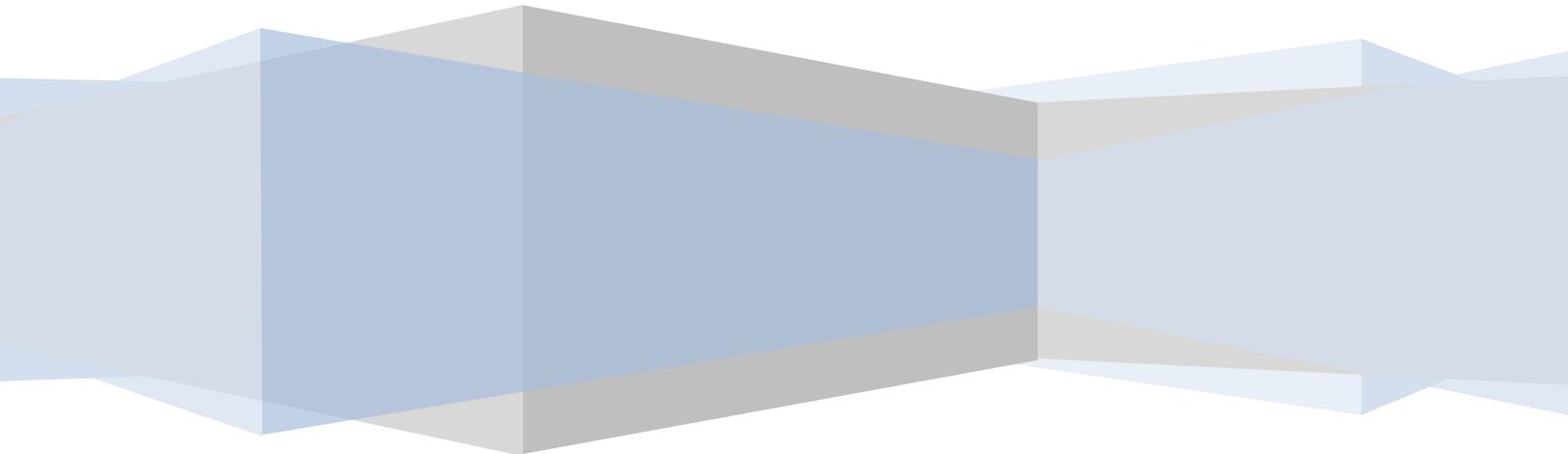


Application Monitoring and Network Visibility – A complete view of your network

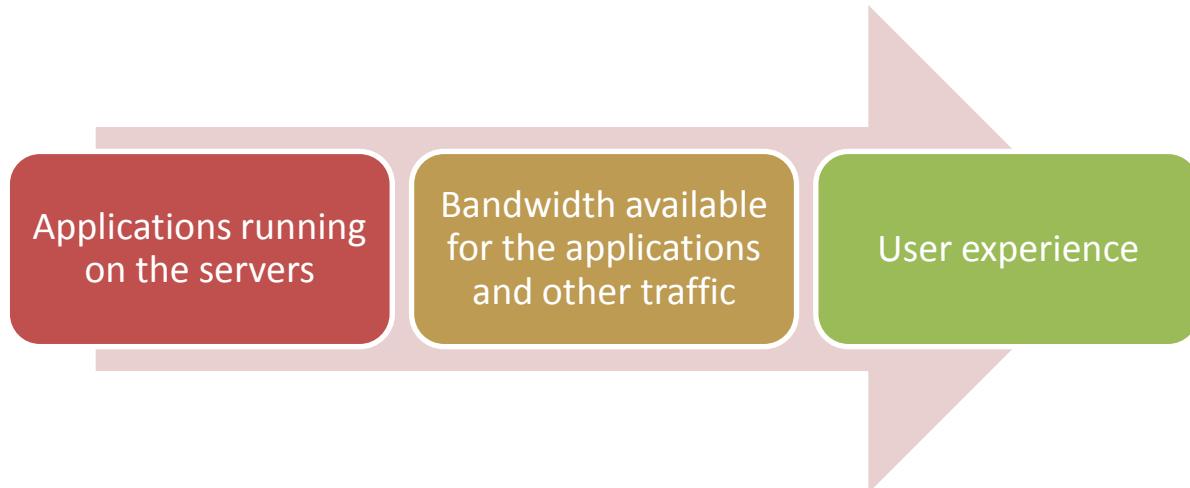


Application Monitoring and Network Visibility

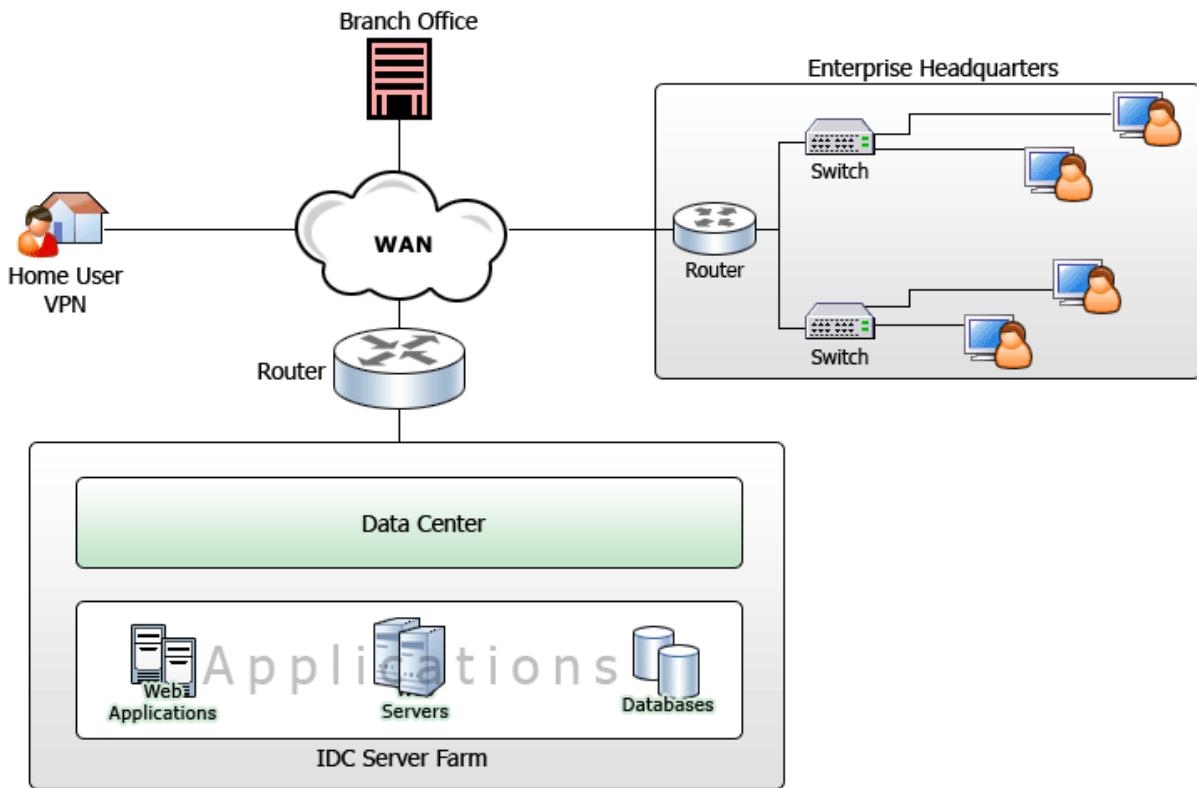
Introduction

As more and more applications and services are being delivered across network, the efficiency of an enterprise's network defines its productivity. Application monitoring and bandwidth analysis are two significant IT Management functions in an enterprise network infrastructure that keeps the business critical applications running smoothly and end users satisfied. Monitoring either applications or the bandwidth alone can take a serious toll on troubleshooting (increasing downtime) therefore spoiling the end user experience. The wholesome view of both, the applications and the network bandwidth, are needed for high productivity of the enterprise. This paper talks about a solution that provides a unified view of the network **and** the applications, therefore, helping in faster troubleshooting and increased efficiency of your network.

Applications (such as an ERP, business specific applications, etc.) which are critical for business need to be provisioned the highest priority on the network. If mission critical applications are the backbone of an enterprise then the network bandwidth would be the vital nexus that connects the end user to the mission critical applications.



In an enterprise setup, as shown in the figure, mission critical applications run on a server and these applications are delivered through routers & switches utilizing the network bandwidth, to reach the end user. End users can be in branches located at various geographical regions and connected through WAN. When the users in branches have a hard time accessing applications, the buck starts to go round in circles due to lack of unified view of the network AND applications.



The Blind Spot!

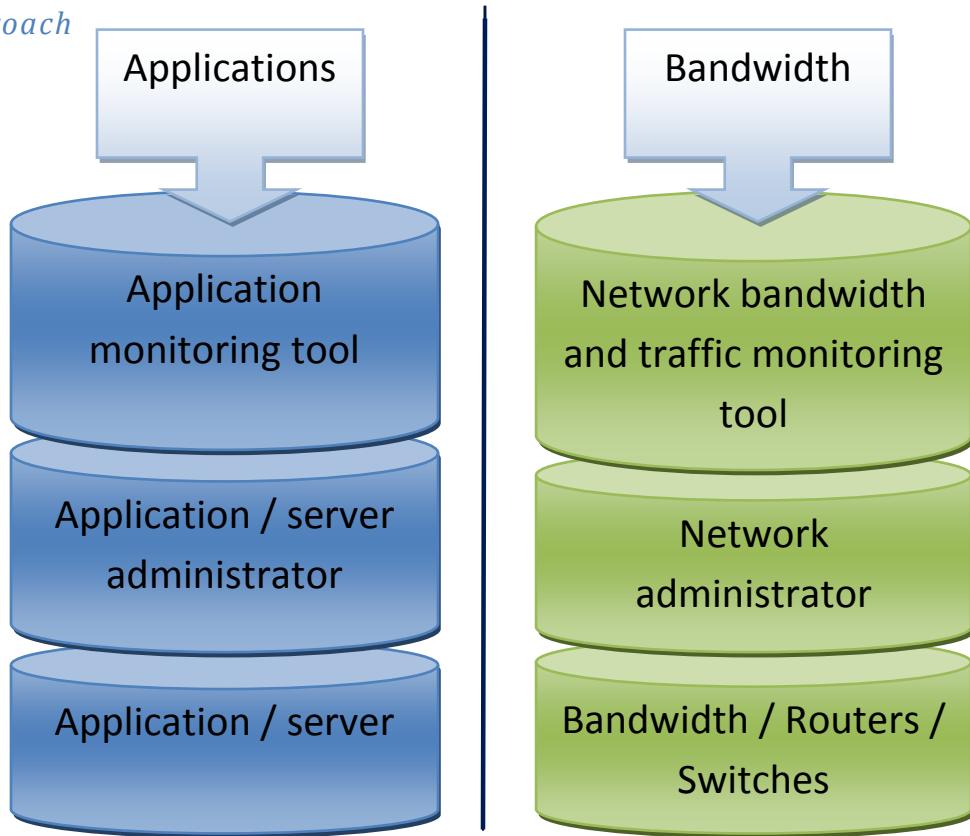
When a user complains of a “slow network” or “application not working”, the user may not know if the trouble is with the bandwidth congestion or the applications / servers. Network administrators find it extremely difficult to pinpoint the problem, as the cause could be any of the typical ones given below:

- **Application** server downtime
- **Bandwidth** congestion
- Interface in the **router / switch** may be utilized over its capacity

If either the application or the bandwidth is not monitored, it becomes a challenging task for the network administrator to diagnose the problem which increases the MTTR (Mean Time to Repair). To get a holistic idea of the network infrastructure the enterprises need to monitor *both* the applications and bandwidth in the network, this helps in faster troubleshooting and reducing MTTR.

In the **current industrial scenario**, Application monitoring and bandwidth monitoring are considered mutually exclusive silos. Typically, **application / server administrators** monitor the servers with a separate tool and the **network administrators** monitor the network part of the infrastructure (Bandwidth utilization, router / switch interface status, top talkers, etc.) using some other tool. Hence, either of the administrators is in a blind spot with respect to the other part.

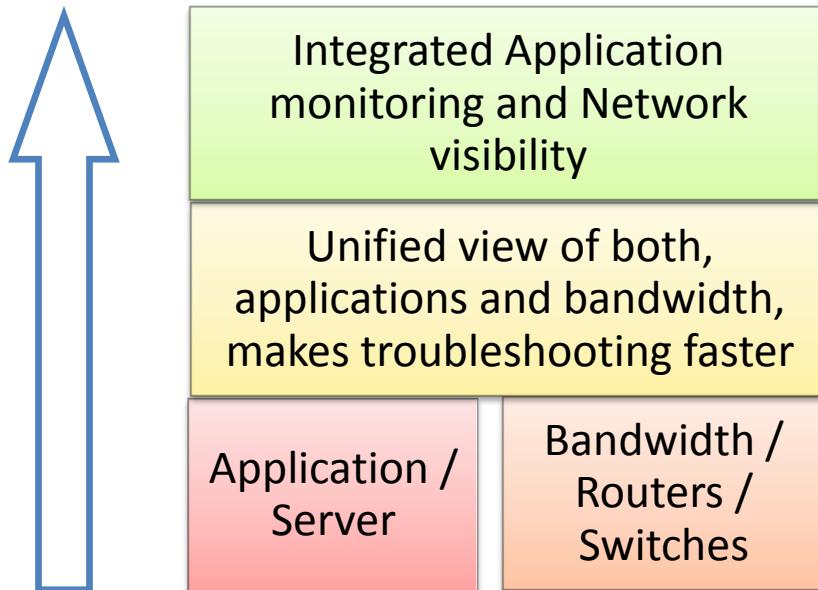
Silo Approach



In fact, application monitoring and bandwidth monitoring need not be separate. Since the end user experience is the combination of both these factors, it is only justified to have a single integrated solution to monitor both together. Combining these two would provide an actionable view of the application as well as the network that will help in effective delivering of these applications.

The Eye opener

An integrated Solution that lets you monitor both the applications and the network bandwidth utilization in order to provide better network visibility would be most ideal. ManageEngine NetFlow Analyzer can be integrated with the ManageEngine Applications Manager and jointly deliver a powerful solution which help monitoring applications and also the bandwidth utilized by those applications.



Benefits of this solution:

- Visibility into the network **and** the applications.
- Unified view, reducing **dependencies** on too many tools.
- Holistic view, making **troubleshooting faster** and easier.

The integrated solution allows users to monitor the status of the application, server memory utilized by applications, server CPU usage of particular applications and much more. As part of network traffic and bandwidth monitoring, users will be able to view the utilization of each interface, the bandwidth utilized by each application, the trend of bandwidth usage for / by the application, etc. This will let the server/network administrators pinpoint problems faster and reduce downtime considerably.

Integrated Solution!

Next time a user complains about bad user experience, all you have to do is take a look at the integrated solution. ManageEngine NetFlow Analyzer and ManageEngine Applications Manager form the two parts of the integrated solution. A glance at the interface that is associated with the user, the interface associated with the application server and intermediary routers/switches will help you understand if the problem is with the network. If so, you can drilldown further, see the various applications consuming the bandwidth. In case the application is not a business critical one, then you can even know which IP address (or the person) is using that application. The single click consolidated reports and troubleshoot reports give a summarized view of the particular interface. You can also get the infrastructure snapshot of the application servers' health and availability in the same dashboard.

The screenshot displays a network monitoring interface with the following sections:

- NetFlow** (Left):
 - ATT backbone** table:

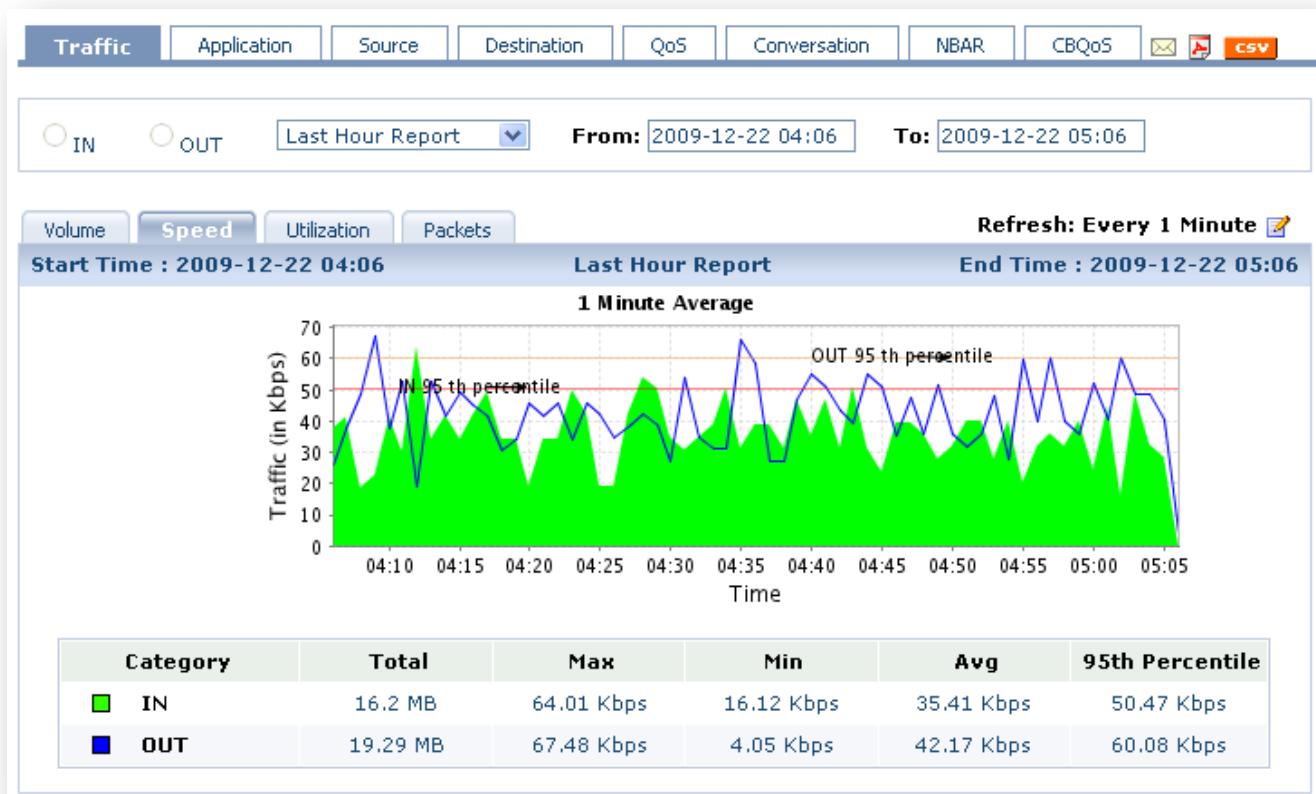
Interface Name	Status	IN Traffic	OUT Traffic	Alerts
comcast	Green	26%	3.12 Kbps	27%
FastEthernet0/0	Green	33%	3.25 Kbps	31%
FastEthernet0/1	Green	9%	3.03 Kbps	9%
FastEthernet1/2	Green	3%	2.98 Kbps	4%
FastEthernet2/2	Green	17%	3.25 Kbps	18%
GE0/0	Green	33%	3.05 Kbps	33%
Ge0/0/1	Green	13%	3.05 Kbps	12%
Serial0/0/0.1	Green	2%	3.05 Kbps	2%
Serial0/1/0.1	Green	16%	3.26 Kbps	16%
Serial1	Green	24%	3.28 Kbps	24%
 - Flows Received: 56560
 - NBAR MIB Support: Unknown
- Infrastructure Snapshot** (Right):
 - Monitor Type** table:

Monitor Type	Availability	Health	Monitors in Error
Apache Server	Green	Green	0/1
HTTP(s) URLs	Green	Green	0/1
MySQL	Green	Green	0/1
Service Monitoring	Green	Green	0/1
Tomcat Server	Green	Green	0/1
Windows	Green	Green	0/1
 - Monitor Groups** table:

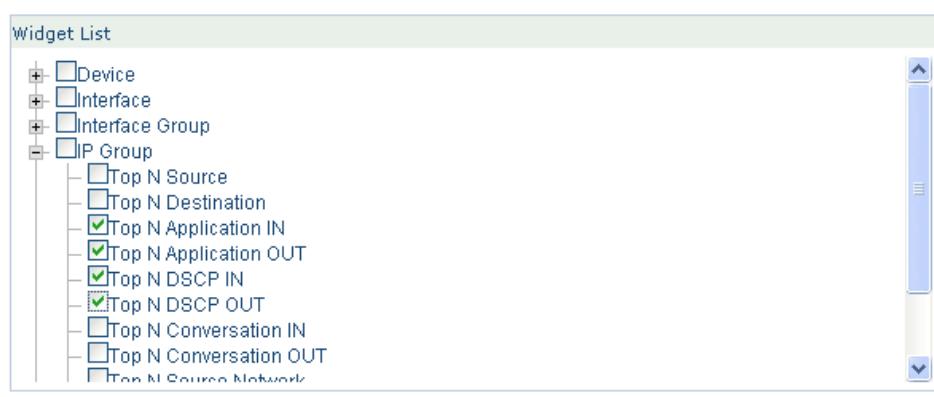
Name	Availability	Health	Monitors Status	Today's Availability
mine	Gray	Gray	0	Not Applicable
ZOHO Sheet	Green	Green	0/6 in error	100.0%

The varying color of the graph with respect to the percentage of interface utilization helps in understanding the scenario in an easy glance.

You can drilldown into any of the interfaces and explore the traffic, applications through the particular interface, source, destination, QoS, conversation, NBAR & CBQoS. You can set the time period for which you wish to see the traffic for the interface you have selected.



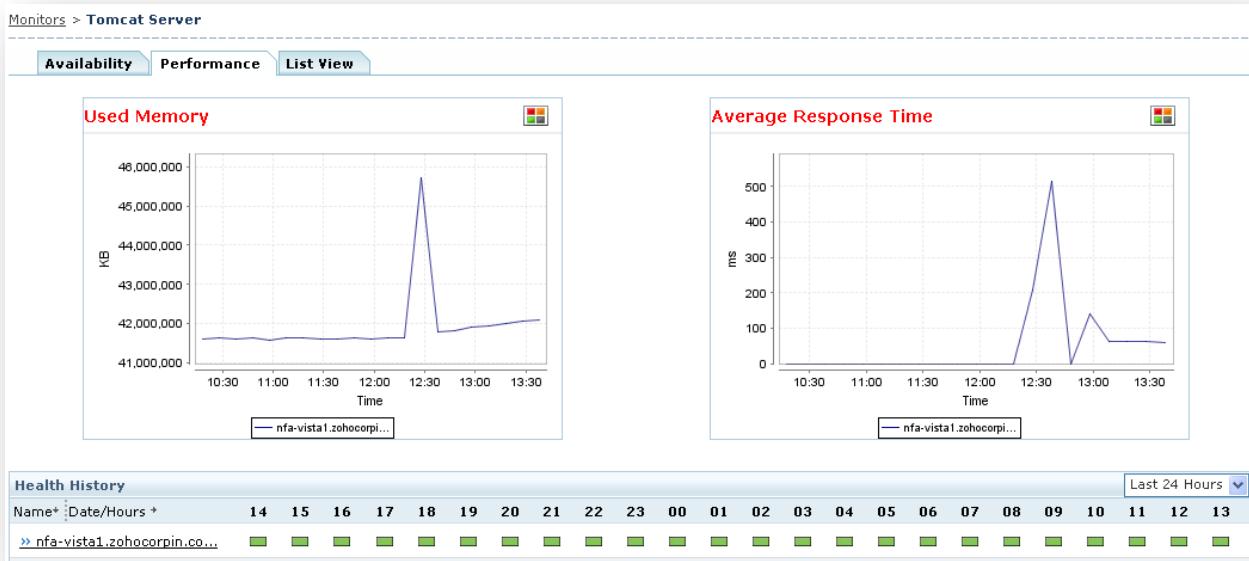
You can also group IP's of servers together and monitor them as a single entity, this makes monitoring their traffic easier. Once the IP groups are created, you can create widgets to see the top N applications IN, top N applications out, top sources, destination and much more. The network bandwidth monitoring tool has close to 50 pre-defined widgets from which you can select the ones as per your requirement.



If the network does not seem to be the problem, you can also see the status of applications and server health in the same dashboard.

Infrastructure Snapshot			
Monitor Type	Availability	Health	Monitors in Error
Apache Server	up	green	0/1
HTTP(s) URLs	up	green	0/1
MySQL	up	green	0/1
Service Monitoring	up	green	0/1
Tomcat Server	up	green	0/1
Windows	up	green	0/1

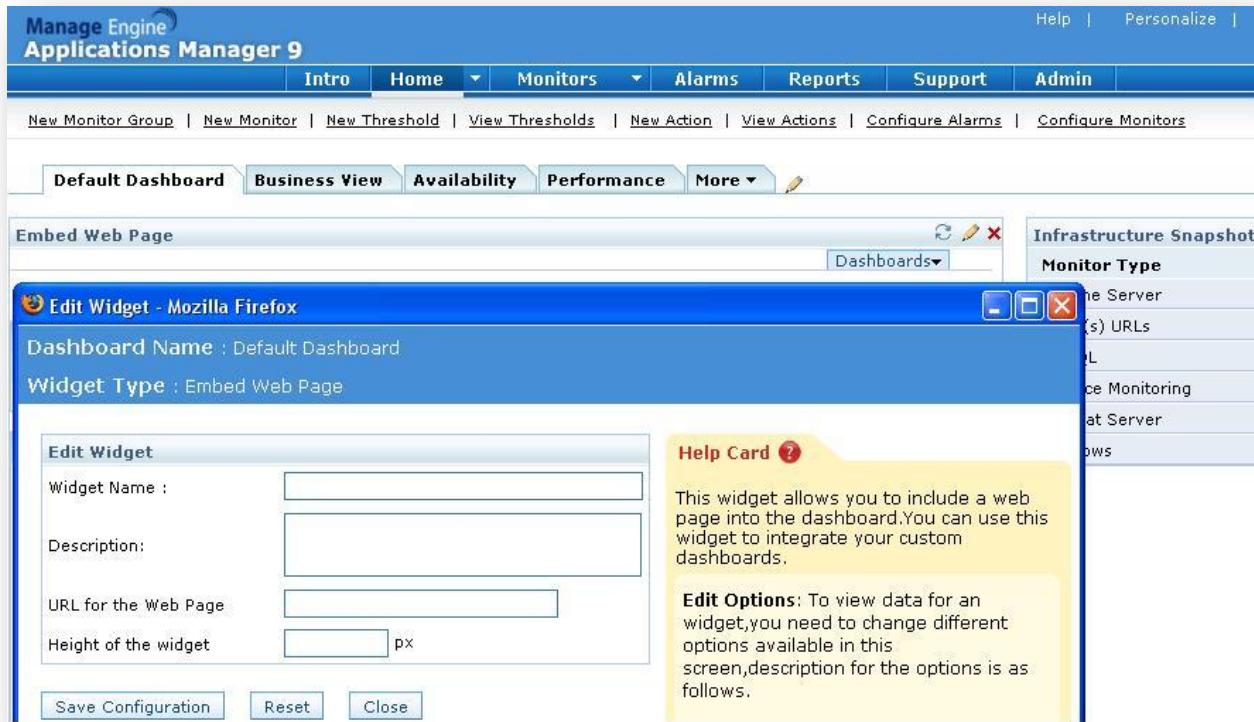
You can drilldown in to any of the monitors and see more details regarding the same.



With access to such critical information at your fingertips, it makes troubleshooting and answering end users an easy affair!

How do I implement this?

1. Download NetFlow Analyzer from [here](#) (30 day trial) and also download Applications Manager [here](http://www.manageengine.com).
2. Now, you have Applications Manager and NetFlow Analyzer running on servers in your network.
3. Go to Application manager >> Home >> Default Dashboard >> “Embed web page” widget >> edit widget, as shown in the screenshot below:



4. Name the widget as per your need; give a brief description about the widget.
5. In the “URL for the web page” field, provide the URL of the dashboard from the NetFlow Analyzer

To get the URL of the dashboard from NetFlow Analyzer:

- Create a dashboard (in NetFlow Analyzer) as per your need
- Once the dashboard is created, in the “dashboard” dropdown, select the dashboard which you want to embed in Applications Manager.
- Once selected, copy the URL from the address bar, which will look similar to this : (eg.) <http://localhost:8080/netflow/jspui/dashBoard.do?dId=302>
- and add “&callIP=true” at the end

Eg.: <http://localhost:8080/netflow/jspui/dashBoard.do?dId=302&callIP=true>

6. Now you should be able to view the NetFlow Analyzer dashboard in Applications Manager

About ManageEngine

ManageEngine is the leader in low-cost enterprise IT management software. The ManageEngine suite offers enterprise IT management solutions including Network Management, Helpdesk & ITIL, Bandwidth Monitoring, Application Management, Desktop Management, Security Management, Password Management, Active Directory reporting, and a Managed Services platform. ManageEngine products are easy to install, setup and use and offer extensive support, consultation, and training. More than 36,000 organizations from different verticals, industries, and sizes use ManageEngine to take care of their IT management needs cost effectively. ManageEngine is a division of ZOHO Corp, Inc. (formerly Adventnet). For more information, please visit www.manageengine.com.

For further information:

- Website : <http://www.netflowanalyzer.com>
- Contact support at netflowanalyzer-support@manageengine.com
- Visit forums: <http://forums.netflowanalyzer.com>
- View user guide: <http://www.manageengine.com/products/netflow/help/index.html>
- Toll Free Number: **+1 888 720 9500**