STD 5, RFC 791. IP is a connectionless, best-effort packet switching protocol. It provides packet routing, fragmentation and re-assembly through the data link layer.

**IP**  
See Internet Protocol (IP).

**J**

**job**  
All the activities involved in completing any project on a computer from start to finish. A job may involve several processes and several programs.

**K**

**keyword**  
One of a fixed set of symbols built into the syntax of a language. Typical keywords would be if, then, else, print, goto, while, switch. There are usually restrictions about reusing keywords as names for user-defined objects such as variables or procedures. Languages vary as to what is provided as a keyword and what is a library routine, for example some languages provide keywords for input/output operations whereas in others these are library routines.

**L**

**literal**  
A constant made available to a process, by inclusion in the executable text. Most modern systems do not allow
texts to modify themselves during execution, so literals are indeed constant; their value is written at compile-time and is read-only at runtime. In contrast, values placed in variables or files and accessed by the process via a symbolic name, can be changed during execution. This may be an asset. For example, messages can be given in a choice of languages by placing the translation in a file. Literals are used when such modification is not desired. Also see variable.

log CandleNet Portal records changes to situations and EIB objects in a log.

managed object A visual representation, typically an icon, of one or more situations being monitored on one or more managed systems. As the status of a situation changes, the appearance of a managed object icon on your workstation changes.

managed system Any system, such as UNIX, Windows, or OS/390, that a CT is monitoring. When a new instance of a type of managed system comes online for the first time, information about it is placed automatically in the Managed Systems icon in the CandleNet Portal main window. See also type of managed system.

monitoring agent A process that probes a managed system for data and can make a managed system look like a set of objects on a CandleNet Portal.

node A single computer within a network of computers.

ODBC See Open DataBase Connectivity (ODBC).

OMEGAMON The name under which Candle delivers CT to its customers. See Candle Technologies (CT).

Open DataBase Connectivity (ODBC) A standard database access method developed by Microsoft Corporation. The goal of ODBC is to make it possible to access any data from any application, regardless of which database management system (DBMS) is handling the data. ODBC manages this by inserting a middle layer, called a database driver, between an application and the DBMS. The purpose of this layer is to translate the application's data queries into commands that the DBMS understands. For this to work, both the application and the DBMS must be ODBC-compliant - that is, the application must be capable of issuing ODBC commands and the DBMS must be capable of responding to them.

operand An argument of an operator or of a machine language instruction.
operator  A symbol used as a function, with infix syntax if it has two arguments (such as + ) or prefix syntax if it has only one (such as Boolean NOT). Many languages use operators for built-in functions such as arithmetic and logic.

parameter  See argument.

partition  In a firewall environment, a term used to designate either the public network (outside the firewall) or the private network (inside the firewall).

permission  The ability to access (read, write, execute, traverse, etc.) a file or directory. Depending on the operating system, each file may have different permissions for different kinds of access and different users or groups of users.

persistence  An object that exists after the program that created it has ended. See persistent object.

persistent data  Data that exists from session to session. Persistent data is stored in a database on disk or tape.

persistent object  An object that continues to exist after the program that created it has been unloaded. An object’s class and current state must be saved for use in subsequent sessions.

platform  The underlying hardware or software for a system. The platform defines a standard around which a system can be developed. Once the platform has been defined, software developers can produce appropriate software and managers can purchase appropriate hardware and applications. The term is often used as a synonym of operating system.

policy  A collection of activities that provides the capability of automating responses to events or routine operator tasks.

port number  The “channel” that is used for one or more components to communicate with one another via a communications protocol. There are three recognized ranges of port numbers: The Well Known Ports from 0 through 1023, the Registered Ports from 1024 through 49151, and the Dynamic and Private Ports from 49152 through 65535. Candle’s reserved port number is 1918.

predicate  The major portion of a situation that functions to compare a system condition (attribute) to a value. Predicates are of the form:

\[
\text{system condition - compared to - value}
\]

An example of a predicate is

\[
\text{CPU usage - greater than - 90%}
\]

protocol  A communications protocol is a set of rules or standard designed so that computers can exchange information with a minimum of errors.
query A user's (or agent's) request for information, generally as a formal request to a database or search engine.

relational operator Predicate operators that compare attributes to a compare value. The six relational operators are

1. Greater than
2. Less than
3. Equal to
4. Not equal to
5. Greater than or equal to
6. Less than or equal to

remote server Remote CMSs accept data from agents and report that data to a hub CMS. They are optional components of the CT environment that must communicate with a hub CMS first in order to send communication to a CandleNet Portal. It does so by collecting data from local agents and transmitting it to a hub CMS.

report Displays of data from managed systems. The data may be real-time or historical. Users filter the displays and produce charts.

remote server Remote CMSs accept data from agents and report that data to a hub CMS. They are optional components of the CT environment that must communicate with a hub CMS first in order to send communication to a CandleNet Portal. It does so by collecting data from local agents and transmitting it to a hub CMS.

report Displays of data from managed systems. The data may be real-time or historical. Users filter the displays and produce charts.

scratch Describes a data structure or recording medium attached to a machine for testing or temporary-use purposes; one that can be scribbled on without loss. Usually in the combining forms "scratch memory", "scratch register", "scratch disk", "scratch tape", "scratch volume".

script A program written in a scripting language.

Simple Network Management Protocol (SNMP) A widely used network monitoring and control protocol. Data is passed from SNMP agents, which are hardware or software processes reporting activity in each network device (hub, router, bridge, etc.) to the workstation console used to oversee the network. The agents return information contained in a Management Information Base (MIB), which is a data structure that defines what is obtainable from the device and what can be controlled (turned off or on, etc.)

situation A logical expression involving one or more system conditions (attributes) that the user wants to monitor that are of the form:

\[
\text{If - system condition - compared to - value - is true}
\]

An example of a situation is:

\[
\text{IF - CPU usage - GT - 90\% - TRUE}
\]

IF and TRUE appear in every situation.
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SNA  See System Network Architecture (SNA).

SNMP Gateway  An SNMP proxy agent that acts as a bridge between the hub CMS and third-party SNMP management application. It uses the native SNMP services of its host operating system to send SNMP traps (alerts) from the CMS to the third-party application. It translates GET and GETNEXT requests from the application to the CMS.

state  An indication associated with an icon, color, and severity level of the status of a managed object at any particular point in time. The five predefined states that each managed object can reflect are:
  - Unknown
  - Critical
  - Warning
  - Not Monitored

You can customize the default colors and add new states as needed.

status  The TRUE or FALSE condition of a situation assigned to a managed object.

System Network Architecture (SNA)  An IBM communications network protocol that connects systems and programs under any operating system image and allows them to participate in distributed processing.

system administrator  CandleNet Portal users who have full access to data, full authority to product functions, and who can authorize and establish access and privileges for other users. By default, the first user of CandleNet Portal is a system administrator.

table  A construction that holds the data returned from an agent when the agent returns data to a CMS in response to a request. It has a one-to-one correspondence to the agent it represents.

TACL  See Tandem Advanced Command Language (TACL).

Tandem Advanced Command Language (TACL)  The shell language used in Tandem computers.


template  A model the developer uses to create managed objects. Every managed object you create inherits the characteristics and behaviors of its template.

Transmission Control Protocol/Internet Protocol (TCP/IP)  An open, highly portable communications protocol. TCP provides transport protocol functions which ensure that the total number of bytes sent is received correctly at the other end. IP provides the routing mechanism.
type of managed system  An operating system, subsystem, or application system type that a CT agent is monitoring. Situation attributes are restricted to a specific managed system type.

value  A predicate function that uses the raw value of an attribute. A value can be a number, text string, attribute, or modified attribute. Use this function with all relational operators.

variable  A symbol or name that stands for a value. Variables can represent numeric values, characters, character strings, or memory addresses. Also see literal.

view  A way of looking at information about an object. Each view displays information in a different format. CandleNet Portal has the following views:

1. Details
2. Events
3. Graphic
4. Historical
5. Icons
6. Settings

Not all objects have every view.

workspace  A collection of panels (views) in CandleNet Portal that represent system and application conditions.
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