

CA Nimsoft® Unified Management Portal

Multiple Server Configuration Guide

7.0



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Chapter 1: Introduction

This document describes how to configure multiple Unified Management Portal (UMP) servers under a hub, using the same NIS database. It also provides the high-level steps for upgrading a multiple-UMP configuration, and for configuring a load balancer.

The procedures in this guide use an example multiple-UMP configuration with the following components running under the same domain and hub:

- A CA Nimsoft Monitor Server (NMS) -- /Domain/Hub/NMS
- A primary UMP server running data_engine, nas, etc. -- /Domain/Hub/primary
- A secondary UMP server -- /Domain/Hub/secondary

Chapter 2: Configuring 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 19).

This section contains the following topics:

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

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

[Configuring the Portal with Multiple UMPs](#) (see page 14)

[Testing the Installation](#) (see page 16)

Configuring the Primary UMP Server

This section provides instructions for setting up the primary UMP server.

Note: The OS platform of the host that UMP is installed on 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.

1. Obtain the appropriate UMP installation package for your OS. UMP is available for download from the Nimsoft Support site at <http://support.nimsoft.com>.
2. Follow the instructions in the *UMP Installation Guide* (available at <docs.nimsoft.com>) to install the primary UMP server under /Domain/Hub/.
3. After installing the primary UMP server, use Raw Configure to modify the following dashboard_engine parameters:
 - a. In the <data> section add the key enable_multi_instance and set its value to 1.
 - b. In the <update_intervals> section add the key multi_instance_check_interval and set its value to 30.

The key multi_instance_check_interval specifies the time interval in seconds used to check for modifications to the Dynamic Views tree on other instances of the dashboard_engine.

4. Use Raw Configure to modify the wasp configuration:
 - 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.

Configuring a Secondary UMP Server

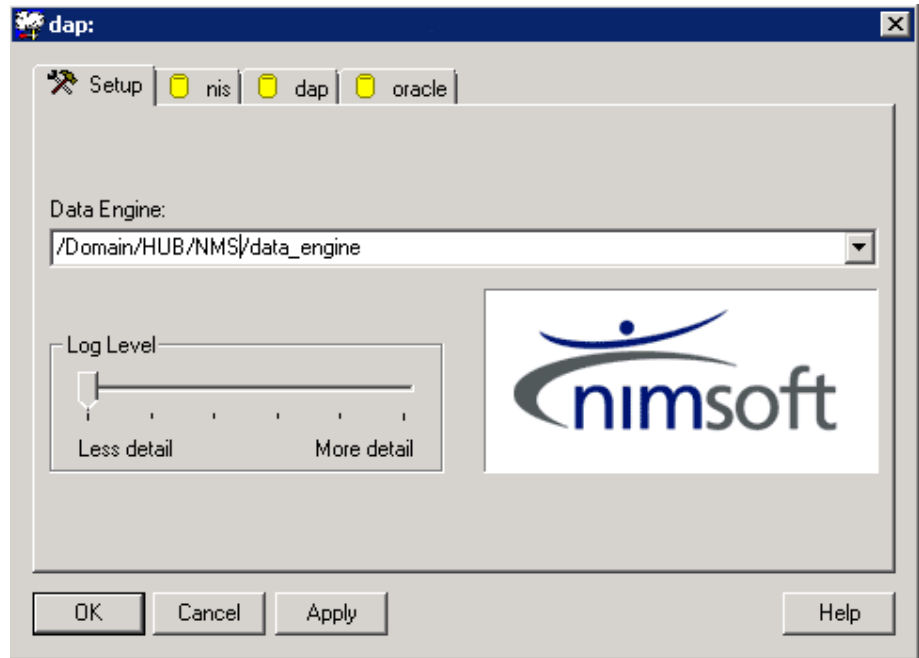
This section provides instructions for setting up the secondary UMP server. Note that you do not run the UMP installer on the secondary UMP server.

Note: The OS platform of the primary and secondary UMP servers must be the same. However, the OS *version* does not have to be the same.

1. Distribute the following UMP server packages from the Archive in Infrastructure Manager to the secondary UMP server:
 - java_jre
 - dap
 - 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.

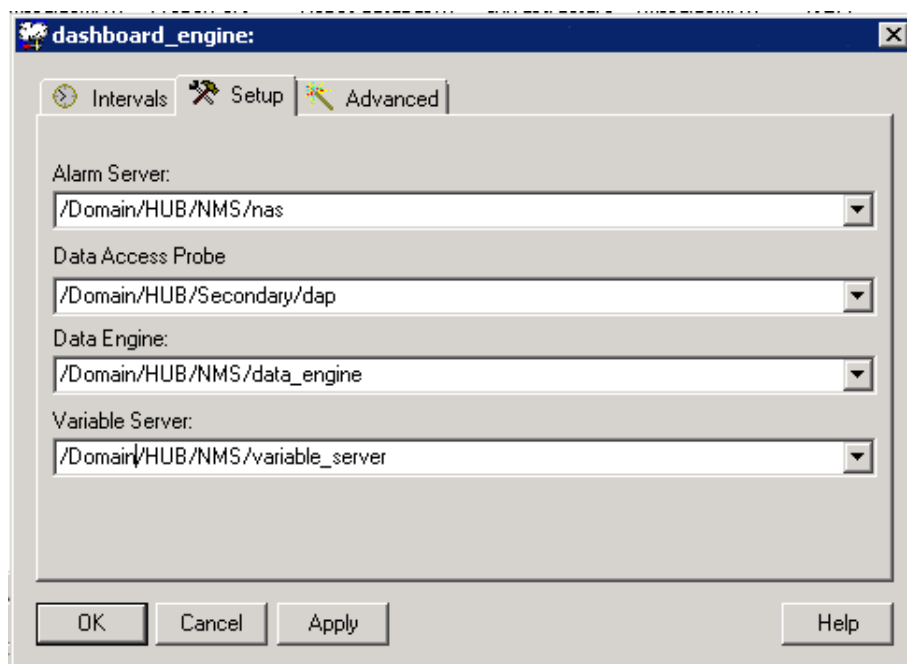
2. Use the Setup tab of the dap configuration UI, as shown below, or Raw Configure to change the Data Engine address to /Domain/Hub/NMS/data_engine.



3. Use the Setup tab of the dashboard_engine configuration UI, as shown below, or Raw Configure to specify addresses for the following probes:

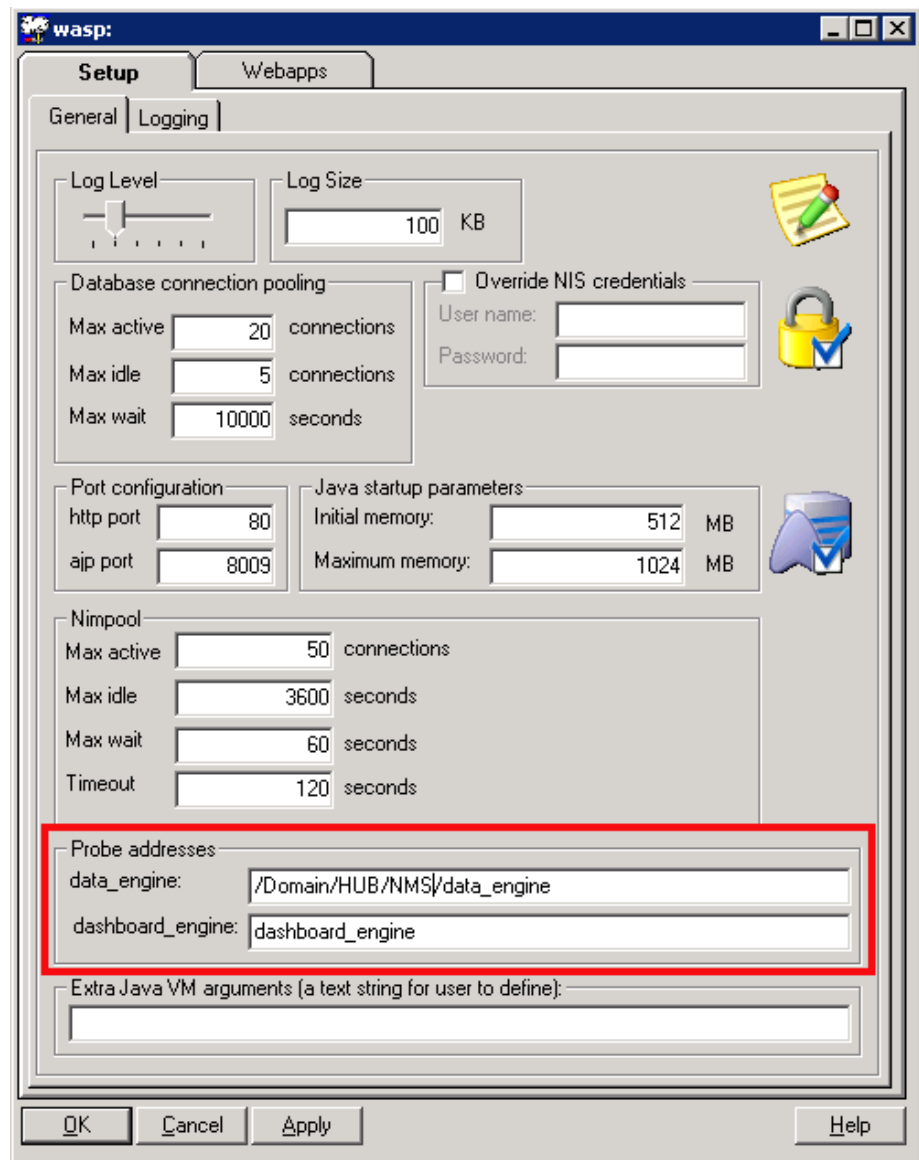
- Alarm Server
- Data Access Probe
- Data Engine
- Variable Server

Note: If you do not use the variable_server probe, you can leave the Variable Server field blank or use the default address.



4. Use Raw Configure to modify the dashboard_engine configuration:
- a. In the <data> section add the key enable_multi_instance and set its value to 1.
 - b. In the <update_intervals> section add the key multi_instance_check_interval and set its value to 30.

5. Use the Setup tab of the wasp configuration UI, as shown below, or Raw Configure to set the following Probe addresses:
 - data_engine
 - dashboard_engine



6. Use Raw Configure to modify the wasp configuration:
 - a. Create the section <ump_common>.

- b. Add the following keys and values under <ump_common>:
 - automated_deployment_engine = /Domain/Hub/NMS/automated_deployment_engine
 - dap = dap
 - nas = /Domain/Hub/NMS/nas
 - sla_engine = /Domain/Hub/NMS/sla_engine
 - ace = /Domain/Hub/NMS/ace
 - nis_server = /Domain/Hub/NMS/nis_server
 - discovery_server = /Domain/HUB/NMS/discovery_server
 - variable_server = /Domain/Hub/NMS/variable_server

Note: If you do not use the variable_server probe, you do not need to specify a key and value for variable_server.
- c. Under the <webapps> section, locate the <umpmedia> section.
- d. 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.
7. If you use the relationship_services probe, you must also edit the wasp configuration as follows:
 - a. Expand the <webapps> section, expand <relationshipviewer>, expand <custom>, and select <unencrypted>.
 - b. Under <unencrypted>, set the value of the key GraphServiceHost to the IP address of the primary hub.
8. Activate dap, dashboard_engine, and wasp probes on the secondary server.

Note: Activating dap, dashboard_engine, and wasp is required at this point to allow these probes to create database tables.

Configuring the Portal with Multiple UMPs

The following steps must be completed on each UMP server in a multiple-UMP configuration.

1. Deactivate the wasp probe on both UMP servers.

2. On both UMP servers, add or uncomment the following three lines in `<Nimsoft_installation>/probes/service/wasp/webapps/ROOT/WEB-INF/classes/portal-ext.properties`:


```
net.sf.ehcache.configurationResourceName=/ehcache/hibernate-clustered.xml
ehcache.multi.vm.config.location=/ehcache/liferay-multi-vm-clustered.xml
comm.link.properties=UDP(bind_addr=127.0.0.1;mcast_addr=231.12.21.102;mcast_port=45566;ip_ttl=32;mcast_send_buf_size=150000;mcast_recv_buf_size=80000):PING(timeout=2000;num_initial_members=3):MERGE2(min_interval=5000;max_interval=10000):FD_SOCKET_VERIFY_SUSPECT(timeout=1500):pbcast.NAKACK(gc_lag=50;retransmit_timeout=300,600,1200,2400,4800;max_xmit_size=8192):UNICAST(timeout=300,600,1200,2400):pbcast.STABLE(desired_avg_gossip=20000):FRAG(fragment_size=8096;down_thread=false;up_thread=false):pbcast.GMS(join_timeout=5000;join_retry_timeout=2000;shun=false;print_local_addr=true)
```
3. Configure both UMP servers to have write access to a shared data directory on the primary UMP server:
 - a. On the primary UMP server:
 - For Windows, share the directory `<Nimsoft_installation>/probes/service/data` with full read/write access.
 - For Linux, share the directory `<Nimsoft_installation>/probes/service/data` via NFS, and ensure that `no_root_squash` is enabled.
 - b. On the secondary UMP server, replace the directory `<Nimsoft_installation>/probes/service/data` with a link to the primary data share.
 - For Windows, use the `mklink` command as follows:


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


```
mount -t nfs <primary>:/<Nimsoft_installation>/probes/service/data <Nimsoft_installation>/probes/service/data
```
4. Activate wasp on the primary UMP server.
5. Once wasp is running on the primary UMP server, activate wasp on the secondary UMP server.

Testing the Installation

You should now have two UMP servers running under a single hub and using the same NIS database. You can access these servers using either of these URLs:

- `http://primary`
- `http://secondary`

Chapter 3: Configuring a Load Balancer

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

Note: Load balancers and the terms 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.

To configure a load balancer, 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.

Chapter 4: Upgrading Multiple UMP Servers

To upgrade a multiple-UMP configuration, follow these steps:

1. Deactivate the wasp, dap, and dashboard_engine probes on the secondary UMP server.
2. Deactivate the robot running the secondary UMP server.
3. Run the UMP installer on the primary hub where NMS is installed.
4. Restart the robot running the secondary UMP server.
5. Drag the following packages from the Archive to the secondary UMP server:
 - java_jre
 - dap
 - 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.

6. On both UMP servers, add or uncomment the following three lines in <Nimsoft_installation>/probes/service/wasp/webapps/ROOT/WEB-INF/classes/portal-ext.properties:

```
net.sf.ehcache.configurationResourceName=/ehcache/hibernate-clustered.xml
ehcache.multi.vm.config.location=/ehcache/liferay-multi-vm-clustered.xml
comm.link.properties=UDP(bind_addr=127.0.0.1;mcast_addr=231.12.21.102;mcast_port=45566;ip_ttl=32;mcast_send_buf_size=150000;mcast_rcv_buf_size=80000):PING(timeout=2000;num_initial_members=3):MERGE2(min_interval=5000;max_interval=10000):FD_SOCKET:VERIFY_SUSPECT(timeout=1500):pbcast.NAKACK(gc_lag=50;retransmit_timeout=300,600,1200,2400,4800;max_xmit_size=8192):UNICAST(timeout=300,600,1200,2400):pbcast.STABLE(desired_avg_gossip=20000):FRAG(fragment_size=8096;down_thread=false;up_thread=false):pbcast.GMS(join_timeout=5000;join_retry_timeout=2000;shun=false;print_local_address=true)
```

7. Restart the dashboard_engine, wasp, and dap probes on both the primary and secondary UMP servers.