up:time software
because downtime is not an option

Up.time SNMP Trap Virtual Appliance

Quickstart Guide

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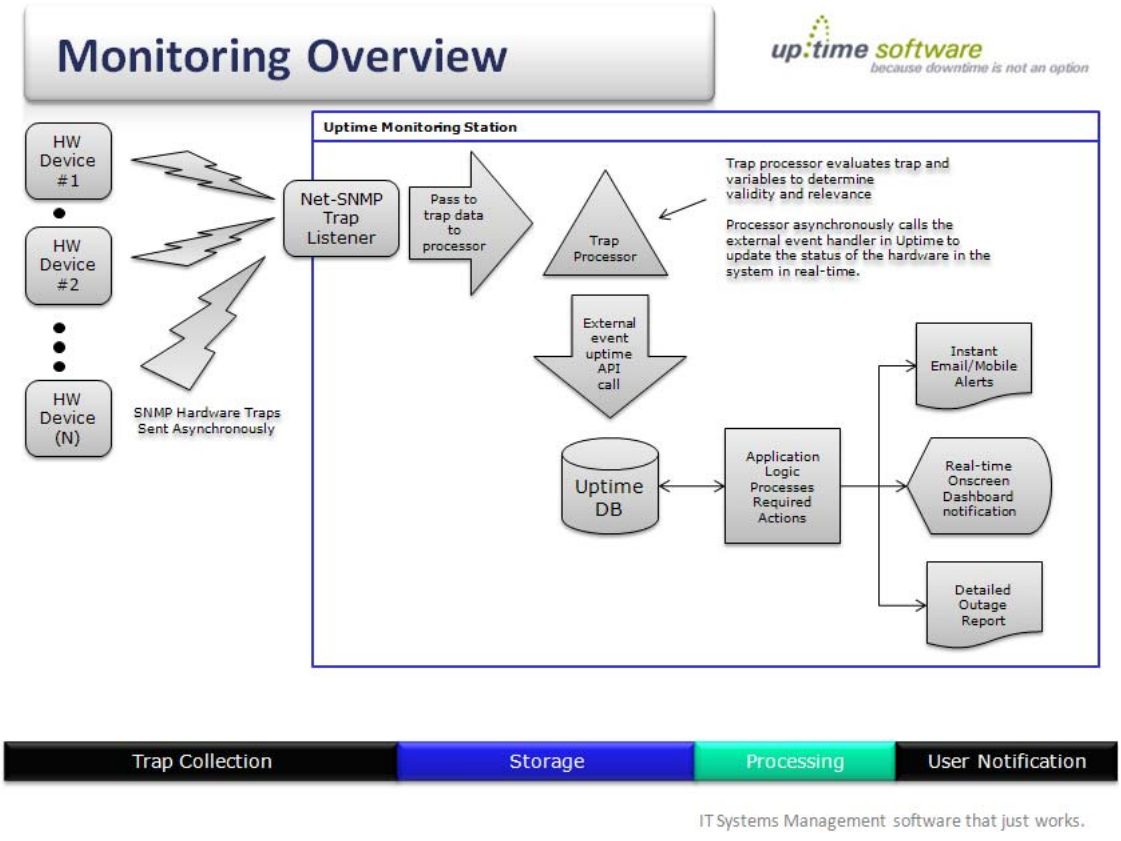
Executive Summary

The purpose of the SNMP Trap Appliance is to provide an easy way to deploy a trap listener host in your infrastructure to drive SNMP trap alerts from IBM and HP servers into up.time.

The following trap alerts are gathered from the servers for each of the aforementioned vendors:

Dell	HP
==================================	==================================
Dell Power Supply Monitor	HP Power Supply Monitor
Dell Broadcom Network Interface Monitor	HP Chassis Temperature Monitor
Dell Temperature Monitor	HP System Fan Monitor
Dell Disk Array Manager Monitor	HP CPU Fan Monitor
Dell Memory Error Monitor	HP Memory Monitor
	IBM
	==================================
	IBM Power Supply Monitor
	IBM NIC Monitor
	IBM Temperature Monitor
	IBM Fan Monitor
	IBM Disk SMART Monitor
	IBM Memory Monitor

Up.time will be constantly updating and evolving the appliance to receive traps from more hardware vendors. To find out the current state of the trap monitor please contact ken.cheung@uptimesoftware.com.



Quick Start

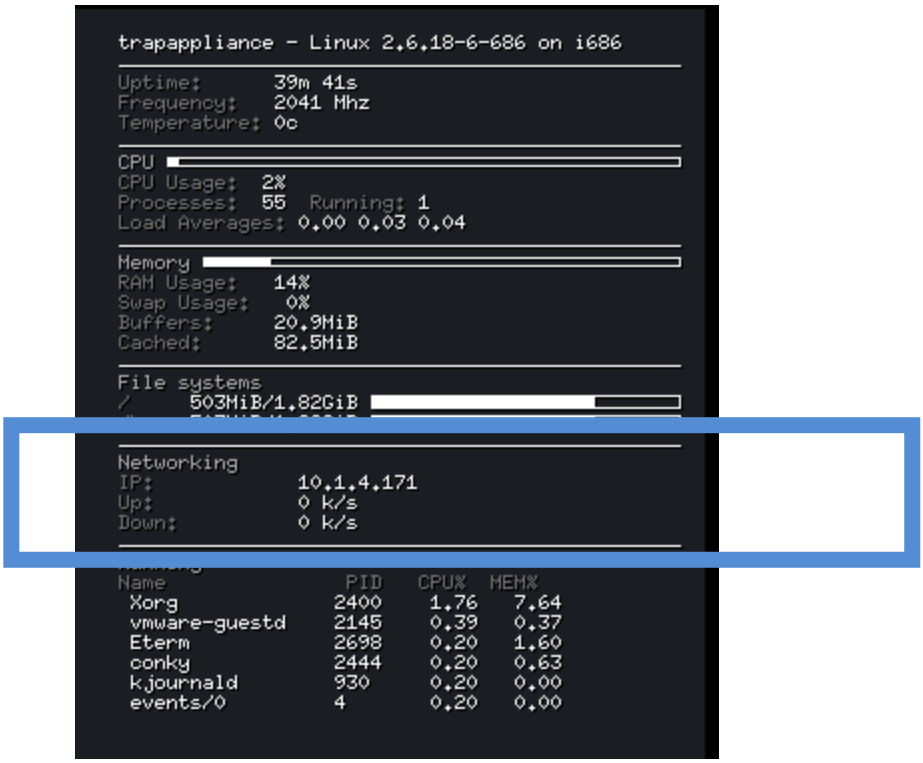
Default root password: uptime
VMWare Appliance Image Type:Workstation

The setup process consists of the following:

1. Unpacking the VMWare Image
2. IF you are running a workstation edition of VMWARE power up the image
    a. If you are running ESX, convert the workstation image to a server instance and power on the image

3. Login to the image as root. The default terminal and desktop will load automatically.
4. Assign the image an IP address, you may use DHCP initially however you may choose to set a static IP by editing /etc/network/interfaces. This IP address will be the new TRAP TARGET that you will need to add to all of your monitored hardware. (if you do not know how to do this please contact your hardware vendor - HP/IBM)

    You can quickly identify the IP address of your image on the desktop of the machine in the information panel in the right as per the screenshot below.



5. Configure the trap appliance to send to your monitoring station by editing /uptime4/scripts/extevent.pl and modifying the line traphost (var $host) to reflect the IP address of your monitoring station (your SA may have already preconfigured this for you).
6. Log into your uptime interface and create external event monitors that reflect the following settings with the names of the monitors as specified in the lists of monitors in the executive summary i.e “IBM Memory Monitor”. Associate these with the monitoring station or with a special node that you create called “SNMP Trap Monitoring Node”.

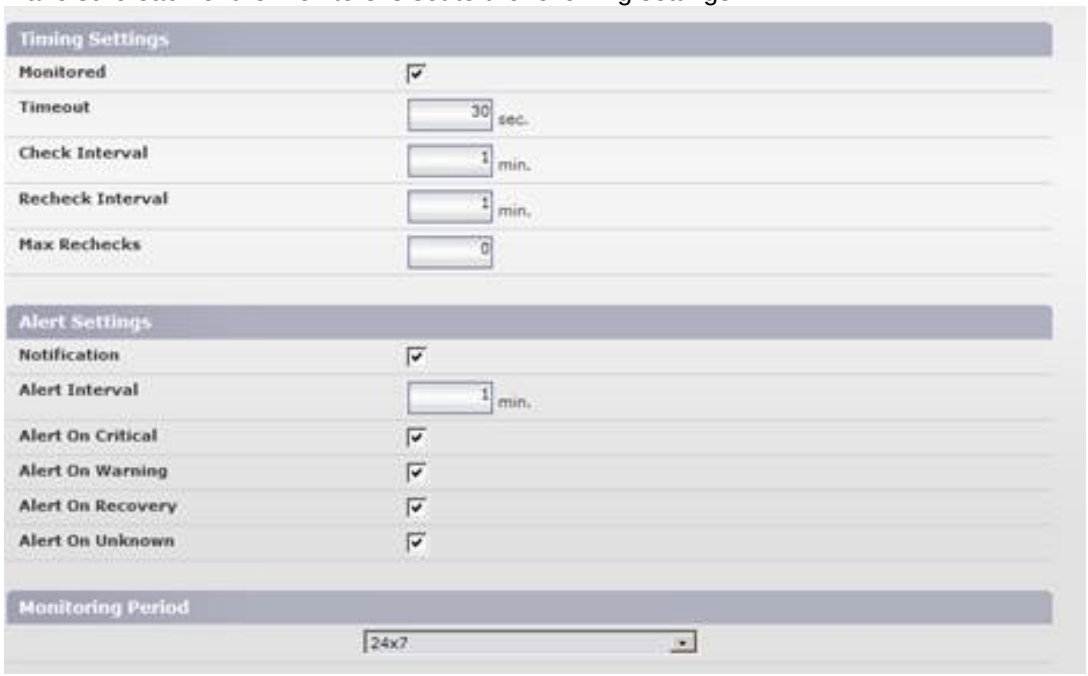
Due to the nature of this extension we need to do the following steps to install the Trap Monitoring solution:

Here is an example of how to configure HP SNMP trap monitoring, you would repeat these steps for the IBM trap monitor using the names of the IBM monitors from the executive summary.

Create the following external monitors on your monitoring station (exact names)

a. HP Power Supply Monitor
b. HP Chassis Temperature Monitor
c. HP System Fan Monitor
d. HP CPU Fan Monitor
e. HP Memory Monitor

Make sure each of the monitors is set to the following settings :



You only have to do this once, and all of your servers will be monitored enterprise wide as long as your servers are sending traps to the IP address of the monitoring station.

Once you have done this you are now setup with up.time to monitor SNMP Traps.

Customization

Customizing the response of the trap monitor or extending it involves editing the following 3 files:

1. /etc/snmp/snmptrapd.conf
2. /uptime4/scripts/snmptrapfifo.hp.pl
3. /uptime4/scripts/snmptrapfifo.ibm.pl
4. /uptime4/scripts/snmptrapfifo.dell.pl

If upon review of these files you are unclear of how this should work, please contact Solutions Engineering at ken.cheung@uptimesoftware as soon as possible for more information.

APPENDIX A – DELL SNMP Agent Landscape

Agent application[1]	SNMP events	DMI events
Adaptec CI/O agent		Other
Broadcom® NIC agent	Network	
Dell OpenManage Array Manager	Storage	
Dell OpenManage Client Instrumentation[2]	Memory, Processor, Storage	Memory, Processor, Storage
Dell OpenManage Hardware Instrumentation Package (HIP)[3]	Environmental, Memory, Power, Security, Software, Other	Environmental, Memory, Power, Security, Software, Other
Dell OpenManage IT Assistant	Software	
Dell OpenManage Remote Assistant Server	Storage	
Dell OpenManage Server Administrator[3]	Environmental, Memory, Power, Other	
Dell OpenManage Server Agent[3,4]	Environmental, Memory, Power, Other	Environmental, Memory, Power, Security, Software, Other
Dell Remote Assistant Card II (DRAC II) and Dell Remote Access Card III (DRAC III) agent	Environmental, Power, Other	
DMTF (Distributed Management Task Force)	Environmental, Memory, Network, Power, Processor, Security, Software, Storage, Other[5]	(only events related to the physical container global table)
Emulex® cLAN™ agent	Network	
Intel® NIC Instrumentation	Network	Network
Microsoft Windows	Operating System	
NuView® ClusterX® (event source for Dell OpenManage Cluster Assistant with ClusterX v. 2.x) **and VERITAS ClusterX™ agent** (event source for Dell OpenManage Cluster Assistant with ClusterX v. 3.x)	Cluster	
QLogic agent		Other
RAID agent—Dell PowerEdge Expandable RAID Controller (PERC) and PERC2	Power, Storage	
SCSI agent—Comprehensive I/O (CI/O)	Storage	
SNMP agent	Network, Operating System, Security	
Symbios® agent		Storage

[1] The agents are either stand-alone applications or are installed by one or more Dell applications.

[2] The upcoming release of Dell OpenManage Client Instrumentation version 7.0 supports WMI indications. Events from versions 5.x and 6.x are supported through DMI only.

[3] The currently shipping version of Dell server instrumentation is Dell OpenManage Server Administrator. Earlier releases are called Dell OpenManage Server Agent and Dell OpenManage Hardware Instrumentation Package.

[4] Events from version 4.3 and below of OpenManage Server Agent are supported through SNMP and DMI; starting from version 4.4, only SNMP is supported.

[5] Certain DMTF event types are DMI indications converted to SNMP traps by the DMI to SNMP mapper.

The up.time listener is listening for traps from the agents highlighted on image to the left.