## Document Revision History

<table>
<thead>
<tr>
<th>Document Version</th>
<th>Date</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>March 2014</td>
<td>Initial version for UMP 7.5.</td>
</tr>
</tbody>
</table>
Legal Notices

This online help system (the "System") is for your informational purposes only and is subject to change or withdrawal by CA at any time.

This System may not be copied, transferred, reproduced, disclosed, modified or duplicated, in whole or in part, without the prior written consent of CA. This System is confidential and proprietary information of CA and protected by the copyright laws of the United States and international treaties. This System may not be disclosed by you or used for any purpose other than as may be permitted in a separate agreement between you and CA governing your use of the CA software to which the System relates (the “CA Software”). Such agreement is not modified in any way by the terms of this notice.

Notwithstanding the foregoing, if you are a licensed user of the CA Software you may make one copy of the System for internal use by you and your employees, provided that all CA copyright notices and legends are affixed to the reproduced copy.

The right to make a copy of the System is limited to the period during which the license for the CA Software remains in full force and effect. Should the license terminate for any reason, it shall be your responsibility to certify in writing to CA that all copies and partial copies of the System have been destroyed.

TO THE EXTENT PERMITTED BY APPLICABLE LAW, CA PROVIDES THIS SYSTEM "AS IS" WITHOUT WARRANTY OF ANY KIND, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT. IN NO EVENT WILL CA BE LIABLE TO YOU OR ANY THIRD PARTY FOR ANY LOSS OR DAMAGE, DIRECT OR INDIRECT, FROM THE USE OF THIS SYSTEM, INCLUDING WITHOUT LIMITATION, LOST PROFITS, LOST INVESTMENT, BUSINESS INTERRUPTION, GOODWILL, OR LOST DATA, EVEN IF CA IS EXPRESSLY ADVISED IN ADVANCE OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE.

The manufacturer of this System is CA.

Provided with “Restricted Rights.” Use, duplication or disclosure by the United States Government is subject to the restrictions set forth in FAR Sections 12.212, 52.227-14, and 52.227-19(c)(1) - (2) and DFARS Section 252.227-7014(b)(3), as applicable, or their successors.

Copyright © 2014 CA. All rights reserved. All trademarks, trade names, service marks, and logos referenced herein belong to their respective companies.

Legal information on third-party and public domain software used in the Nimsoft Monitor solution is documented in Nimsoft Monitor Third-Party Licenses and Terms of Use (http://docs.nimsoft.com/prodhelp/en_US/Library/Legal.html).
Contact CA

Contact CA Support

For your convenience, CA Technologies provides one site where you can access the information that you need for your Home Office, Small Business, and Enterprise CA Technologies products. At http://ca.com/support, you can access the following resources:

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

Providing Feedback About Product Documentation

Send comments or questions about CA Technologies Nimsoft product documentation to nimsoft.techpubs@ca.com.

To provide feedback about general CA Technologies product documentation, complete our short customer survey which is available on the CA Support website at http://ca.com/docs.
Contents

Chapter 1: Introduction 7
Prerequisites .................................................................................................................................8

Chapter 2: Configure Multiple UMP Servers 9
Configure the Primary UMP Server ........................................................................................9
Configure a Secondary UMP Server ......................................................................................10
Configure the Portal for Multiple UMP Servers .................................................................12

Chapter 3: Configure a Load Balancer 13

Chapter 4: Upgrade a Multiple UMP Configuration 15
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.


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