

IBM Rational ClearCase MultiSite

Global Monitor installation and configuration



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This module will cover the installation and configuration of IBM Rational® ClearCase® MultiSite Global Monitor V7.1 and higher.

Module objectives

- These topics are covered in this module:
 - Overview of Global Monitor installation and configuration
 - Three typical deployments of Global Monitor
- When you complete this module, you are able to:
 - Plan the deployment of Global Monitor
 - Choose subsequent modules for your deployment

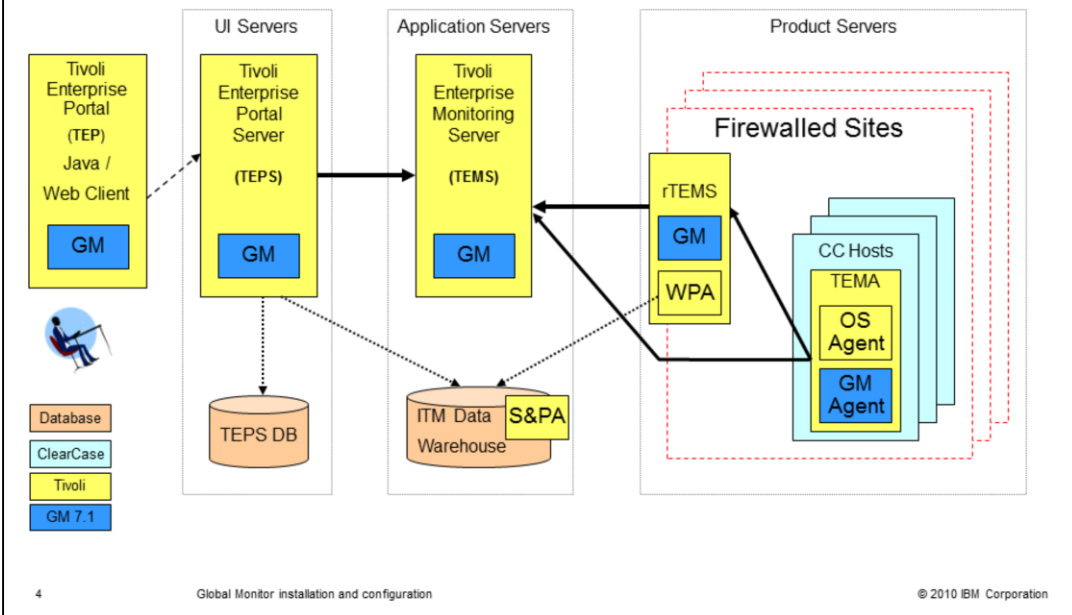
This course covers two topics. It gives an overview of ClearCase MultiSite Global Monitor installation and configuration. It also covers three typical deployments of Global Monitor. When you complete this module, you are able to plan your deployment of Global Monitor. You are also able to choose subsequent modules that fits to your Global Monitor deployment.

Global Monitor system requirements

- Check the latest system requirements at
 - ClearCase MultiSite Global Monitor supported platforms and versions
<http://www-01.ibm.com/support/docview.wss?uid=swg21415015>
 - ClearCase detailed system requirements
<http://www-01.ibm.com/support/docview.wss?uid=swg27008776>
 - Tivoli® platform and database support matrix
<http://www-01.ibm.com/support/docview.wss?uid=swg21067036>

Before you begin, check the system requirements for ClearCase MultiSite Global Monitor. Since the Global Monitor bundles IBM Tivoli Monitoring V6.2 FixPack 1, check the Tivoli platform and database support matrix.

Global Monitor architecture



This is a logical deployment drawing of Global Monitor. On the right side you can find ClearCase Hosts in light blue. When you upgrade ClearCase or install version 7.1, the Global Monitor agent, which is the dark blue box labeled 'GM Agent', is installed on the same host. The Global Monitor agent runs cleartool or multitools commands to collect monitoring data and sends them to monitoring servers.

The next component is the Remote Tivoli Enterprise Monitoring Server which is labeled 'rTEMS' in the yellow box. This server works as a proxy to pass through the firewall if the ClearCase hosts are located behind one, and it receives data from the Global Monitor agents and sends the data to the centralized monitoring server. It is recommended to install a remote TEMS for every firewalled MultiSite site to reduce communication from ClearCase hosts over the firewall. An arrow in this picture represents a network connection between components. For example, the Global Monitor agent connects to a single TCP/IP port of the rTEMS, and the connection is initiated from the Global Monitor Agent. Like this way, the remote TEMS connects to a single port of the centralized server in the left side.

The next component is the Hub Tivoli Enterprise Monitoring Server which is labeled 'TEMS' in the middle yellow box. This server sends data collection requests to appropriate agents and passes the received data to the user interface server. It also evaluates collected data for event notification. A monitoring agent can be connected to this hub TEMS directly, or can report data through remote TEMS. The Global Monitor support files have to be installed on both the remote TEMS and the hub TEMS to monitor ClearCase hosts.

The yellow box on the left represents the Tivoli Enterprise Portal Server, which is labeled TEPS. The TEPS is a user interface server and it receives monitored data from hub TEMS and send UI widgets to the clients. It also stores monitoring configurations and user customization such as event notification or user interface layouts. The Global Monitor support files have to be installed on the TEPS, too, to monitor ClearCase hosts.

At the left most component, you can find the Tivoli Enterprise Portal. This is a centralized console for this monitoring system. There are two types of clients – one is a Java-based desktop client, and the other is an applet-based Web client. They are identical in terms of functionality. The desktop client requires installation on your client machine, while the Web client just needs to be navigated to TEPS server's URL.

You can also find two orange cylindrical components labeled 'TEPS DB' and 'ITM Data Warehouse'. The TEPS DB is a database that stores monitoring configurations and user customization. The database product has to be installed on the host you install the TEPS. Supported vendors/products are IBM DB2® and Microsoft® SQL Server, and ClearCase MultiSite bundles IBM DB2.

The ITM Data warehouse is a database that stores historically collected monitoring data. The data in this database are used to display historical trends, or to create report documents with vendor tools. This database is an optional component for this monitoring system, and it does not have to be installed up-front. You need a separate database product license for this ITM Data warehouse. Supported vendors/products are IBM DB2, Oracle and Microsoft SQL server.

Again this illustrates a logical deployment of Global Monitor and you do not have to physically install in this way. You can install TEP, TEPS, TEPS DB, TEMS, and ITM Data Warehouse all to a single host, or you can install some of the components on a separate machine. It is not recommend to install these monitoring server components on the same machine as ClearCase runs because it can potentially affect the ClearCase server performance.

Three typical deployment options

- Minimum deployment
 - No firewall at the MultiSite sites
 - No need to collect data historically with Tivoli Data Warehouse
- No-warehouse deployment
 - ClearCase hosts are behind firewalls
 - No need to collect data historically with Tivoli Data Warehouse
- Full deployment
 - ClearCase hosts are behind firewalls
 - Data is collected historically with Tivoli Data Warehouse

Although there are a lot of components or servers to install and configure, several of them are optional and you can opt them out if they do not fit to your ClearCase deployment.

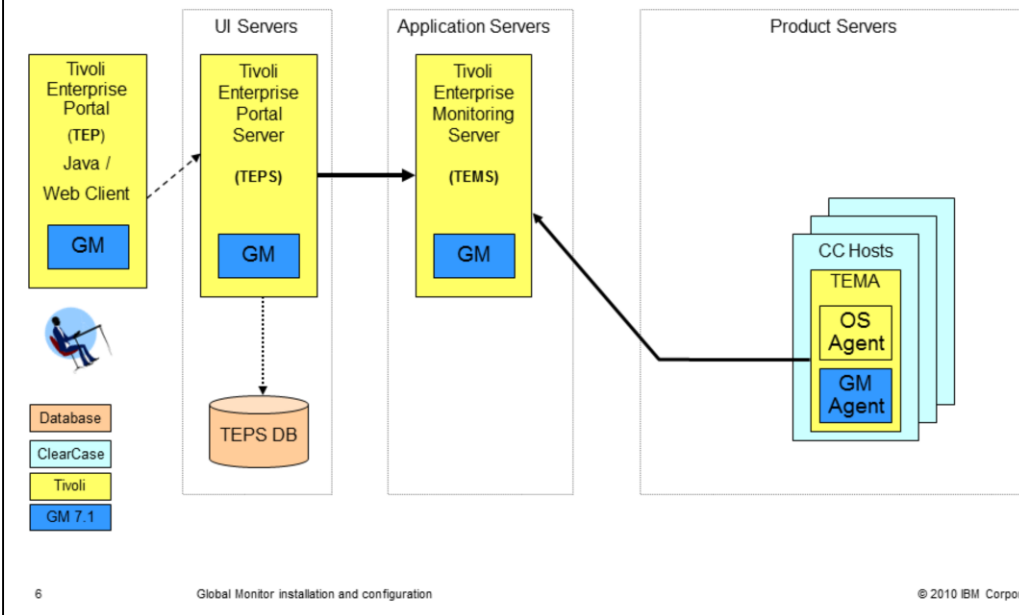
There are three typical deployment options for the Global Monitor, depending on the size and the requirement of your ClearCase deployment.

The first option is the minimum deployment. The minimum deployment works for your ClearCase deployment if there is no firewall configured in your network, and if there is no need to collect data historically with Tivoli Data Warehouse. Historically collected data is typically used to analyze trends of specific data, or to populate report documents.

The second option is the no-warehouse deployment. The no-warehouse deployment works for your ClearCase servers if your ClearCase servers are behind the firewall and yet you want to monitor those ClearCase host over the firewall. And also it works if there is no need to collect data historically with Tivoli Data Warehouse.

The third option is the full deployment. The full deployment works for your ClearCase servers if your network has firewalls and if you want to collect historical data. In the next three slides, you will see those three deployment options in detail.

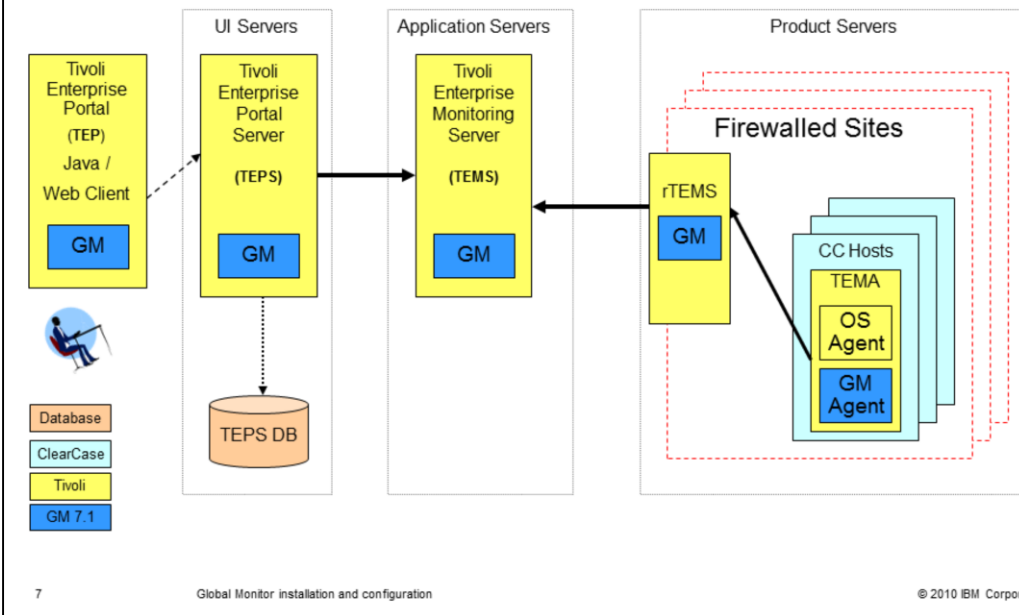
Deployment #1 - Minimum configuration



In the minimum deployment, your agents directly connect to monitoring servers, and you do not need extra database for warehousing.

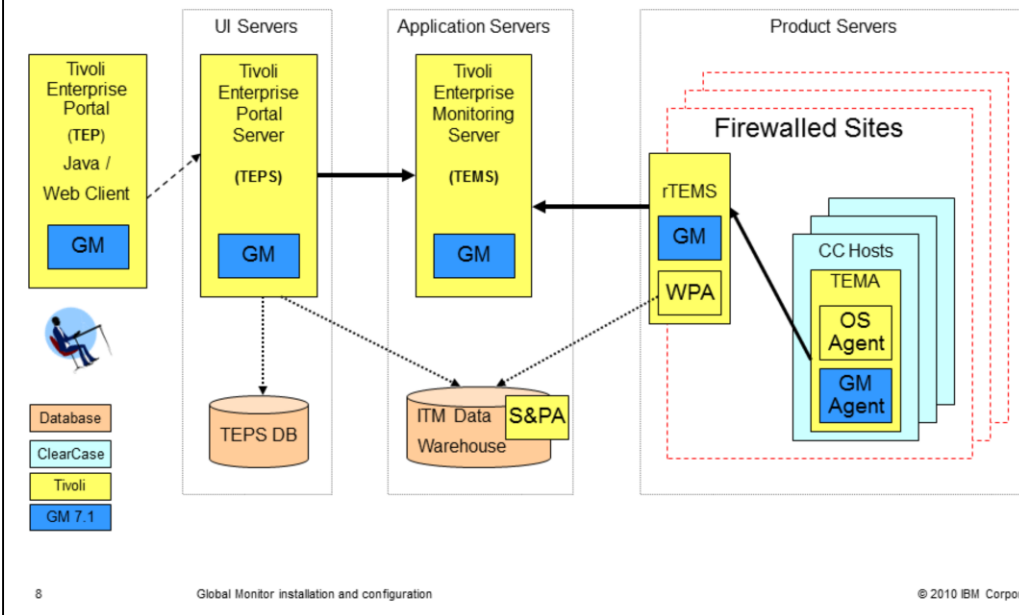
You will install a database software for TEPS and three IBM Tivoli Monitoring components, which are Tivoli Enterprise Portal (TEP), Tivoli Enterprise Portal Server (TEPS), and Tivoli Enterprise Monitoring Server (TEMS) on a single host. Then, you will install the Global Monitor agent and Operating System agent to the ClearCase hosts. You can also install monitoring server components (TEP, TEPS or TEMS) to separate hosts, but they are all installed to a single host in the subsequent demonstration module.

Deployment #2 – With local firewalls



In the no-warehouse deployment, you need to set up remote TEMS host to limit the number connections over a firewall to a single proxy host. As discussed in Global Monitor overview module, the remote TEMS host serves as a proxy host for agent connection. Install TEP, TEPS and TEMS as you do in the same way as the minimum deployment. Then install TEMS on a host which connects to the hub monitoring host over the firewall. Configure it to be a remote TEMS after the installation. Finally, point to the remote TEMS host instead of hub TEMS host for the monitoring connection when you install Global Monitor agent.

Deployment #3 – With data warehousing



The third deployment option is the full deployment with data warehousing. In addition to the deployment of the Global Monitor with the remote TEMS, set up a second database dedicated for warehousing historical data, and install required ITM components such as Warehouse Summarization and Pruning Agent (S&PA) and Warehouse Proxy Agent (WPA). Then configure TEPS and WPA to let it access the warehoused data.

Subsequent modules for install and configuration

- A. Install and configure TEP, TEPS, hub TEMS host
 - IBM Tivoli Monitoring 6.2 FP1 (TEP, TEPS, TEMS)
 - Rational ClearCase Global Monitor support,
 - Configuration of agent deploy depot
- B. Install and configure remote TEMS hosts
 - IBM Tivoli Monitoring 6.2 FP1 (TEMS)
 - Rational ClearCase Global Monitor support,
 - Conversion of hub TEMS to remote TEMS
 - Configuration of agent deploy depot
- C. Install and configure ClearCase hosts
 - Installation of ClearCase with MultiSite and Global Monitor agent
 - Remote deployment of Operating System agent
- D. Install and configure Data Warehousing
 - IBM Tivoli Monitoring 6.2 FP1 (Summarization and Pruning Agent) at Warehouse host
 - Warehouse configuration at TEPS host
 - IBM DB2 client at rTEMS host
 - IBM Tivoli Monitoring 6.2 FP1 (Warehouse Proxy Agent) at rTEMS host

This is a list of subsequent modules that describes installation and configuration of Global Monitor components by hosts.










Module A covers the installation and configuration of monitoring hub server. You will install IBM DB2 9.1, Tivoli Enterprise Portal (TEP), Tivoli Enterprise Portal Server (TEPS), Tivoli Enterprise Monitoring Server (TEMS) and Global Monitor support files for Tivoli components. You will also configure the agent deploy depot for remote deployment and remote configuration of Operating System agent and Global Monitor agent.

Module B covers the installation and configuration of remote TEMS hosts. As previously discussed, it is required to set up this remote TEMS host to monitor ClearCase hosts over the firewalls. You will install Tivoli Enterprise Monitoring Server (TEMS) and Global Monitor support files for Tivoli components. You will also configure your TEMS to make it a remote TEMS, and configure the agent deploy depot for remote deployment and remote configuration.

Module C covers the installation and configuration of Global Monitor agent on a ClearCase host. You will also install the Operating System agent remotely.

Module D covers the installation and configuration of data warehousing. You will install the Warehouse Summarization and Pruning Agent at Warehouse host, configure the warehousing at the hub monitoring host, and then install and configure a database client and Warehouse Proxy agent at remote TEMS host.

Sub-modules for your deployment

	1. Minimum deployment	2. No-warehouse deployment	3. Full deployment
A. TEP, TEPS, hub TEMS host			
B. remote TEMS hosts			
C. ClearCase hosts			
D. Data Warehousing			

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Now you can choose subsequent modules to follow when you install and configure Global Monitor. If the minimum deployment fits to your ClearCase servers, you only need to follow module A for hub monitoring host which has the TEP, the TEPS and the hub TEMS, and module C for ClearCase hosts. If the no-warehouse deployment works to your ClearCase servers, you want to follow module B in addition to module A and module C. If the full deployment works to your ClearCase servers, you want to follow module D in addition to module A, B and C.

Summary

- This module covered these topics:
 - Overview of Global Monitor installation and configuration
 - Three typical deployment models of Global Monitor
 - Minimum deployment
 - No-warehouse deployment
 - Full deployment

In summary, this module covered an overview of Rational ClearCase MultiSite Global Monitor installation and configuration. It also covered three typical deployment architecture of Global Monitor, which are the minimum deployment, no-warehouse deployment and full deployment.

Additional resources

- Next steps
 - Plan your deployment of Rational ClearCase MultiSite Global Monitor
 - Pick and follow the subsequent modules to complete Global Monitor installation and configuration
- List additional resources on ibm.com
 - <http://www.ibm.com/software/awdtools/clearcase/multisite/>
 - <http://www.ibm.com/software/awdtools/clearcase/multisite/support/>
 - <http://www.ibm.com/developerworks/rational/products/clearcase/>
 - <https://publib.boulder.ibm.com/infocenter/cchelp/v7r1m0/index.jsp>

The next steps are to plan your deployment of Rational ClearCase MultiSite Global Monitor, and then select and follow the subsequent modules to install and configure it to administer your entire ClearCase deployment effectively.

Additional resources can be found on www.ibm.com, on the ClearCase MultiSite product and support page, ClearCase DeveloperWorks page, and ClearCase Information Center page.

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