Avaya Visualization Performance and Fault Manager

The growing myriad of communications devices, the rising demand for anytime-anywhere connectivity and the increasing need for convergence have created new challenges to network operations — including how to manage the whole system from end to end.

Avaya understands network management and recognizes that offering you the right networking tools can lead to positive and significant benefits for your business. For example, network applications that automate tasks and reporting can improve efficiency. Having management tools within a single unifying framework can help improve workflow, reduce training requirements and decrease the complexity of managing a complex network, while providing a smooth path to unified communications.

To address the challenges of managing today’s converged networks, Avaya offers the Visualization Performance and Fault Manager (VPFM) — a powerful Avaya Unified Management application that provides advanced network discovery, topology visualization, fault and performance management.

End-to-end visibility in a multi-vendor environment

The VPFM can discover every device on your network, even if you deploy equipment from numerous vendors. The application transforms complex network topology into simple-to-use, hierarchy-based maps, giving you clear, end-to-end views that help you quickly determine if network issues are physical or logical in nature.

With insight into how devices are connected and performing, you can zero in on aspects of the network and reduce your meantime to repair. Personnel can be dispatched quickly, which can result in less downtime, greater productivity, higher user satisfaction and a proactive rather than reactive network management environment.

The VPFM can help increase productivity for support personnel as well as every user on the network. The application enables you to determine that a switch has gone down, view which users are connected to the switch, and perform impact analysis. For example, if an email server fails, the VPFM allows you to identify which users are affected and take proactive measures, such as sending a broadcast voicemail to say, “We’re aware of the issue, and working to resolve it.”
New and enhanced support

VPFM has been enhanced to support the following Avaya Aura® 6.2 Feature Pack 3 applications and devices in addition to continued support of Avaya Networking devices.

- Communication Manager (CM)
- Communication Server 1000 (CS 1000)
- Media Gateway G430/G450/G350/G250
- IP Phone 16xx, 46xx, 96xx-H.323, 96xx-SIP, 96xl-H.323, 96xl-SIP
- Session Manager (SM)
- System Manager (SMGR)
- Presence Service (PS)
- Secure Access Link (SAL) Gateway
- Agile Communication Environment (ACE/AIE)
- Application Enablement Service (AES)
- Web License Manager standalone (WebLM)
- Utility Services (US)
- Avaya IDE Ignition Server
- Aura Messaging (AAM)
- Call Management System (CMS)
- Avaya Aura Experience Portal (AEP)
- Elite Multi Channel (EMC)
- Workforce Optimization (WFO)
- Acaya CC Control Manager
- Avaya SBCE 6.2
- Acme SBC
- Unisphere, vSphere and vCenter integration

VPFM is also a component of Avaya’s Collaboration Pod and Pod Orchestration Suite turnkey solutions. The Pod Orchestration Suite is an umbrella management solution that provides the ability to manage the Collaboration Pod as a single entity, from the application layer all the way to the network layer. For the Collaboration Pod, VPFM provides the following capabilities.

- Discovery of entire Collaboration Pod with ability to display multiple Visualization Workflows
- Several Layered Dashboards with summary status of health
- Logical views with “Link-n-Launch” of solution management agents
- Single sign-on (SSO) integration with the Pod Visual Manager (PVM - Rack Element Manager), COM, VPS and the other Avaya Pod Orchestration Suite tools
- Application health monitoring for Network devices and Aura Applications
- Fault and Performance Management with diagnostics of the Pod components

Avaya Network device support

The following is a summary of the Avaya Networking devices that are supported in VPFM.

Ethernet Routing Switches

- ERS 3500 Series
- ERS 4500 Series
- ERS 4800 Series
- ERS 5500 Series
- ERS 5600 Series
- ERS 8000 Series

Virtual Services Platform

- VSP 4000
- VSP 7000
- VSP 9000

Branch Secure Routers

- Advanced Gateway 2330
- SR 2330
- SR 4134

Access Control

- Identity Engines Portfolio (discovery only)

Wireless Networks

- Wireless LAN 8100 Series & Access Points

For a complete list of supported devices and device version please refer to the “Avaya Visualization Performance and Fault Manager Supported Devices, Device MIBs, and Legacy Devices” NN48014-104 https://support.avaya.com/css/P8/documents/100158772.
Network discovery
The VPFM offers heterogeneous rather than domain-based network discovery with support for standards-, proprietary-, application- and OS-based discovery. Therefore, if a device is IP or SNMP-based, the VPFM can discover it. Discovery applies to servers, end nodes and operating systems.

The application discovers all IP devices and nodes attached to the network, including servers, storage servers, printer servers, switches, routers, user end nodes (e.g., PCs and laptops), IP phones, Avaya Aura® applications, VM hosts, and more. In addition, the VPFM identifies the relationships that exist among devices in the network, including topology and links. Operating systems and applications on servers can also be part of the discovery process if operating system security settings allow.

Network visualization
Once devices are identified through discovery, VPFM takes complex network topologies — consisting of multiple geographic locations, multiple devices, hundreds or even thousands of devices connected to the network — and transforms them into simple hierarchy-based topology views. It shows degrees of device connectivity based on device function and where it is located in the network (i.e., a layered environment approach).

The visualization function also includes VoIP service-based views that provide you with insight into the application. Having service-based views enables you to differentiate between physical connectivity and logical- or application connectivity issues.

Highlights of the Visualization Performance and Fault Manager
Heterogeneous network discovery
• Support for standards-, proprietary-, application- and OS-based discovery
• Device information can be used to provide a network inventory listing

Network visualization
• Hierarchy-based topology and service-based views
• Device connectivity and their relationships to each other

Fault management
• SNMP Trap Receiver and Syslog Collector
• Event correlation
• Device status monitoring
• Event handling and scripting
• MIB compiler/browser

Performance management
• Instance-based performance monitoring (MIB-browser based)
• Long-term (trending) performance monitoring

Diagnostics management
• Layer 2 and 3 diagnostics management, including tools such as ICMP ping, SNMP Gets, MIB Walker/Browser, etc.
• Diagnostic information can be exported in graphical format
Finally, the VPFM provides device centric views that enable you to see the relationship between devices. For example, it can identify a switch and all the devices connected to it, enabling you to perform impact analysis.

**Fault management**

Once the issue(s) have been identified through network visualization, you can use the VPFM to monitor the network for faults. Using information collected from the network and the devices themselves, the VPFM performs status monitoring and sends the information that you need to do event correlation and route-cause analysis (RCA). The VPFM determines what is the most likely cause of the network outage by correlating all network events and determining the primary and secondary devices affected.

Fault management also performs event handling. If an event occurs on a specific device, the VPFM will know that it has to take a certain action — for example, send an email notification or page the appropriate personnel. The parameters and action required are defined by the administrator during the configuration phase.
Performance management

Through the VPFM, you can use performance management for two key activities: capacity planning and change monitoring within the network. In the latter case, the VPFM enables you to monitor modifications to the network — such as the addition of a new switch — and observe how the device performs in the short term.

From a longer-term perspective, the VPFM performance management capability also provides crucial information that can help you address your capacity planning requirements. For example, if traffic on a particular link begins to exceed a pre determined threshold, such as 30 percent, the VPFM can record and report on the performance. If the trend continues, you can plan changes to your network accordingly to address growing traffic.

Diagnostics management

Diagnostic management allows the network operator to run and collect diagnostic data from network devices. The VPFM provides Layer 2 and 3 diagnostic information in an end-to-end connectivity rather than a hierarchical view. Through this capability, you can also print and export the data in graphical format.

Scope/device classification

The VPFM includes scope or device classification, a capability that provides a logical grouping of devices based on device type. By default, all devices are classified based on their discovered attributes, such as servers, routers and switches. You can also define the scope on a more granular basis that has relevance to your operations. Once grouped, you can treat the devices as a single unit for the purpose of collecting performance information, conducting events handling, status propagation, etc. For example, if a link fails for any of the devices within the defined logical unit (e.g., core switches), you can configure the VPFM to perform event handling on that classification.

Device scope can also be used for fault management and performance management and trending.

Flexible licensing

VPFM is licensed on a node count and is available to you at three licensing levels:

- Base license
- Incremental license
- Enterprise license

Supported devices

The VPFM can discover and monitor any IP/SNMP device on the network. For full device management, the device’s Enterprise MIB must be compiled into VPFM.

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Figure 4. Performance Trending and Data Export
Summary

A Unified Management application, the Avaya Visualization Performance and Fault Manager enables you to discover and visualize every aspect of your network, monitor existing performance, resolve issues quickly today — and make informed decisions for the future.

Learn more

To learn more about Avaya Unified Management solutions and Avaya Visualization Performance and Fault Manager, contact your Avaya Account Manager or Avaya Authorized Partner. Or, visit us online at avaya.com