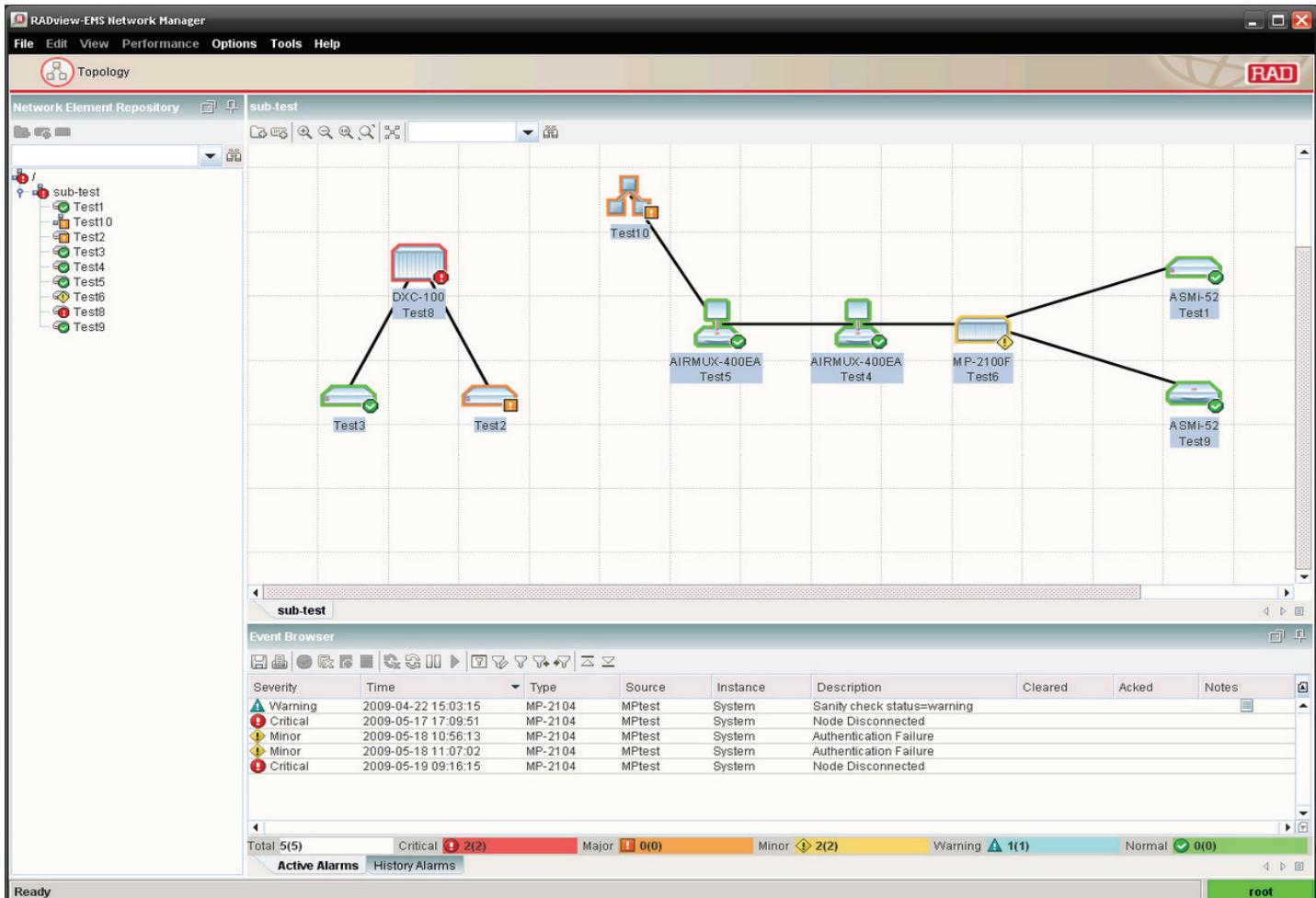


# RADview-EMS

## Carrier-Class Element Management System



Multi-platform  
carrier-class element  
management system



- Client/server architecture for flexible management deployment
- Highly scalable for growing networks, with smart configuration and provisioning tools for easy network expansion
- Advanced FCAPS functionality
- Fully compliant with TMN standards
- Interoperable with leading OSS programs, and integrates with third-party NMS and umbrella system
- Java-based, PC-based, and Unix-based for greater flexibility



# RADview-EMS

## Carrier-Class Element Management System

RADview-EMS is a Java-based, carrier-class element management system for deployment in Windows and Unix environments. The system features an embedded Oracle/Informix database, and manages both TDM and next-generation RAD devices. In addition, the product provides third-party device monitoring to assure network reliability.

The system can operate in standalone mode or can be integrated with SNMPC or HP OpenView NNM to extend its capabilities.

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

### DISTRIBUTED SYSTEM ARCHITECTURE

RADview-EMS is based on distributed client-server architecture, which optimizes the use of network resources (see *Figure 1*). Load sharing among master and slave servers maximizes use of infrastructure and enables flexible distribution of management tasks, transparent to the user.

### OSS INTEGRATION

As a modular management system, RADview-EMS 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™ fault management program, the system allows seamless communication with network-wide platforms for inventory (resource) management, performance management, and service provisioning, as well as with carriers' proprietary OSS.

Supporting various API channels, such as CORBA, MTOSI, SNMP, CSV, and OSS heartbeat, RADview-EMS 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-EMS minimizes the integration costs associated with new NE additions.

### BUSINESS CONTINUITY

RADview-EMS 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 master NMS station via the RADview-EMS Backup/Restore function, and transferred to the slave NMS station without affecting service.
- Hot standby local clustering – This solution provides single-site RADview-EMS recovery. An active and standby RADview-EMS server are each connected to two storage devices.
- Hot standby wide-area clustering – This solution provides the highest protection level. Two clusters at two separate locations support data replication via VERITAS Volume Replicator™. If there is an operating outage at the primary site, all services are automatically moved to the backup site.

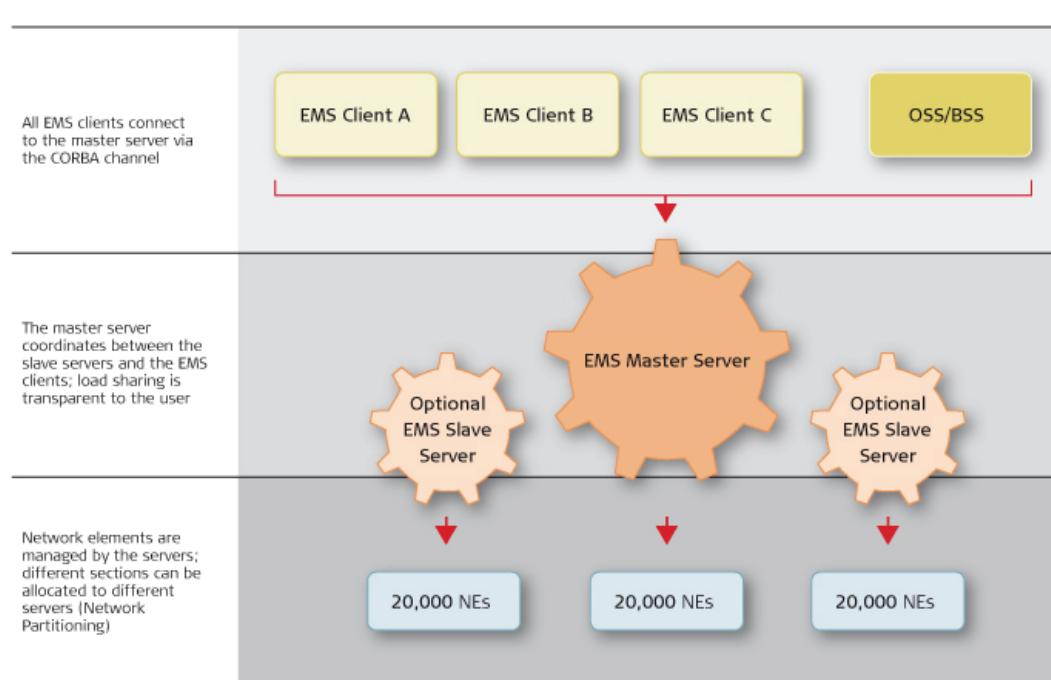


Figure 1. Distributed System Architecture

## FAULT MANAGEMENT

RADview-EMS 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.

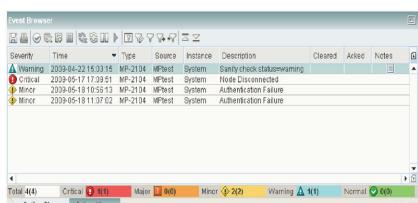


Figure 2. Fault Management

## CONFIGURATION MANAGEMENT

New software and configurations can be distributed to 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 with a realistic representation of the devices.

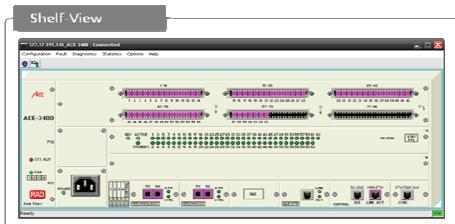


Figure 3. Configuration Management

## ADMINISTRATION

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

## PERFORMANCE MANAGEMENT

RADview-EMS supports real-time monitoring of QoS and CoS, producing real-time statistics and interval statistics. You can collect full device statistics in compressed format, minimizing bandwidth use by management traffic. You can also export CSV ASCII files to OSS or third-party management systems.

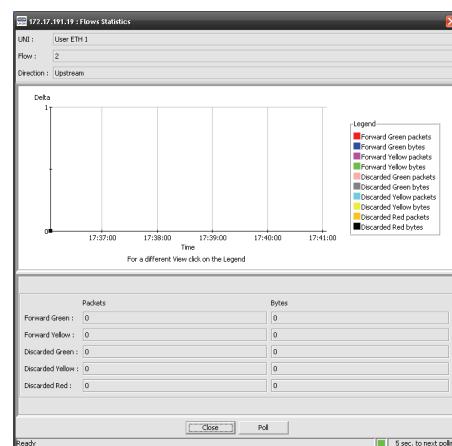


Figure 5. Performance Management

## SECURITY MANAGEMENT

An unlimited number of security profiles and groups can be created with the security management console. Its advanced functions include tracking of user activities in the network and designating complex security access rights to the parameter level.

Security features include:

- SSH (secure shell)
- Web-based SSL (secure socket layer)
- SNMPv3
- RADIUS
- ACL (access control list).

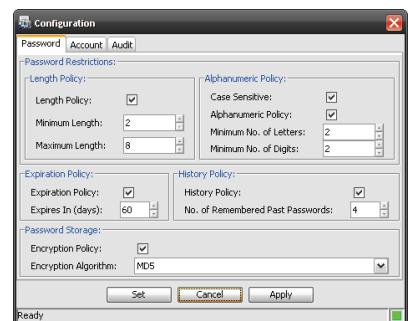


Figure 6. Security Management

Table 1. Supported RAD Products

## Supported Products

ACE-52, ACE-201, ACE-3100, ACE-3105, ACE-3200, ACE-3205, ACE-3220, ACE-3400, ACE-3402, ACE-3600, Airmux, APD Family, APS Family, ASMi-52, ASMi-52L, ASMi-54, DXC-4, DXC-8R, DXC-10A, DXC-30, DXC-100, Egate-20, Egate-100, ETX-102, ETX-201, ETX-201A, ETX-202, ETX-202A, FCD-155, FCD-155E, FCD-E1/T1L, FCD-E1/T1LC, FCD-E1A, FCD-E1E, FCD-IP, FCD-IPD, FCD-IPM, FOMi-E3/T3, FPS Family, IMXi-4, IPmux-2L, KM-2100/4, LA-110, LA-210, LRS-102, LRS-16, LRS-24, MP-104, MP-2100, MP-2104, MP-4100, OP-25, OP-34, OP-45, OP-106/108, OP-1551, OP-1553, RIC-155, RIC-155GE, RIC-622GE, RICi-E1/T1, RICi-E3/T3, RICi-4E1/4T1, RICi-8E1/8T1, RICi-8E1L, RICi-16, RICi-155GE, RICi-622GE, RICi-SE, SPH, SPS Family, Vmux-405, Vmux-425

Figure 4. Configuration Management

# RADview-EMS

## Carrier-Class Element Management System

### Specifications

#### PC-BASED CLIENT OR SERVER

##### Minimum Hardware Requirements

IBM-PC compatible computer based on Pentium-4 3.0GHz or higher

2 GB RAM or more

Hard drive with at least 6 GB free disk space for installation

NTFS-formatted partition

DVD drive

17-inch color monitor, supporting 1024 x 768 resolution or higher

**Note:** The above requirements refer to single-user installations managing up to 200 network elements. For larger networks, please consult your RAD partner.

##### Minimum Software Requirements

Microsoft Windows XP SP2 or later, or Windows 2003 SP2 or later, with Terminal services not enabled

Windows default input language set to English

Windows display font size set to normal (96 dpi)

Services: SNMP, SNMP Trap, Server

SNMPc platform version 7.1 (optional)

#### UNIX-BASED CLIENT AND SERVER

##### Minimum Hardware Requirements

Sun Fire T2000 Server with XVR-300\* graphics card

Hard drive with at least 2 GB free disk space in **/opt** partition

Hard drive with at least 4 GB free disk space for Oracle in **/opt/oracle** or at least 1.5 GB free disk space for Informix (in any partition)

2 GB RAM or more

Swap file at least twice RAM size

For each four additional simultaneous users via X-session, add 1 GB RAM and 1 CPU

For each additional simultaneous open shelf view application via X session, add 75 MB RAM

DVD drive

17-inch color monitor, supporting 1152 x 900 resolution with depth 24

**Note:** The above requirements refer to single user installations managing up to 300 network elements. For larger networks, please consult your RAD partner.

##### Minimum Software Requirements

SUN Solaris Ver. 10, Nov 2006 or later

**Note:** The option to include Solaris 64-Bit Support should be selected during Solaris installation.

CDE 1.4 or higher

If installing with Informix database:  
HP OpenView NNM Version 7.5.1

### Ordering

#### RADview-EMS /&/?

##### Legend

& Operating system:

PC	PC-based system
Unix	Unix-based system

? Platform

PACK1	RADview-EMS standalone
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**Note:** This package is supplied with a license to activate the RADview-EMS map

PACKSNMPc	RADview-EMS over SNMPc
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##### Notes:

- This package can be ordered only with PC-based system
- SNMPc must be purchased and installed separately
- This package can be used to manage IPmux, Gmux, and Vmux devices together with RADview-EMS supported devices
- SNMPc is needed for KM-2100/4, FCD-E1A/T1A, FCD-E1M/TIM, FOMI-E3/T3, OP-4/106/108.

PACKHP	RADview-EMS over HPOV
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##### Notes:

- This package can be ordered only with Unix-based system
- HPOV NNM must be purchased and installed separately
- This package can be used to manage IPmux, Gmux, and Vmux devices together with RADview-EMS supported devices
- HPOV NNM is needed for ACE-101, ACE-202, ACE-2002, ACE-2002E, KM-2100/4, LRS-24, FCD-E1A/T1A, FCD-E1M/TIM, FOMI-E3/T3, OP-4/106/108

### RVP

RADview Points voucher, to use at RAD Value Point website for activating licenses, managing licenses, or ordering more licenses

**Note:** For licensing, each RAD device is assigned an Equivalent Node Weight (ENW) according to its complexity. Use the RADview License Calculator to determine the number of license points required for your installation.

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