

CA Nimsoft® Unified Management Portal

Multiple Server Configuration Guide

6.5



Document Revision History

Document Version	Date	Changes
1.0	April 2013	Initial version for UMP 6.5.

Legal Notices

Copyright © 2013, CA. All rights reserved.

Warranty

The material contained in this document is provided "as is," and is subject to being changed, without notice, in future editions. Further, to the maximum extent permitted by applicable law, Nimsoft LLC disclaims all warranties, either express or implied, with regard to this manual and any information contained herein, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Nimsoft LLC shall not be liable for errors or for incidental or consequential damages in connection with the furnishing, use, or performance of this document or of any information contained herein. Should Nimsoft LLC and the user have a separate written agreement with warranty terms covering the material in this document that conflict with these terms, the warranty terms in the separate agreement shall control.

Technology Licenses

The hardware and/or software described in this document are furnished under a license and may be used or copied only in accordance with the terms of such license.

No part of this manual may be reproduced in any form or by any means (including electronic storage and retrieval or translation into a foreign language) without prior agreement and written consent from Nimsoft LLC as governed by United States and international copyright laws.

Restricted Rights Legend

If software is for use in the performance of a U.S. Government prime contract or subcontract, Software is delivered and licensed as "Commercial computer software" as defined in DFAR 252.227-7014 (June 1995), or as a "commercial item" as defined in FAR 2.101(a) or as "Restricted computer software" as defined in FAR 52.227-19 (June 1987) or any equivalent agency regulation or contract clause. Use, duplication or disclosure of Software is subject to Nimsoft LLC's standard commercial license terms, and non-DOD Departments and Agencies of the U.S. Government will receive no greater than Restricted Rights as defined in FAR 52.227-19(c)(1-2) (June 1987). U.S. Government users will receive no greater than Limited Rights as defined in FAR 52.227-14 (June 1987) or DFAR 252.227-7015 (b)(2) (November 1995), as applicable in any technical data.

Trademarks

Nimsoft is a trademark of CA.

Adobe®, Acrobat®, Acrobat Reader®, and Acrobat Exchange® are registered trademarks of Adobe Systems Incorporated.

Intel® and Pentium® are U.S. registered trademarks of Intel Corporation.

Java(TM) is a U.S. trademark of Sun Microsystems, Inc.

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.

Netscape(TM) is a U.S. trademark of Netscape Communications Corporation.

Oracle® is a U.S. registered trademark of Oracle Corporation, Redwood City, California.

UNIX® is a registered trademark of the Open Group.

ITIL® is a Registered Trade Mark of the Office of Government Commerce in the United Kingdom and other countries.

All other trademarks, trade names, service marks and logos referenced herein belong to their respective companies.

For information on licensed and public domain software, see the *Nimsoft Monitor Third-Party Licenses and Terms of Use* document at: http://docs.nimsoft.com/prodhelp/en_US/Library/index.htm?toc.htm?1981724.html.

Contact Nimsoft

For your convenience, CA Nimsoft provides a single site where you can access information about CA Nimsoft products.

At <http://support.nimsoft.com/>, you can access the following:

- Online and telephone contact information for technical assistance and customer services
- Information about user communities and forums
- Product and documentation downloads
- CA Nimsoft Support policies and guidelines
- Other helpful resources appropriate for your product

Provide Feedback

If you have comments or questions about CA Nimsoft product documentation, you can send a message to support@nimsoft.com.

Contents

Chapter 1: Introduction	7
Chapter 2: Configuring Multiple UMP Servers	9
Configuring the Primary UMP Server	9
Configuring a Secondary UMP Server	10
Configuring the Portal with Multiple UMPs	14
Testing the Installation	16
Chapter 3: Configuring a Load Balancer	17
Chapter 4: Upgrading Multiple UMP Servers	19

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.

Chapter 2: Configuring Multiple UMP Servers

The instructions in this section 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

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 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

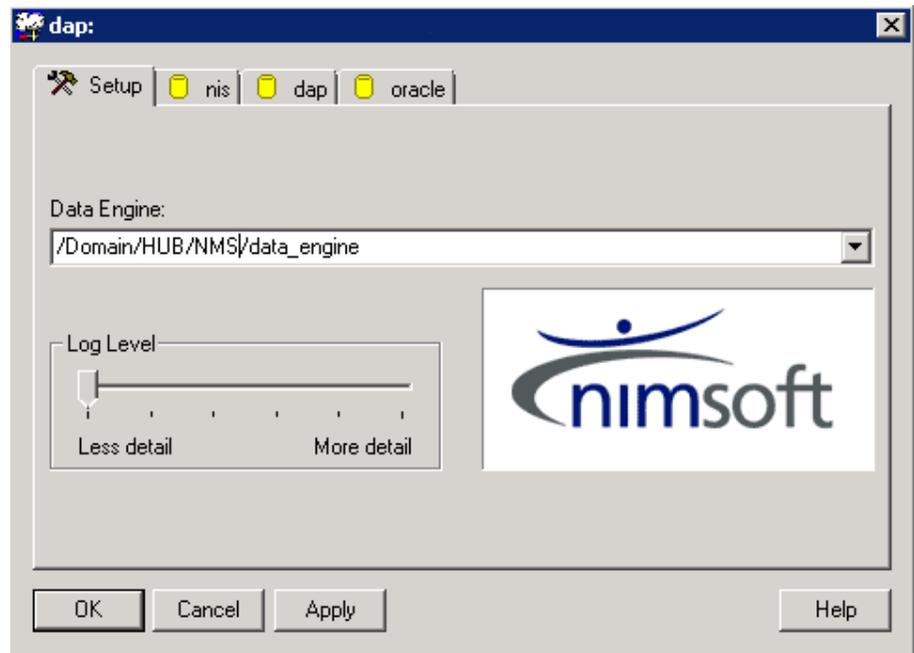
This section provides instructions for setting up the secondary UMP server. Note that you do not run the UMP installer on the secondary UMP server.

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>

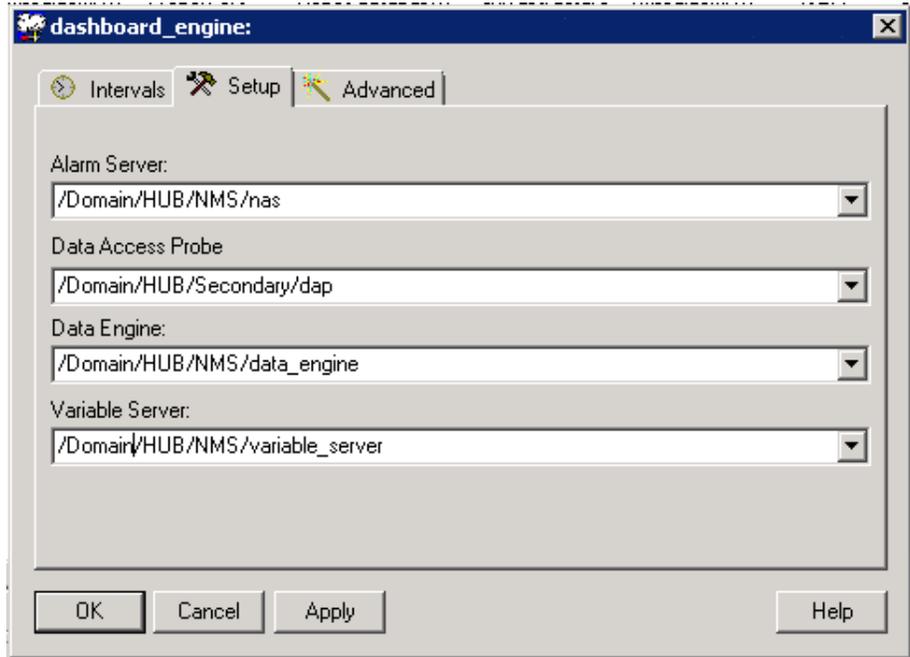
Note: Ensure that you drag each of the ump_<portlet_name> packages required for your environment from the Archive.

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

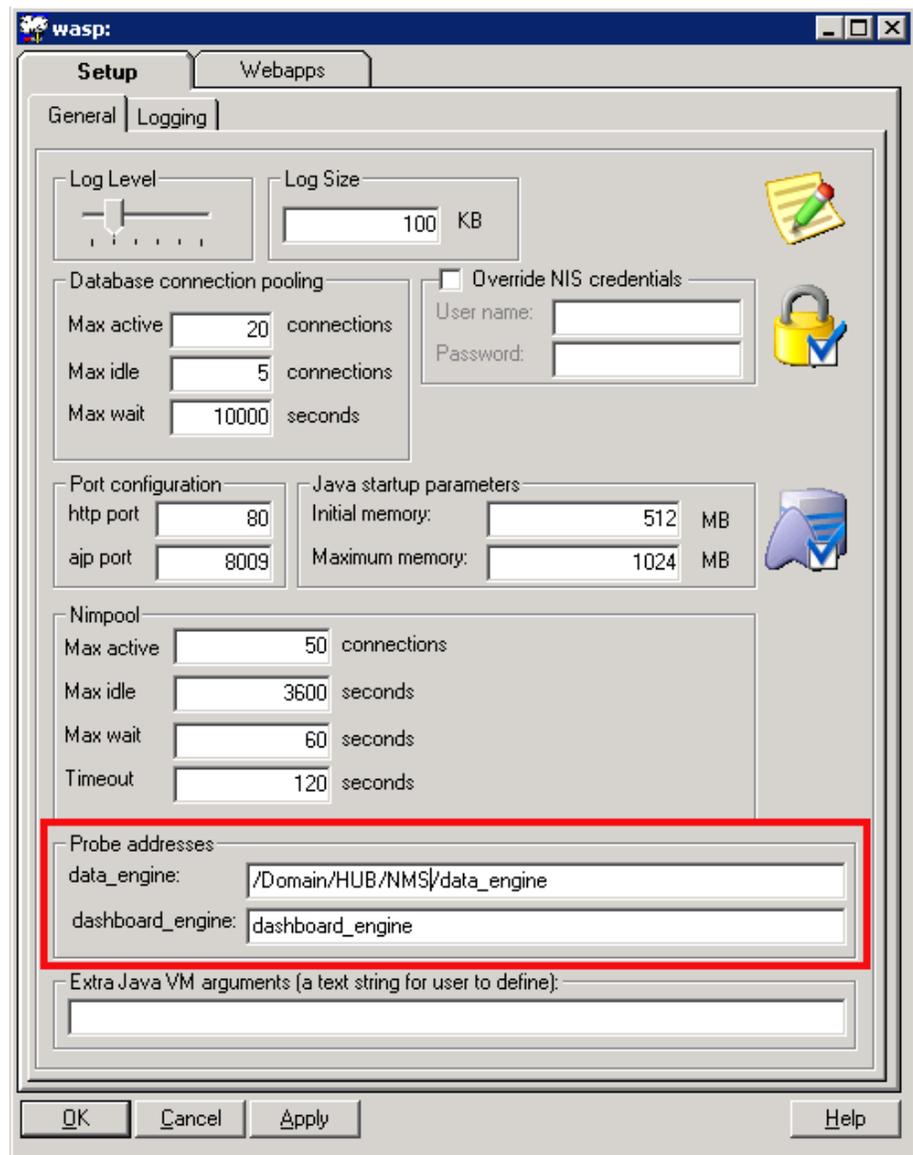
Note: If you do not use the variable_server probe, you can leave the Variable Server field blank or use the default address.



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 for each UMP server -- for the initial multiple UMP setup, and when upgrading 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):pbcst.NAKACK(gc_lag=50;retransmit_timeout=300,600,1200,2400,4800;max_xmit_size=8192):UNICAST(timeout=300,600,1200,2400):pbcst.STABLE(desired_avg_gossip=20000):FRAG(fragment_size=8096;down_thread=false;up_thread=false):pbcst.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 UMP server.
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. Restart the dashboard_engine, wasp, and dap probes on both the primary and secondary UMP servers.

Note: When upgrading multiple UMPs, ensure that you complete the steps, *on each UMP server*, described in the section [Configuring the Portal with Multiple UMPs](#) (see page 14).