

CA Nimsoft® Unified Management Portal

Multiple Server Configuration Guide

7.5



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Chapter 1: Introduction

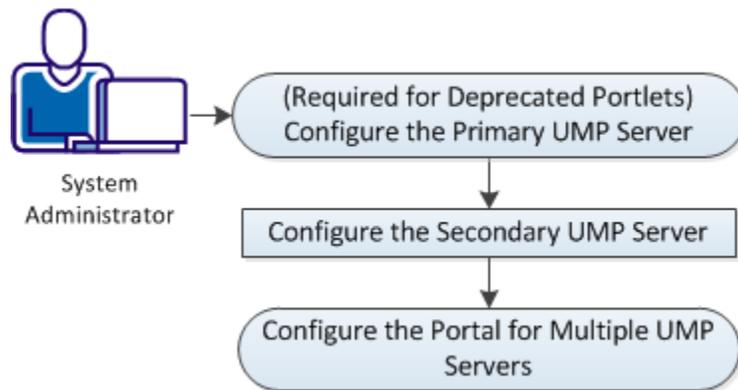
This scenario describes how a system administrator configures a primary and secondary Unified Management Portal (UMP) server under the same hub, using the same NIS database. The high-level steps for upgrading a multiple server configuration and for configuring a load balancer are also provided.

Important! Certain steps, as indicated, do not need to be performed unless you are using one of the following deprecated portlets: Alarm Console, Custom Dashboards, Dashboard Designer, or Dynamic Views.

The procedures in this scenario describe a configuration that uses the following components running under the same domain and hub:

- A CA Nimsoft Monitor Server (NMS) --<domain>/<hub>/<NMS_server>
- A CA Nimsoft Monitor hub with the primary UMP --<domain>/<hub>/<primary_robot>
- A CA Nimsoft Monitor robot with the secondary UMP --<domain>/<hub>/<secondary_robot>

The following diagram provides an overview of the steps for setting up a multiple UMP server configuration.



1. [\(Required for Deprecated Portlets\) Configure the Primary UMP Server](#) (see page 9)
2. [Configure the Secondary UMP Server](#) (see page 10)
3. [Configure the Portal for Multiple UMP Servers](#) (see page 12)

Prerequisites

Verify the following prerequisites before configuring multiple UMP servers:

- You are an administrative user with access to Admin Console or Infrastructure Manager.
- UMP is installed on a host to be designated as the primary UMP server.

Note: The OS platform of the UMP servers must be the same as the OS platform of the primary hub. For example, if the primary hub runs on a Linux host, UMP must also be installed on a Linux host. However, the OS *version* does not have to be the same, and can be any supported version.

Chapter 2: Configure Multiple UMP Servers

This section describes how you set up a first-time multiple-UMP configuration. If you are upgrading a multiple-UMP configuration, see the section [Upgrading Multiple UMP Servers](#) (see page 15).

This section contains the following topics:

[Configure the Primary UMP Server](#) (see page 9)

[Configure a Secondary UMP Server](#) (see page 10)

[Configure the Portal for Multiple UMP Servers](#) (see page 12)

Configure the Primary UMP Server

Important! Perform the steps in this section *only* if you are using any of the following deprecated portlets: Alarm Console, Custom Dashboards, Dashboard Designer, or Dynamic Views. Otherwise, proceed to the next section.

1. Log into Admin Console or Infrastructure Manager.
2. Locate the dashboard_engine probe, and use Raw Configure to modify the following parameters:
 - a. In the <data> section, add or edit the key enable_multi_instance, and set its value to 1.
 - b. In the <updateintervals> section, add or edit the key multi_instance_check_interval, and set its value to 30.
3. Locate the wasp probe, and use Raw Configure to modify the following parameters:
 - a. Under the <webapps> section, locate the <umpmedia> section.
 - b. Add the following keys and values under <umpmedia>:
 - enable_multi_instance and set its value to 1 to enable synchronization of media files.
 - media_update_interval and set its value to 30.

The primary UMP server is now configured.

Configure a Secondary UMP Server

Use the steps in this section to configure a secondary UMP server. Repeat these steps to configure additional UMP servers.

Important! If you are using the deprecated portlets Alarm Console, Custom Dashboards, Dashboard Designer, or Dynamic Views, you must perform all of the configuration steps in this section. Otherwise, you can omit certain steps as indicated.

Follow these steps:

1. Deploy a robot to the host that you plan to use as the secondary UMP server.

Note: Do not run the UMP installer on the secondary UMP server.

2. In Admin Console or Infrastructure Manager, distribute the following UMP server packages from the Archive to the secondary UMP server:

- java_jre
- (Only required for deprecated portlets) dap
- (Only required for deprecated portlets) dashboard_engine
- wasp
- ump
- ump_<portlet_name>

Note: Ensure that you drag each of the ump_<portlet_name> packages required for your environment from the Archive.

3. (Only required for deprecated portlets). Configure the dap probe so that the data_engine address is /<domain>/<hub>/<NMS_server>/data_engine.
4. (Only required for deprecated portlets). Configure the dashboard_engine probe so that the probe addresses are as follows:

- Alarm Server - /<domain>/<hub>/<NMS_server>/nas
- Data Access Probe - /<domain>/<hub>/<secondary_robot>/dap
- Data Engine - /<domain>/<hub>/<NMS_server>/data_engine
- Variable Server - /<domain>/<hub>/<NMS_server>/variable_server (if you do not use the variable_server probe, you can leave this field blank).

Note: Select No if you are prompted to restart the dashboard_engine probe.

5. (Only required for deprecated portlets). Use Raw Configure to modify the dashboard_engine configuration:
 - a. In the <data> section, add or edit the key enable_multi_instance, and set its value to 1.
 - b. In the <updateintervals> section, add or edit the key multi_instance_check_interval, and set its value to 30.

6. Configure the wasp probe to use the following probe addresses:
 - data_engine - /<domain>/<hub>/<NMS_server>/data_engine
 - (Only required for deprecated portlets) dashboard_engine - /<domain>/<hub>/<secondary_robot>/dashboard_engine
7. Use Raw Configure to modify the <ump_common> section of the wasp configuration to use the following probe addresses:
 - ace = /<domain>/<hub>/<NMS_server>/ace
 - automated_deployment_engine = /<domain>/<hub>/<NMS_server>/automated_deployment_engine
 - (Only required for deprecated portlets) dap = /<domain>/<hub>/<secondary_robot>/dap
 - discovery_server = /<domain>/<hub>/<NMS_server>/discovery_server
 - maintenance_mode = /<domain>/<hub>/<NMS_server>/maintenance_mode
 - nas = /<domain>/<hub>/<NMS_server>/nas
 - nis_server = /<domain>/<hub>/<NMS_server>/nis_server
 - service_host = /<domain>/<hub>/<NMS_server>/service_host
 - sla_engine = /<domain>/<hub>/<NMS_server>/sla_engine
 - (Only required for deprecated portlets) variable_server = /<domain>/<hub>/<NMS_server>/variable_server
8. (Only required for deprecated portlets) Use Raw Configure to modify the wasp configuration as follows:
 - a. Add the following keys and values under <webapps>, <umpmedia>:
 - enable_multi_instance. Set its value to 1 to enable synchronization of media files.
 - media_update_interval. Set its value to 30.
 - b. Under <webapps>, <relationshipviewer>, <custom>, <uncrypted>, set the key GraphServiceHost to the IP address of the primary hub.
9. (Only required for deprecated portlets) Activate the dap probe and the dashboard_engine probe on the secondary UMP server.
10. Activate the wasp probe on the secondary UMP server.

Note: Activating the wasp, and if applicable, dap and dashboard_engine is required to allow the probes to create database tables.

If desired, repeat the steps in this section on other robots to configure additional UMP servers.

Configure the Portal for Multiple UMP Servers

Use the steps in this section after configuring the secondary UMP server.

Follow these steps:

1. Deactivate the wasp probe on each UMP server.
2. On each UMP server, add or uncomment the following two lines in `<Nimsoft_installation>/probes/service/wasp/webapps/ROOT/WEB-INF/classes/portal-ext.properties`:
 - `cluster.link.enabled=true`
 - `lucene.replicate.write=true`
3. Configure a shared `document_library` directory on the primary UMP server.
 - For Windows, share the directory `<Nimsoft_installation>/probes/service/data/document_library` with full read/write access.
 - For Linux, share the directory `<Nimsoft_installation>/probes/service/data/document_library` via NFS, and ensure that `no_root_squash` is enabled.
4. On the secondary UMP server, replace the directory `<Nimsoft_installation>/probes/service/data/document_library` with a link to the primary `document_library` share.
 - For Windows, use the `mklink` command as follows:

```
mklink /d
c:\<Nimsoft_installation>\probes\service\data\document_library
  \primary\<document_library_share>
```
 - For Linux, use the `mount` command as follows:

```
mount -t nfs
<primary>:/<Nimsoft_installation>/probes/service/data/docum
ent_library
<Nimsoft_installation>/probes/service/data/document_library
```
5. (Only required for UMP servers that have interfaces configured with *both IPv4 and IPv6 addresses*). Add the following Java VM parameter to the wasp configuration:
`-Djava.net.preferIPv4Stack=true`
6. Activate the wasp probe on the primary UMP server.
7. When the wasp is running on the primary UMP server, activate the wasp on the secondary UMP server.

The portal is now configured for multiple UMP servers.

Chapter 3: Configure a Load Balancer

This section provides the high-level steps for configuring a load balancer for a multiple UMP server configuration. Use the steps in this section after you install and configure the primary and secondary UMP server.

Note: Load balancers and the terms that vendors use to describe them vary. Refer to the documentation for your load balancer for specific configuration details. You may need to perform the high-level steps in this section in a different order than shown.

Follow these steps:

1. Deploy the load balancer:
 - a. Configure the load balancer with IP addresses for each UMP server.
2. Create a node/device for each UMP server.
 - a. Enter the name and IP address of each UMP server in your configuration.
3. Create a pool/server farm:
 - a. Provide a unique name for the pool/server farm.
 - b. Add one or more health monitors, such as the `gateway_icmp` and `http_head`.
 - c. Select a load balancing algorithm.

The most common load balancing algorithm is round robin, where one connection is sent to each server on the list in turn.
 - d. Add the nodes you created previously to the pool for port 80. Use port 443 for an HTTPS connection.

4. Create a virtual server/context:
 - a. Provide a unique name for the virtual server/context.
 - b. Provide an IP address for the virtual server/context.
 - c. Configure additional settings for the virtual server as follows:
 - Protocol = tcp
 - HTTP Profile = https *or* http
 - Source Port = preserve strict
 - Default Persistent Profile = cookie.

Note: Regardless of the load balancer, setting the Default Persistent Profile setting to *cookie* is required.

 - Configure the load balancer to use sticky sessions.

Sticky sessions is a feature of many commercial load balancing solutions that allows web farms to route requests for a particular session to the same machine that serviced the first request for that session. This ensures that a session is not disrupted as a result of requests related to that session being routed to different servers.
5. Verify the load balancer was successfully configured by entering the IP of the virtual server/context in a web browser.

The load balancer is now configured for a multiple UMP server configuration.

Chapter 4: Upgrade a Multiple UMP Configuration

Use the steps in this section to upgrade a multiple UMP server configuration.

Follow these steps:

1. (Only required for deprecated portlets) Deactivate the dap probe and the dashboard_engine probe on the primary and secondary server.
2. Deactivate the wasp probe on the primary and secondary UMP server.
3. Deactivate the robot running the secondary UMP server.
4. Delete the symlink directory `<Nimsoft_installation>/probes/service/data`.
5. Run the UMP installer on the primary UMP server.
6. Restart the robot running the secondary UMP server.
7. Drag the following packages from the Archive to the secondary UMP server:
 - java_jre
 - (Only required for deprecated portlets) dap
 - (Only required for deprecated portlets) dashboard_engine
 - wasp
 - ump
 - ump_<portlet_name>

Note: Ensure that you drag each of the ump_<portlet_name> packages required for your environment from the Archive.
8. On each UMP server, add or uncomment the following two lines in `<Nimsoft_installation>/probes/service/wasp/webapps/ROOT/WEB-INF/classes/portal-ext.properties`:
 - cluster.link.enabled=true
 - lucene.replicate.write=true
9. Activate the wasp probe. When it is active, deactivate the wasp probe again.

Note: Activating and deactivating the wasp probe is required to create the directory described in the next step.

10. Configure a shared `document_library` directory on the primary UMP server.
 - For Windows, share the directory `<Nimsoft_installation>/probes/service/data/document_library` with full read/write access.
 - For Linux, share the directory `<Nimsoft_installation>/probes/service/data/document_library` via NFS, and ensure that `no_root_squash` is enabled.
11. On the secondary UMP server, replace the directory `<Nimsoft_installation>/probes/service/data/document_library` with a link to the primary `document_library` share.
 - For Windows, use the `mklink` command as follows:

```
mklink /d
c:\<Nimsoft_installation>\probes\service\data\document_library
  \\primary\<document_library_share>
```
 - For Linux, use the `mount` command as follows:

```
mount -t nfs
<primary>:/<Nimsoft_installation>/probes/service/data/document_library
<Nimsoft_installation>/probes/service/data/document_library
```
12. (Only required for UMP servers that have interfaces configured with *both IPv4 and IPv6 addresses*). Add the following Java VM parameter to the wasp configuration:
`-Djava.net.preferIPv4Stack=true`
13. (Only required for deprecated portlets) Activate the `dashboard_engine` and `dap` probe on the primary UMP server.
14. Activate the wasp probe on the primary UMP server.
15. (Only required for deprecated portlets) Activate the `dashboard_engine` and `dap` probe on the secondary UMP server.
16. When the wasp is running on the primary UMP server, activate the wasp on the secondary UMP server.

The multiple UMP server configuration is now upgraded.