

HP OpenView Reporting and Network Solutions

Release Notes for NNM/RAMS Integration Module for RAMS 2.5.1 and NNM Advanced Edition 7.5

Software Version: 2.5.1

for HP-UX, Solaris, and Windows® operating systems



Manufacturing Part Number: **None**

December 2004

©Copyright 2004 Hewlett-Packard Development Company, L.P.

Legal Notices

Warranty.

Hewlett-Packard makes no warranty of any kind with regard to this document, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be held liable for errors contained herein or direct, indirect, special, incidental or consequential damages in connection with the furnishing, performance, or use of this material.

A copy of the specific warranty terms applicable to your Hewlett-Packard product can be obtained from your local Sales and Service Office.

Restricted Rights Legend.

Use, duplication or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause in DFARS 252.227-7013.

Hewlett-Packard Company
United States of America

Rights for non-DOD U.S. Government Departments and Agencies are as set forth in FAR 52.227-19(c)(1,2).

Copyright Notices.

©Copyright 2004 Hewlett-Packard Development Company, L.P.

No part of this document may be copied, reproduced, or translated to another language without the prior written consent of Hewlett-Packard Company. The information contained in this material is subject to change without notice.

Trademark Notices.

Microsoft® is a U.S. registered trademark of Microsoft Corporation.
Windows® is a U.S. registered trademarks of Microsoft Corporation.
UNIX® is a registered trademark of The Open Group.

Table of Contents

Introduction	4
New In This Version	5
Functionality.....	5
System Requirements	7
Hardware Requirements.....	7
Supported Operating Systems	7
Supported HP OpenView Software	7
Supported Environments.....	7
Documentation	7
Support	8
Known Problems, Limitations, and Workarounds	9
***Incorrect RAMS query password causes NullPointerException.....	9
NNM/RAMS Integration Module Does Not Support Oracle Database on Windows.....	9
NNM/RAMS Integration Module Requires RAMS Operating System 2.5.97R	9
Some Watch Lists Do Not Support NNM Topology Names.....	9
XML RPC Error when using command line configuration	9
Slow IGP View performance	10
Tunnel Configuration.....	10
Loading RAMS trapd.conf entries Error.....	10
***Adjacency Lost Watch List entries must exactly match RAMS events.....	10
Event Checkboxes in Configuration GUI Become Unchecked	10
***System Clock Differences Affect RAMS Views	11
Troubleshooting Tips	12
No RAMS views in Home Base or tab in Extended Topology Configuration GUI	12
Bootstrap Configuration in the Extended Topology Configuration GUI.....	12
Verifying Bootstrap Configuration	12
Distinguishing Appliance and Integration Module Problems	12

Introduction

Welcome to the NNM/RAMS Integration Module! The NNM/RAMS Integration Module incorporates information from HP's Route Analytics Management System (RAMS appliance) into HP OpenView Network Node Manager (NNM) Advanced Edition to provide enhanced management of dynamic IP networks.

The integration of NNM Advanced Edition with the HP OpenView Route Analytics Management System (RAMS) gives you a powerful tool to pinpoint, analyze, and prevent problems in your OSPF routing fabric.

By combining NNM's knowledge of layer-2 topology and RAMS' knowledge of layer-3 routing, this Integration Module gives you real-time and historical perspectives on important changes in your IP network. It lets you visualize your OSPF routing environment using maps and tables assembled from real-time routing protocol data. These visualizations are accessible in NNM directly from Home Base, or from the Alarm Browser menus.

The NNM/RAMS Integration Module feeds RAMS events into the sophisticated root cause analysis of NNM Advanced Edition. The result is real-time notification of changes in your routing, enhanced with layer-2 data to help understand the source of the change.

Using the NNM/RAMS Integration Module, you can monitor key routes in your network, and get immediate correlation between layer-2 faults and their layer-3 effects.

You can use the Integration Module to keep up with your routers as they adapt to network changes. Use the Integration Module to analyze such transitions over time, and to quickly address any underlying issues.

These release notes explain the software's new features; system requirements; documentation; support options; and known problems, limitations, and suggested workarounds.

New In This Version

Both OSPF and IS-IS protocols are supported.

You can select which protocol to view in the RAMS IGP View and RAMS Path History View with a radio button. When you select a protocol, the view tabs change to reflect information for that protocol's devices.

You can configure Route Change event Watch Lists using hostnames as well as IP addresses.

If you use a hostname in a Route Change event Watch List, and that router supports multiple protocols, NNM/RAMS Integration Module automatically selects an interface using the new Preferred Protocol selection you made on the Bootstrap Information screen.

Events can be configured using a command line interface, `RAMS_config.ovpl`, in addition to the graphical user interface after bootstrap configuration has been completed.

Functionality

There are a variety of ways to use the NNM/RAMS Integration Module to troubleshoot your OSPF or IS-IS routing topology.

You can configure RAMS events so that you are notified about important routing changes in your network. After you install the NNM/RAMS Integration Module, you can quickly and easily enable and configure several RAMS alarms:

- Configure the Route Change event so that NNM will alert you when it detects changes in important layer-3 paths.
- Configure the Adjacency Lost event, so that NNM will alert you when critical adjacencies are disrupted. NNM will correlate adjacency changes to the root cause faults at layer 2.
- Configure the Prefix Origination Change event to monitor the advertisements of critical networks in your routed environment.
- Configure the Prefix Flap event to monitor the reachability and stability of critical networks in your environment.

You can use the RAMS Path History view to monitor OSPF or IS-IS paths:

- Visualize the current path between two nodes to verify that meets your expectations.
- Visualize differences in the path between two nodes at different times. This is particularly useful after you have been notified of a path change.

You can use the RAMS IGP view as a window into your OSPF or IS-IS network. You can see near real-time or historical data.

- Visualize the logical (Layer 3) connectivity of your routed network in the RAMS IGP View's network map.
- Monitor adjacency status in the IGP View's `Protocol Links` table.
- Track router inventory in the view's `Protocol Routers` table.

- Visualize the IP v4 prefixes advertised by a router, to better understand route distribution configuration issues in your routing topology in the `Protocol Prefixes` table.

System Requirements

Hardware Requirements

For version 2.5.1 of the NNM/RAMS Integration Module, there are no special hardware or disk space requirements beyond those of NNM Advanced Edition.

Supported Operating Systems

The following operating systems are supported:

- HP-UX 11.0 or 11.11
- Solaris 2.8 or 2.9
- Microsoft® Windows® 2000 with service pack 3.0, Windows® XP, or Windows® 2003

Supported HP OpenView Software

The NNM/RAMS Integration Module requires the following HP OpenView software:

- HP OpenView Network Node Manager Advanced Edition, version 7.5

Ensure that this prerequisite and its most recent consolidated patch are installed on all systems in the management environment prior to installing the Integration Module. To download the patch, go to <http://support.openview.hp.com> and select Patch Downloads from the I want to go to drop down list. The patch ids of the required Consolidated Patch #1 are as follows:

- HP-UX: PHSS_32124
 - Solaris: PSOV_03361
 - Windows: NNM_01061
- RAMS operating system, version 2.5.97R

Supported Environments

The NNM/RAMS Integration Module is supported in a high availability environment. To setup the high availability environment, install and configure the NNM/RAMS Integration Module on both the active and standby server systems. Please contact HP technical support for specific configuration needs.

Documentation

The user manual for the NNM/RAMS Integration Module, *Network Node Manager / Route Analytics System Integration Module User's Guide*, is available in PDF format on the Reporting and Network Solutions CD-ROM in the `Docs` directory. It is also available under the "Reporting and Network Solutions" product category in PDF format on the Web at:

http://ovweb.external.hp.com/lpe/doc_serv

Support

Visit the HP OpenView support web site at:

<http://support.openview.hp.com/>

There you will find contact information and details about the support that HP OpenView offers.

The support site includes:

- Downloadable documentation
- Troubleshooting information
- Patches and updates
- Problem reporting
- Training information
- Support program information

Known Problems, Limitations, and Workarounds

***Incorrect RAMS query password causes NullPointerException

If the RAMS appliance query password has not been correctly entered into the Extended Topology Configuration GUI, attempts to launch the RAMS IGP View or query paths in the RAMS Path History View will fail, displaying a `java.lang.NullPointerException`. If this happens, you need to update the password in the ET Configuration GUI (http://<NNM_AE_Station>:7510/toplogy/etconfig) to be consistent with the setting in the RAMS appliance GUI (https://<RAMS_Appliance>/cgi-bin/queries).

NNM/RAMS Integration Module Does Not Support Oracle Database on Windows

On Windows operating systems, NNM must use Solid as its data repository. The NNM/RAMS Integration Module does not support the configuration of Oracle as NNM's data repository.

NNM/RAMS Integration Module Requires RAMS Operating System 2.5.97R

The latest release of the RAMS operating system is required for this 2.5.1 version of the NNM/RAMS Integration Module (available on the Reporting and Networking Solutions 7.0 CD media). The supported RAMS operating system version is **2.5.97R**.

You can download the latest RAMS operating system in one of two ways:

- **If your RAMS appliance has internet access:** you can simply access the RAMS administrative interface, select the "System Update" tab, and click on "Check For Update". Note that if internet access is controlled by a proxy server you will need to select the "Use Proxy" checkbox and enter the information for your proxy server. The key for this release is "update".
- **If your RAMS appliance cannot access the internet:** you will need to ftp the new RAMS release to an internal ftp server that the RAMS appliance can access. You need to connect via anonymous ftp to `mckinley.external.hp.com`, go to the `rams` directory, set binary transfer mode, and get the file named `ramsOS-0.2.36-2.5.97-R.update`. After ftp'ing the package, access the RAMS administrative interface, and select the `System Update` tab. In the field labeled `URL`, enter the ftp path to your internal ftp server. For example, <ftp://myserver.com/pub/ramsOS-0.2.36-2.5.97-R.update>. In the field labeled `Key`, enter the value `update`.

Some Watch Lists Do Not Support NNM Topology Names

In this release of the Integration Module, only Watch List entries for Route Change events may be hostnames. All others must be IP addresses. Neither DNS hostnames nor NNM topology names are supported.

XML RPC Error when using command line configuration

`RAMSConfig.ovpl -viewfilt PrefixOrig` will give an xml rpc exception. Re-running the command will eliminate the error.

Slow IGP View performance

A network which contains OSPF or ISIS routers that are not in DNS can cause slow Dynamic View performance due to DNS timeouts. To improve performance add “*.*.*.*” to the \$OV_CONF/ipnlookup.conf file (create the file if it doesn’t exist). An ovstop/ovstart is required after creating/editing the file.

Tunnel Configuration

RAMS requires a key be configured on all tunnel interfaces.

Loading RAMS trapd.conf entries Error

When installing an error like the following occurs:

Loading RAMS trapd.conf entries...

Not loading event format. Event name "rexAdjLost" is already in use under MIB alias "pdRouteExplorer".

Rename the event to avoid the conflict in line #4 of "/opt/OV/contrib/NNM/event/C_rams_trapd.conf":

EVENT rexAdjLost .1.3.6.1.4.1.8083.1.1.8.1 "Route Analytics Alarms" Major.

Warning: Could not merge /opt/OV/contrib/NNM/event/C_rams_trapd.conf.

This error indicates that the trapd.conf file already contains previous trap definitions for RAMS events. Edit the \$OV_CONF/<LANG>/trapd.conf file and remove all trap definitions whose OID contains the string “1.8083.1”. Then run \$OV_BIN/setupRAMS.ovpl.

***Adjacency Lost Watch List entries must exactly match RAMS events

Using OSPF router IDs to filter the set of adjacency loss events generated by the RAMS appliance will not allow all adjacency loss events for the referenced routers to pass the filter. In cases where the Adjacency Lost event contains a router interface IP address, the address associated with that interface must be specified in the Watch List instead of the router ID.

Event Checkboxes in Configuration GUI Become Unchecked

RAMS events are enabled via checkboxes under the RAMS tab in the ET Configuration GUI. After enabling an event by clicking it’s checkbox and closing the browser, if the configuration gui is displayed again the event’s checkbox is no longer checked (enabled). The event’s checkbox must be checked (enabled) again before applying changes. This is a defect that will be fixed in the next release.

*****System Clock Differences Affect RAMS Views**

Any differences in perceived current time between a client (a machine running either the RAMS IGP View or Path History View), NNM and the RAMS appliance can affect the data displayed in the RAMS IGP and Path History views. Clock differences can lead, for example, to the IGP View asking the RAMS appliance for data which, from the appliance's point of view, is in the future!

HP strongly recommends that all systems in a RAMS installation synchronize clocks with an NTP server or other appropriate Internet time service.

Troubleshooting Tips

No RAMS views in Home Base or tab in Extended Topology Configuration GUI

Verify that RAMS has been enabled through the customary menu-driven RNS plug-in installation/configuration procedure. You can safely run the installation multiple times as you find and fix any problems which might have prevented the installation from finishing.

Bootstrap Configuration in the Extended Topology Configuration GUI

Correct configuration in the RAMS tab of the Extended Topology Configuration GUI is critical for the Integration Module to successfully communicate with a RAMS appliance. You must enter a valid RAMS IP address or DNS hostname, the RAMS administrator password, the RAMS query password and the RAMS database name (also known as Administrative Domain). The RAMS database name is case sensitive.

Verifying Bootstrap Configuration

If you are unable to launch RAMS dynamic views after applying RAMS configuration changes in the Extended Topology Configuration GUI, you can use the RAMS-to-NNM topology seeding tool to test whether NNM can communicate with the RAMS appliance. If the topology tool works as expected, there is likely a problem with Dynamic Views and not the RAMS appliance itself.

See the OVRams2NNM.ovpl.README file in \$OV_CONTRIB (Unix) or %OV_CONTRIB% (Windows) for details about this tool.

Distinguishing Appliance and Integration Module Problems

If you are experiencing unexpected behavior in either the RAMS IGP View or Path History View, first verify that all RAMS settings in the Extended Topology Configuration GUI are correct. If they are correct, you can use the RAMS appliance's native interfaces to verify the operational stability of the appliance itself. Some basic tests include the following activities:

- Use the native web-based configuration UI to do the following tests:
 - verify the appliance is reachable on the network,
 - optionally reset appliance query and admin passwords (to match those entered in the Extended Topology Configuration GUI),
 - ensure data is being recorded as expected for the Administrative Domain (DB) being monitored in NNM
- Connect to the native operator UI (through VNC or X-Windows) to complete the following tests:
 - open a topology map (to verify the appliance sees a routed topology and to compare against NNM),

- open an event browser to troubleshoot unexpected event behavior between RAMS and NNM