RADview

Carrier-Class Network Management System

- Integrated network management system, including service management (SM) and performance monitoring (PM) to manage advanced hybrid networks composed of virtual and non-virtual network resources

- Wizard-based end-to-end Carrier Ethernet service design, provisioning, testing and monitoring

- Fully featured performance monitoring system enabling SLA assurance for both service providers and their end customers

RADview NMS manages advanced networks. It includes the following optional modules:

- **Service Manager (SM)** – End-to-end intuitive, error-free and easy service management for MEF-based Carrier Ethernet services including off-line planning of network topologies and services

- **Performance Monitoring (PM)** – Service SLA assurance (OAM and throughput) for services provided by carriers and mobile operators.

- RADview features an intuitive graphical user interface for discovery, topology, management and monitoring of the network elements. In addition, RADview includes the following utilities:

- Inventory and resource management, for displaying devices, ports and logical resources

- Jobs, for performing a variety of tasks on a large number of devices from one central location

- Zero Touch, for automatically discovering and configuring a large number of devices

- Fault management, displaying current and history alarm records, enabling the forwarding to upper OSS systems.
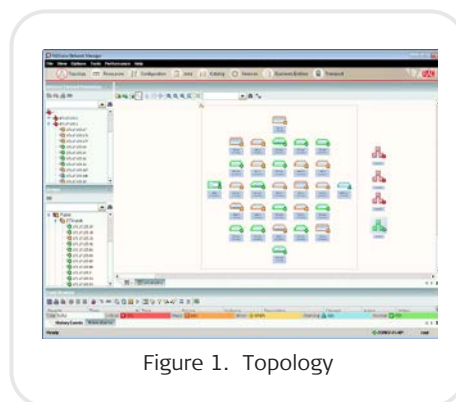

Figure 1. Topology

Service Manager. This module is designed to minimize the effort of setting up a multi-service Carrier Ethernet network. RADview-Service Manager enables easy wizard-based E-Line, ELAN and E-Tree Ethernet service creation, service activation tests (Y.1564), monitoring and SLA assurance for networks based on the RAD product family.

RADview-Service Manager allows users to quickly set up Ethernet services using the unique RADview template (Catalog) concept, which only requires entering a few service-specific parameters during service creation.

With its network planning capabilities, it allows service providers and network operators to tailor network and service architecture to their performance and capacity needs while ensuring resource optimization

Note: *Service Manager supports ETX-2, ETX-5 and MiNID.*

Performance Monitoring. This module is an SLA assurance system, enabling long term monitoring of Ethern et service performance by collecting, analyzing and presenting KPI (key performance indicators) data from RAD devices. Service providers use the system to prove the SLA and monitor traffic of customers who utilize their service, and propose bandwidth upgrades.

Measured metrics are based on ITU-T Y.1731. These metrics include Frame Delay, Delay Variation, Frame Loss, and Availability. Latency and jitter results are based on round-trip measurements. This data allows service providers to easily evaluate actual performance over time and compare it to their committed SLA agreements.

The Performance Monitoring system calculates the utilization based on configured CIR and EIR values.

In addition, it immediately detects service degradation, so that action can be taken to quickly restore committed performance

levels at the end customer committed performance levels to the end customer.

The Performance Monitoring system also presents end-to-end throughput of Ethernet services in the network.

TECHNOLOGY

RADview is a Java-based, carrier-class network management system for deployment in Windows, Linux and Unix environments. The system features an embedded Oracle database and open standard interfaces for integration with OSS and BSS systems. It manages both Ethernet Access and AXCESS+ portfolios and provides third-party device monitoring to assure network reliability.

RADview conforms to the ITU-T Telecommunication Management Network (TMN) model with end-to-end visibility and standard-based interoperability. The system is scalable, providing solutions for small installations as well as growing networks.

RESILIENCY

RADview provides the following scalable solutions for disaster recovery to assure high system availability:

- Cold standby – This solution is the most simple and cost-effective. Data is periodically backed up by the active station via the RADview Backup/Restore utility without affecting service.

- High Availability – This solution provides local data protection with two servers as clusters sharing external storage. In case of a software or hardware failure, the system immediately switches to the backup server.

- Disaster Recovery wide-area clustering – This solution provides geo data protection with two servers in two separate locations in replication mode. In case of an operating outage at the primary site, all services can be moved to the backup site by a semi-automatic switchover. This solution is mainly used by customers wishing to back up their data to a remote site.

Note: *High Availability and Disatster Recovery are available for RADview (Windows) only.*

MANAGEMENT AND SECURITY

Zero-Touch Provisioning
RADview offers the Zero-Touch utility for automatic discovery of network elements and performing the tasks listed below according to user-defined rules:

- Uploading initial software and configurations

- Executing CLI scripts

- Handling the replacement of units in case of failure.

An unlimited number of security profiles and groups can be created, using the security management console.

Secure Access
Its advanced functions include tracking of user activities in the network and designating complex security access rights to the parameter level.

Delivery over secure communications protocols:

- SSH (secure shell)

- SNMPv3.

ARCHITECTURE

RADview is based on distributed client-server architecture, which optimizes the use of network resources.

As a modular management system, RADview is equipped with a number of standard northbound interfaces for easy integration with OSS and umbrella systems.

In addition to featuring a plug-in for connecting to IBM Tivoli's Netcool®/OMNIbus™ 7.x fault management program, the system allows seamless communication with network-wide platforms for inventory (resource) management, performance monitoring, and service provisioning, as well as with carriers' proprietary OSS.

Supporting various APIs, such as CORBA, XML MTOSI and SNMP, RADview smoothly interacts with higher management levels to communicate essential network information to service, operations and business management functions.

By serving as a mediation layer between the various network elements (NEs) and the umbrella system, RADview minimizes the integration costs associated with new NE additions.

OPERATION AND MAINTENANCE

New software, configurations and licenses can be distributed and uploaded by devices across the network. The system tracks version changes and keeps a software configuration history for backup and recovery. Easy management and provisioning is provided by a user-friendly point-and-click GUI (Shelf-View).

The system manages individual and group user accounts and passwords, generating network usage reports to monitor user activities.

MONITORING AND DIAGNOSTICS

RADview supports advanced fault detection, displaying a clear analysis of the probable causes of faults and suggested corrective measures. It allows the distribution of alarm messages to other managers in the network. In addition, users can configure sounds for specific alarms/events when triggered.

Specifications

WINDOWS-BASED SERVER

Hardware Requirements - ≤ 100 NEs
DVD drive.

Intel Xeon E5-2603 1.80 GHz (4 cores), or newer architecture.

RAM: 32 GB (up to 100 NEs) or more

Hard drive with NTFS-formatted partition and at least 240 GB free disk space from 2 SAS/SSD.

Notes:

The server station must be equipped with two redundant power supplies, at least four network interfaces and two hard disks in Redundancy mode. For additional information and further details, call for technical support.

If installing more than 10 clients, consult RAD Technical Support for the required hardware configuration.

If you are using Performance Monitoring and/or TWAMP, the disk space requirements are higher. Contact your RAD partner for the respective disk space requirements.

For requirements to operate larger networks and further details, please consult your RAD partner.

Software Requirements
One of the following Windows operating systems:

- Microsoft Windows 7 (64-bit)
- Windows 8.x (64-bit) Professional Edition
- Microsoft Windows Server 2008 R2
- Windows Server 2012 R2 (64-bit)

All with Standard Edition, with English Multilingual User Interface (MUI).

Windows default input language set to English.

Mozilla Firefox installed as default web browser (required for Web-based access to devices).

TFTP/SFTP Server, TFTP Server required for collecting OAM statistics.

TFTP/SFTP (enterprise), TFTP Server required for the Jobs and Zero Touch utilities.

Note: For recommended TFTP/SFTP servers, refer to the user manual

LINUX-BASED SERVER

Hardware Requirements - ≤ 100 NEs
The same hardware requirements apply as for Windows-based servers.

Notes:

The server station must be equipped with two redundant power supplies, at least four network interfaces and two hard disks in Redundancy mode. For additional information and further details, call for technical support.

For the required hard disk layout and further information, contact your RAD partner.

Software Requirements
One of the following Linux operating systems:

- RedHat Enterprise Linux (RHEL) version 6.5, 64-bit operating system OR CentOS version 6.5, 64-bit operating system. The Linux operating must be installed in Desktop mode.
- The GNOME environment and the CSH shell must be installed and running. Both install with the Linux operating system in Desktop mode.

UNIX-BASED SERVER

Hardware Requirements - ≤ 100 NEs
Oracle SPARC T4-1 Server with 1×4-core 2.85 GHz

Two SSD hard drives

RAM: 32 GB or more

Notes:

The server station must be equipped with two redundant power supplies, at least four network interfaces and two hard disks in Redundancy mode. For the required hard disk layout, additional information and further details, contact your RAD partner.

If installing more than 10 clients, consult RAD Technical Support for the required hardware configuration.

If you are using Performance Monitoring and/or TWAMP, the disk space requirements are higher. Contact your RAD partner for the respective disk space requirements.

For requirements to operate larger networks and further details, please consult your RAD partner.

For each additional simultaneous open shelf view application via X session, add 128 MB RAM

DVD drive

Color monitor (17-inch minimum) supporting 1152 × 900 resolution or higher with depth 24 (for use in a Unix client-server configuration).

Software Requirements
SUN Solaris Ver. 10, Nov 2006 or later, with CDE

Note: The option to include Solaris 64-bit support should be selected during the Solaris installation.

Mozilla browser if you wish to work with the RADview Performance Portal (for use in a Unix client-server configuration).

WINDOWS-BASED CLIENT

Each user requires a separate Windows client.

Hardware Requirements - ≤ 100 NEs
Core-i5-2xxx 2.1GHz, 2 cores

One hard disk with at least 60 GB of free space.

6 GB RAM

Supported resolution at least 1280 × 1024

Graphical card with WebGL support.

RADview
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Ordering

RECOMMENDED CONFIGURATIONS

RADview
Includes a license for five simultaneous users, as well as complimentary (Windows/Linux/Unix) ENW license points

RADview-PC
RADview system for installation on a Windows-based server, with 300 ENW license points (for Windows)

RADview-PC/PMSM
RADview system for installation on a Windows-based server, with Service Manager and Performance Monitoring syestem, 600 ENW license points

RADview-LINUX
RADview system for installation on a Linux-based server, with 400 ENW license points (for Linux)

RADview-LINUX/PMSM
RADview system for installation on a Linux-based server, with Service Manager and Performance Monitor, 800 ENW license points

RADview-UNIXx
RADview system for installation on a Unix-based server, with 400 ENW license points (for Unix)

RADview-UNIX/PMSM
RADview system for installation on a Unix-based server, with Service Manager and Performance Monitor, 800 ENW license points

Notes:

For every option, a cold-standby mode for RADview can be ordered using the /R option.

For High Availability (HA) and Disaster Recovering (DR) ordering options, contact your RAD partner.

Each RADview package requires customers to order professional services. For additional information, contact your RAD partner.

RADview Licenses
RV-LIC/ENW
Additional 1 ENW

RV-LIC/ENW/R
Additional 1 ENW in Redundancy mode

RV-LIC/1-CLIENT
Additional 1 Client

RV-LIC/1-CLIENT/R
Additional 1 Client in Redundancy mode

RV-LIC/NETCOOL
Integration module for IBM Netcool/OMNIbus 7.x

Note:

RADview-Service Center is part of RADview-Unix/PMSM. RADview-Service Center does not support the respective Windows and Linux options.

RAD
Your Network's Edge