

A decorative graphic on the right side of the page. It features three concentric blue circles of varying sizes. Two thin blue lines intersect at a point between the top and middle circles, extending towards the top-left and bottom-right corners of the page. A third thin blue line extends from the bottom-right corner towards the bottom-right circle.

ManageEngine OpManager & Applications Manager – Integration

The purpose of this document is to present details about the integration of ManageEngine OpManager with Applications Manager

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1.0 Abbreviations & Terminologies Used

- IT – Information Technology
- IP Address – Internet Protocol Address that is assigned to a network equipment
- JVM – Java Virtual Machine

2.0 Introduction

ManageEngine is an innovative low-cost Enterprise IT Management Software, offering high-end functionality of large network management frameworks at cost-effective pricing to enterprises world-wide. Administrators/Operators of Enterprises having deployed ManageEngine applications for IT Management would need to use separate web consoles of the ManageEngine applications such as OpManager for Network & Server monitoring, Applications Manager for Applications monitoring etc.,.

Remembering the host address and the port where the applications are running would be a tedious task. Integration of these two applications through connector addresses this problem by providing a way to have an integrated web console for these ManageEngine applications. This document provides a high level overview of the integration and its key features/benefits.

3.0 Integration Summary

- ManageEngine Applications Manager and OpManager has to be deployed as two different applications and running as two separate JVMs.
- Create a read-only user in the OpManager application.
- IP Address/hostname & port where the OpManager server is running along with a read-only user credentials has to be configured in the Admin -> Add-On/Product Settings page of Applications Manager.
- Applications Manager will fetch the monitor details (device status, alarms) from the OpManager server periodically.
- Associate the monitors fetched from the OpManager server to any Monitor Group in Applications Manager.
- Once the OpManager monitors are associated to a Monitor Group in Applications Manager, user can see the device availability status, health status, alerts in Applications Manager.
- User can see the snapshot page of the OpManager device through Applications Manager interface.
- User can see the OpManager alarms in the alert window of Applications Manager.

- Reports such as availability & health snapshot, outage report, SLA Management report for the Monitor group having monitors from OpManager can be viewed through Applications Manager web console.

4.0 Integration Work Flow

4.1 Creating read-only user in OpManager

The screenshot shows the 'Add User' form in the OpManager web console. The form is titled 'Add User' and is located under the 'Admin' tab. It contains the following sections:

- Login Details:**
 - User Name: test
 - Password: ****
 - Re-type Password: ****
- Contact Details:**
 - EmailId:
 - Phone Number:
 - Mobile Number:
- Access Details:**
 - User Permissions: ☒ Full Control, ☒ Read Only Access
 - Has access to: ☒ All Devices, ☐ Only the selected Business Views

Buttons at the bottom: Add User, Cancel.

Help Card:

Add Users

You can create users with different access privileges. Ensure that you have applied multiple users license to be able to add more users.

User Name: Type the name of the user who can log on to OpManager.

Password: Configure a password.

Re-type Password: Re-type the password to confirm.

Email Id: Configure the email id of the user.

Phone Number: Type the phone number of the user.

Mobile Number: Type the mobile number of the user.

User Permissions: Select **Full Control** to provide complete read/write control to the user to monitor resources using OpManager. Select **Read Only Access** if the user is allowed only to view the resources.

Has Access to: Select **All Devices** if the

4.2 Read-only user created in OpManager

The screenshot shows the ManageEngine OpManager web interface in a Mozilla Firefox browser. The address bar displays the URL `http://ammuraj:8061/admin/AddUserAction.do`. The page features a blue header with the OpManager logo and navigation tabs: Home, Maps, Alarms, Admin, Reports, and Support. A yellow banner indicates the trial period will expire in 29 days. A green information box states "User has been successfully added!". Below this, the "User Configuration" section contains a table with two users: "admin" and "test". The "admin" user has an "Edit" icon and a "Delete" button labeled "Not Allowed". The "test" user has an "Edit" icon and a "Delete" icon.

User Name	Edit	Delete
admin		Not Allowed
test		

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4.3 Configuring OpManager server details in Applications Manager

The screenshot shows the ManageEngine Applications Manager web interface in a Mozilla Firefox browser. The page title is "Applications Manager - Add-on/Products Settings - Mozilla Firefox". The address bar shows the URL: `http://ammuraj:9090/extDeviceAction.do?method=addNewExtDevice&prodName=`. The browser's search bar contains "Google". The page has a blue header with the ManageEngine logo and "Applications Manager 8". The navigation menu includes links for Home, Monitors, Alerts, Reports, Support, and Admin. The left sidebar contains a search bar and a list of links: Admin, New Monitor Group, New Monitor, Action / Alert Settings, Availability Settings, Discovery, Downtime Scheduler, SNMP Trap Listener, Schedule Reports, Global Settings, Configure Mail Server, Configure Proxy, Upload Files/Binaries, User Administration, Add-On/Products Settings, Database Retention, Quick Note, and After Configuring. The main content area is titled "Admin > Add-on/Products Settings" and "Add-On/Products Settings - OpManager". It contains a form for "OpManager product Details" with the following fields: Server Name* (ammuraj), Port Number* (8061), Username* (test), Password* (****), and Enable Data Collection* (checked). Below the form are buttons for Save, Reset, and Cancel. The status bar at the bottom shows "Server responded in 63 milliseconds" and "Server System Time : Jun 9, 2008 3:03:30 PM". The footer includes links for Home, Monitors, Alerts, Reports, Support, Admin, and Sitemap, along with the copyright notice "© 2008 AdventNet Inc.". A red error message "1 Error" is visible in the bottom right corner.

4.4 OpManager server settings configured in Applications Manager

The screenshot shows the ManageEngine Applications Manager web interface in a Mozilla Firefox browser. The address bar displays the URL `http://ammuraj:9090/extDeviceAction.do`. The page title is "Applications Manager - Add-on/Products Settings".

The interface includes a top navigation bar with links for Help, Get Quote, Licensing, Personalize, Talk Back, About, and Logout. Below this is a secondary navigation bar with tabs for Intro, Home, Monitors, Alerts, Reports, Support, and Admin. The Admin tab is currently selected.

On the left side, there is a search bar and a sidebar menu with various configuration options. The main content area displays a message: "Product Details Saved Successfully". Below this, the "Admin > Add-on/Products Settings" section is visible, with tabs for Product Settings and Polling Interval. The "Product Settings" tab is active, showing a table of configured products.

AdventNet Applications Manager	Host	Port	Last Polled at	Actions
Service Desk	-	-	-	Add
OpManager	ammuraj	8061	-	Delete Refresh Add
OpStor	-	-	-	Add

Below the table, it states "Server responded in 1,399 milliseconds" and "Server System Time : Jun 9, 2008 3:06:56 PM". At the bottom, there are links for Home, Monitors, Alerts, Reports, Support, Admin, and Sitemap, along with the copyright notice "© 2008 AdventNet Inc."

4.5 Associate OpManager monitors against a Monitor group in Applications Manager

The screenshot shows the 'Applications Manager - Add Monitors to Monitor Group' page in Mozilla Firefox. The browser address bar shows the URL: `http://ammuraj:9090/showresource.do?type=All&method=getMonitorForm&haid=`. The page title is 'Applications Manager - Add Monitors to Monitor Group - Mozilla Firefox'. The ManageEngine logo and 'Applications Manager 8' are visible at the top. The navigation bar includes links like 'Intro', 'Home', 'Monitors', 'Alerts', 'Reports', 'Support', 'Admin', and 'Jump to:'. The main content area is titled 'Select All Monitors for Applications Manager Monitor Group'. It features a search bar, a 'Monitor Group Links' sidebar, and a 'Quick Note' section. The main area is divided into three sections: 'Available Monitors', 'Monitors in this group', and 'External Monitors'. The 'Available Monitors' section has a table with columns 'Monitor Name' and 'Name of the Monitor Type'. The 'Monitors in this group' section has a similar table. The 'External Monitors' section has a table with columns 'Monitor Name' and 'Name of the Monitor Type'. The 'External Monitors' table lists various IP addresses and server names, each with a checkbox and a 'Name of the Monitor Type' dropdown. The 'Monitors in this group' table lists 'AppManager Home Page' and 'ammuraj', each with a checkbox and a 'Name of the Monitor Type' dropdown. The 'Available Monitors' section has a checkbox for 'ammuraj.india.adventnet.com_Apache-server' and a 'Name of the Monitor Type' dropdown. The 'Monitors in this group' section has a 'Remove' button. The 'External Monitors' section has an 'Associate' button. The 'Quick Note' section provides instructions on how to associate monitors. The 'Monitor Group Links' sidebar includes links like 'Applications Manager', 'New Sub-Group', 'Configure Alerts', 'Associate Monitor', 'Alerts', 'Application Report', 'Edit', 'Delete', and 'Refresh Status'. The 'Done' button is at the bottom right.

4.6 OpManager monitors listed under Monitors tab in Applications Manager

The screenshot shows the ManageEngine Applications Manager web interface. The top navigation bar includes links for Help, Get Quote, Licensing, Personalize, Talk Back, About, and Logout. The main menu has tabs for Intro, Home, Monitors (selected), Alerts, Reports, Support, and Admin. The Monitors tab is active, displaying a grid of monitor categories. The 'External Devices' category is highlighted, showing 'Network & SAN Devices' with 9 monitors. The interface also includes a search bar, monitor views (Category View, Bulk Config View, Monitor Group View, Google Map View, Icon View, Table View, Plasma View), discovery links, and business view options.

Category	Monitor Name	Count
Application Servers [0]	Microsoft .NET	0
	JBoss Server	0
	Oracle AS	0
	Tomcat Server	0
	WebLogic Integration	0
	WebSphere Server	0
Mail Servers [0]	Exchange Server	0
	Mail Server (RTT)	0
External Devices [9]	Network & SAN Devices	9
ERP [0]	SAP Server	0
	Java/Transactions	0
	Java Runtime	0
	J2EE Web Transactions	0
Database Servers [0]	DB2	0
	MS SQL	0
	MySQL	0
	Sybase	0
Servers [1]	AIX	0
	FreeBSD	0
	HP-UX / Tru64	0
	Linux	1
Web Server/Services [2]	Apache Server	1
	IIS Server	0
	PHP	0
	HTTP(s) URLs	1
Services [0]	JMX Applic...	0
	Ping Monitor	0
	Service Mo...	0
	AdventNet ...	0

4.7 Listing of OpManager monitors

The screenshot shows the ManageEngine Applications Manager interface. The main content area is titled 'Monitors > External Devices'. It features a table with columns for 'Name', 'Availability', and '% Avail'. The table lists several monitors, all of which are 'Available' with 100.0% availability. A legend at the bottom indicates that red bars represent 'Unavailable', green bars represent 'Available', and grey bars represent 'No Data'.

Name	Availability	% Avail
Muralib	Available	100.0
Subash	Available	100.0
Shankarananda	Available	100.0
Hemanth	Available	100.0
Bkavitha	Available	100.0
ammuraj.india.adventnet.com	Available	100.0
Subramani	Available	100.0
Sowjanya	Available	100.0
Srikrishnan	Available	100.0

4.8 Launching OpManager device snapshot page from Applications Manager

http://ammuraj.9090 - OpManager - Mozilla Firefox

Snapshot - ammuraj.india.adventnet.com

Device Details | Device Notes

✓ ammuraj.india.adventnet.com

IP Address	192.168.113.169
Vendor	net-snmp
Category	Server
Type	Linux
Traffic Counter	64 bit
Dependency	None
Poll Using	ICMP
Monitoring	5 Min
Sys Desc.	"Linux 2.4.x"
Passwords	User not authorized to change.

Recent Alarms

✓ Currently there are no open Alarms.

Today's Availability 7:1 30%

Response Time 7:1 30%

NA

Today's Packet Loss 7:1 30%

NA

CPU Utilization

No Data Available

Troubleshoot...

Memory Utilization

No Data Available

Troubleshoot...

Disk Utilization

No Data Available

Troubleshoot...

Monitors | Notification Profile | Interfaces

Service Monitors
0/1 monitors down.

URL Monitors
No URL Monitors available.

Performance Monitors
Total monitors 4, None in error

Name	Status	Port	Response Time (ms)	Threshold
Web	✓	80	N/A	Not Enabled

Done

4.9 OpManager Alarms in Applications Manager

The screenshot displays the ManageEngine Applications Manager interface. The top navigation bar includes links for Help, Get Quote, Licensing, Personalize, Talk Back, About, Logout, and [admin]. The main menu has tabs for Intro, Home, Monitors, Alerts, Reports, Support, and Admin. The Alerts section is active, showing a search box, a left sidebar with links like Alerts, Alert for Traps, JMX Notifications, and Configure Alerts, and a central area with a graph and a table of alerts.

Applications Manager - Graph

Alert Count

Severity

* Click on the bars to view the alerts by severity

Alert Views

By Monitor Groups

Filter alerts based on a particular Monitor Group or all Groups.

Monitor Groups : Applications Manager

By Monitor Types

Filter alerts based on a particular Monitor Type or all Monitor Types

Monitor Types : Select Monitor Type

Alerts for Applications Manager

Set as Clear | History Report

Showing 1 to 5 of 5

Page : [1]

25 entries per page

Monitor	Type	Status	Alert Message	Date / Time	Technician
Umanand	Windows XP	Critical	CPU Utilization is 10%, threshold value for this monito	Jun 9, 2008 5:13 PM	None
192.168.113.134	Unknown	Critical	Health is critical	Jun 9, 2008 5:12 PM	None
Kashok	Windows XP	Critical	Health is critical	Jun 9, 2008 5:12 PM	None
Tsenthil	Unknown	Critical	Health is critical	Jun 9, 2008 5:11 PM	None
ammuraj.india.adventnet.com	Linux	Critical	CPU Utilization is 11%, threshold value for this monito	Jun 9, 2008 5:05 PM	None

Configure Alerts

Server responded in 651 milliseconds

Server System Time : Jun 9, 2008 5:17:50 PM

Home Monitors Alerts Reports Support Admin Sitemap

Find: Match case

4.10 Availability & Health snapshot report of Monitor group having monitors of OpManager

The screenshot displays the ManageEngine Applications Manager Reports interface in a Mozilla Firefox browser. The page title is "Applications Manager - Reports - Mozilla Firefox". The URL bar shows "http://ammuraj:9090/showReports.do". The browser's address bar also displays "http://ammuraj:9090/showReports.do". The page features a navigation menu with options like "Intro", "Home", "Monitors", "Alerts", "Reports", "Support", and "Admin". The "Reports" tab is currently selected. Below the navigation menu, there are links for "New Monitor Group", "New Monitor", "New Threshold", "View Thresholds", "New Action", "View Actions", and "Configure Alerts".

The main content area displays the "Availability and Health Current Snapshot Report for Applications Manager". The report is organized into a table with the following columns: Monitor, Availability, Health, and Message.

Monitor	Availability	Health	Message
Applications Manager	●	●	Health is critical. Root Cause : 1. Vijay is down 2. Sangeethm is down 3. Baskar is down
ammuraj.india.adventnet.com	●	●	CPU Utilization is 12%, threshold value for this monitor is 10%
Banupriya	●	●	-
Baskar	●	●	Resource is down. Health is critical as the resource is not available
Procurve2524	●	●	-
Sangeethm	●	●	Resource is down. Health is critical as the resource is not available
Shankarananda	●	●	-
Testrouter	●	●	Interface Async1 is down
Vijay	●	●	Resource is down. Health is critical as the resource is not available
Vijayshankar	●	●	-

Annotations on the screenshot include:

- A red arrow pointing from the "Procurve2524" monitor to the word "Switch".
- A red arrow pointing from the "Testrouter" monitor to the word "Router".

The left sidebar contains a "Search" box and a "Monitor Group" section with a dropdown menu set to "Applications Manager". Below this, there are links for "Availability and Health Snapshot", "Current Snapshot (Critical)", "Snapshot (History Report)", "Availability", "Outage Comparison", "Availability Trend", "Health", "Response Time", and "Alerts". The "Alerts" section has a dropdown menu labeled "Select Report". At the bottom of the sidebar, there is a "Monitors" section with a "Select Monitor" dropdown menu and a "Downtime History" link.

4.11 Outage comparison report of Monitor group having monitors of OpManager

<http://ammuraj:9090 - Applications Manager - Reports - Mozilla Firefox>

Week

Weekly Outage Comparison Report for Applications Manager

Monitor Group	This Week Outages		Last Week Outages		Count		Downtime Duration	
	Count	Duration	Count	Duration	Change	%	Difference	%
Applications Manager	2	2 Hrs 59 Mins	0	0 Secs	2	NA	2 Hrs 59 Mins	NA

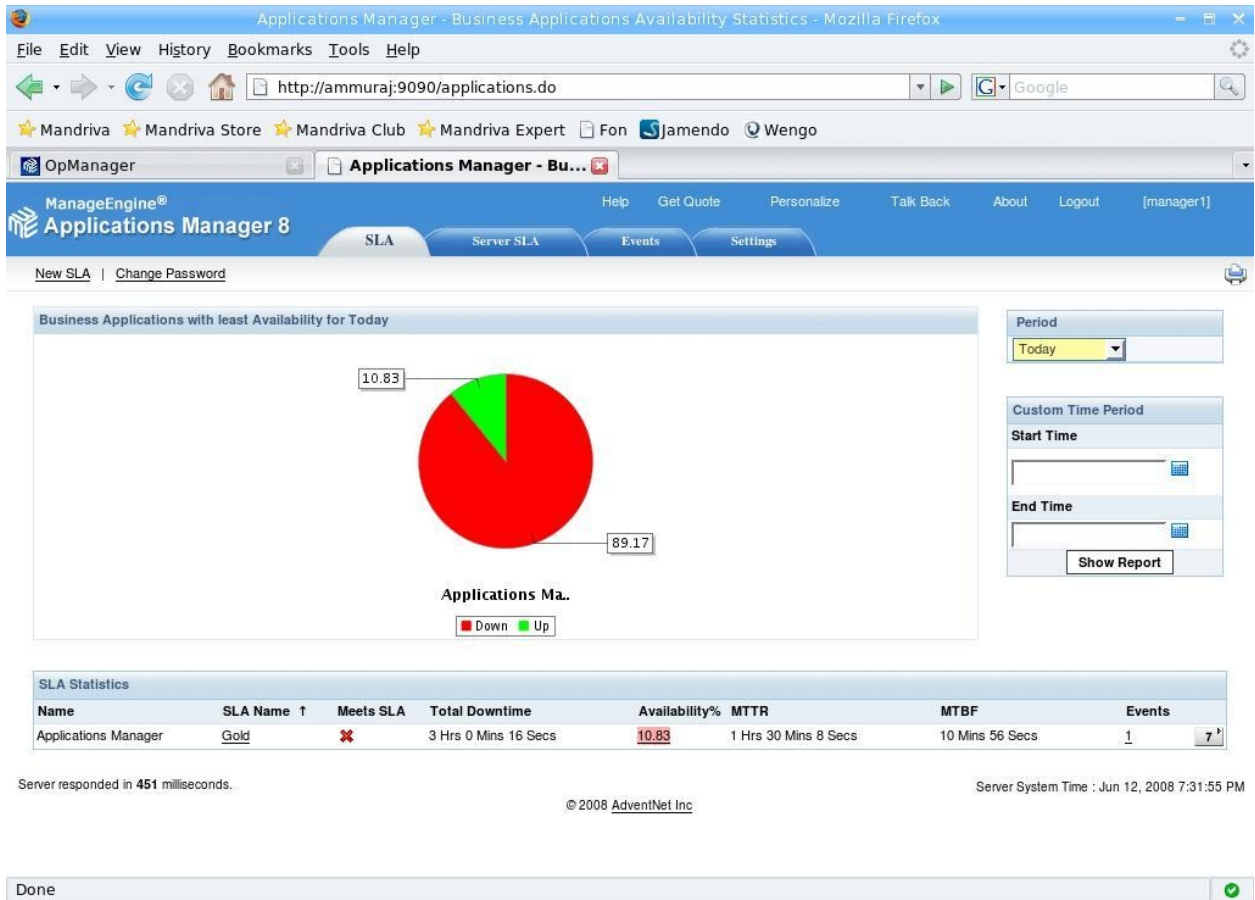
Report generated for records found in the database from Jun 1, 2008 12:00:00 AM to Jun 12, 2008 7:31:38 PM

Server responded in : 60 Milliseconds.

Server System Time : Jun 12, 2008 7:31:38 PM

Done

4.12 SLA Management Console For Managers capturing monitors of OpManager



4.13 Availability report through SLA Management Console For Managers capturing monitors of OpManager

http://ammuraj-9090 - Applications Manager - Reports - Mozilla Firefox

Reports

Overall Availability of Applications Manager

Uptime :	10.81%	Downtime :	89.19%
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* A Monitor group is said to be available when all the monitors present at that moment are also available.

Availability Details of All the Monitors in the Monitor Group "Applications Manager"

Monitor	Total Downtime	MTTR	MTBF	Uptime %
Sangeethm	2 Hrs 1 Mins 43 Secs	2 Hrs 1 Mins 43 Secs	1 Hrs 20 Mins 47 Secs	39.89%
Baskar	17 Mins 15 Secs	17 Mins 15 Secs	3 Hrs 5 Mins 14 Secs	91.47%
Vijay	17 Mins 13 Secs	17 Mins 13 Secs	3 Hrs 5 Mins 17 Secs	91.49%
Shankarananda	0 Secs	0 Secs	3 Hrs 22 Mins 30 Secs	100%
Banupriya	0 Secs	0 Secs	3 Hrs 22 Mins 30 Secs	100%
ammuraj.india.adventne...	0 Secs	0 Secs	3 Hrs 22 Mins 30 Secs	100%
Vijayshankar	0 Secs	0 Secs	3 Hrs 22 Mins 30 Secs	100%
Testrouter	0 Secs	0 Secs	3 Hrs 22 Mins 30 Secs	100%
Procurve2524	0 Secs	0 Secs	3 Hrs 22 Mins 30 Secs	100%

Router switch ←

Mean Time To Repair (MTTR)
The average time to repair a device or a system back to acceptable operating conditions. The term can also mean, the time spent to restore a machine to operating condition after failure.
This must be as low as possible.

Mean Time Between Failures (MTBF)
The average time that a device or a system worked without failure. The term can also mean the length of time a user may reasonably expect a device or system to work before an incapacitating fault occurs.
This must be as high as possible.

* The Monitor Downtime details are based on the polling interval. In case the polling interval is long downtime values may be little off the mark.