

NGN EMS

(Element Management System)

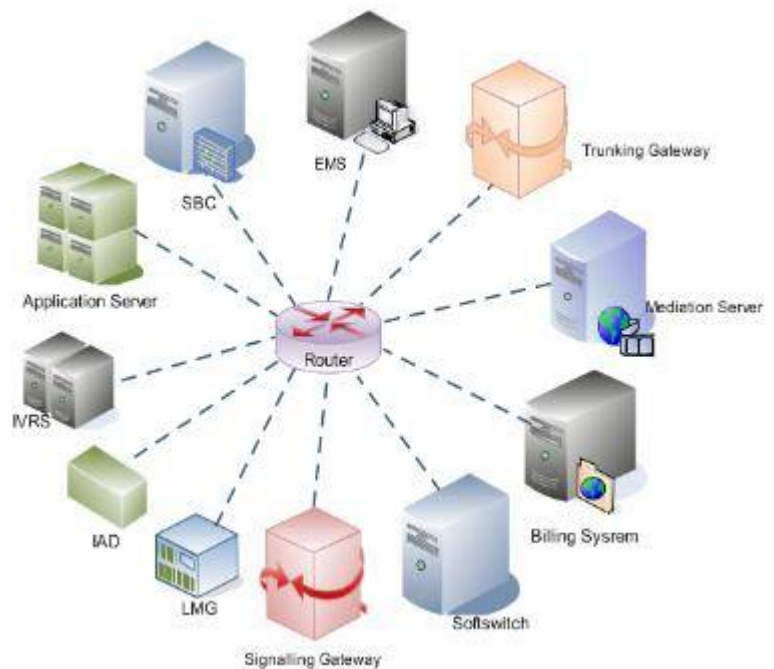


**M
A
C** MEASUREMENTS
AND
CONTROLS
INDIA LTD

MAC-EMS620 provides complete element management solution for the management of large number of network elements (SDH systems, DLCs, IP DSLAM, Ethernet switches, Routers, BRAS and various servers such as Radius, Customer Database & Video servers, BTS, Wireless CPEs).

It supports a wide range of network management protocols for exchanging management information with the network elements. The interface protocols supported include CORBA, XML, TL1, Telnet, SNMP and Qx. The client is simple web browser based one.

SYSTEM OVERVIEW



SALIENT FEATURES

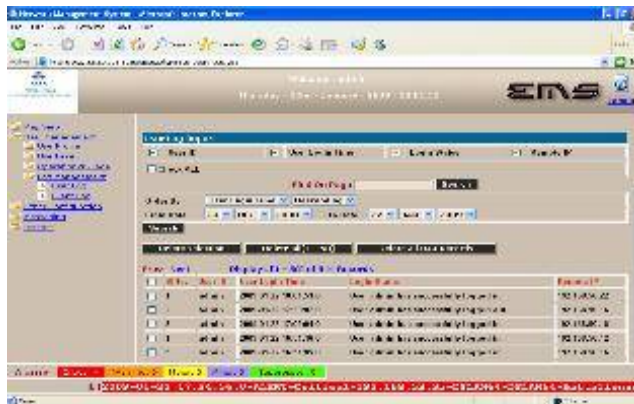
USER MANAGEMENT

- Managing different levels of users with different access rights.
- Allows different levels of privileges based on the user profile.
- User authentication by user name and password

- Users can change respective passwords.
- Time Tracking of Configuration changes
- Maintaining Events details



- User log assist the system administrator to detect the security violations by any user.



ELEMENT MANAGEMENT

- Maintaining different Network Elements
- User Friendly screens
- Area Levels and Elements are indicating with different icons on the map

- Users can customize the views of Maps, Reports, Alarms and Views.
- Additional privileges can be assigned to users.
- Allows new users along with their privileges to be set via GUI.



NGN EMS

- Area Levels Longitude and Latitude can be assigned



- Elements are represented as the real images
- Color coded element borders to indicates elements status / reachability.



- The properties of the elements like the IP address, slot etc are shown in the element view.
- Has facility to modify elements or area levels location

FAULT MANAGEMENT

- Detection and reporting of the fault
- Automatic removal of the Fault / Alarm from the list when the fault is corrected.
- Facility for user to clear the Alarms.



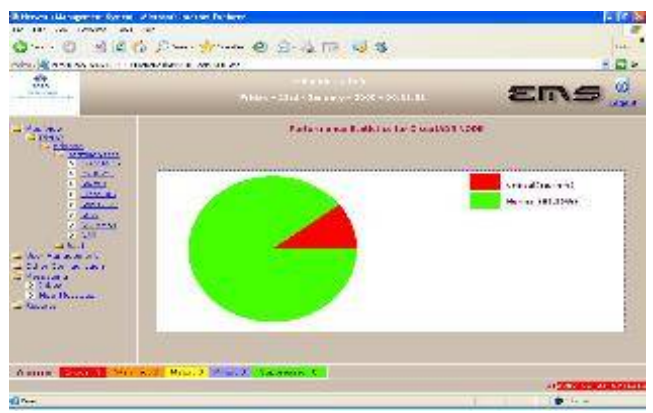
- Error information conveyed to a Layman
- Multiple sort options for alarms search



- Facility for suppressing alarms-configurable
- Fault report generation and sending it to the administrator, by mail or any other means
- Trouble Ticketing
- Storage of Fault history
- Multiple options for retrieval of fault history

ID	Name	Severity	Time
101	101-101-101-101	Warning	10/10/2008 10:10:10
102	102-102-102-102	Warning	10/10/2008 10:10:10
103	103-103-103-103	Warning	10/10/2008 10:10:10
104	104-104-104-104	Warning	10/10/2008 10:10:10
105	105-105-105-105	Warning	10/10/2008 10:10:10
106	106-106-106-106	Warning	10/10/2008 10:10:10
107	107-107-107-107	Warning	10/10/2008 10:10:10
108	108-108-108-108	Warning	10/10/2008 10:10:10
109	109-109-109-109	Warning	10/10/2008 10:10:10
110	110-110-110-110	Warning	10/10/2008 10:10:10

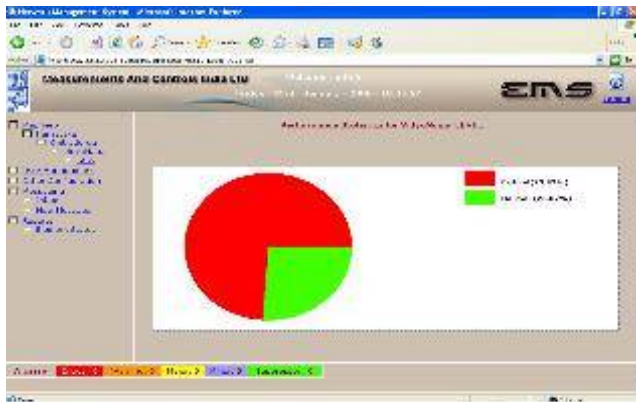
- Report generation- both graphical and tabular



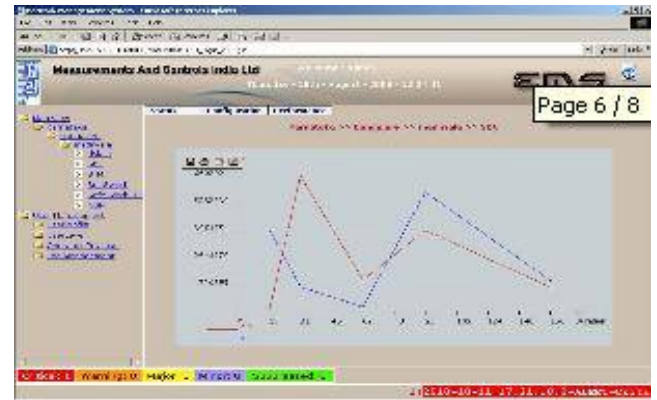
- Threshold - Generated when a parameter of interest (such as disk usage) crosses a threshold.
- Facility to configure parameters for which the threshold has to be monitored and can set threshold values.
- Alarms can be assigned various levels of severity – Critical, Warning, Minor, Major and Suppressed.

PERFORMANCE MANAGEMENT

- Storage and Retrieval of Network Elements Performance data
- Graphical and Tabular representation of the results



- Provides real time performance statistics
- Real time performance statistics can be viewed online.
- The statistics can be viewed as tables, line graphs, etc.
- Data collection and storing in database.



- Utilization reports for devices, resources (CPU, memory)
- Availability reports for devices, links, resources
- Error reports – interface errors, CRC errors

CONFIGURATION MANAGEMENT

- Discovery of elements along with the port details, color coding of the status of each port.
- Addition / Deletion of Elements
- Elements updation
- Configuration of relevant parameters of the devices in the network

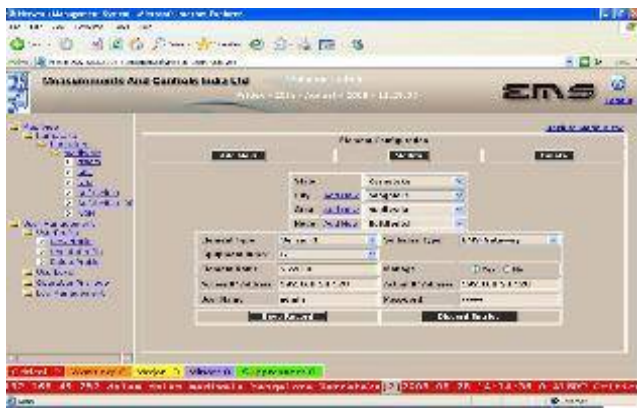
- User friendly GUI for configuration management.
- Facility for storing and retrieval of the configuration changes made by each user
- Provides dynamic status, statistics, and comprehensive configuration information for the managed devices.
- Supports recover back feature.



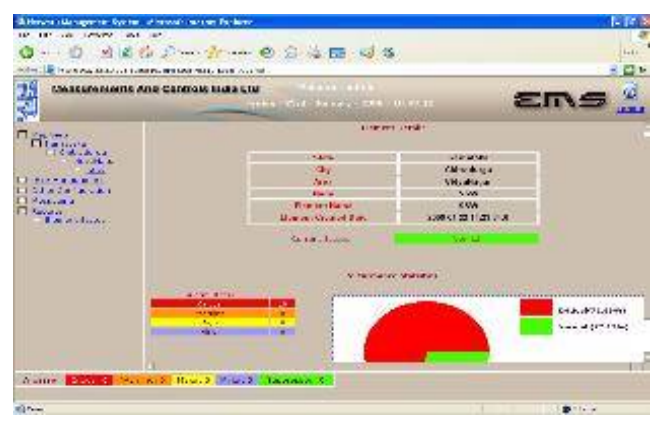
- Creating / Retrieving Node links information
- Auto Discovery of Elements

REPORTS

- Facility to get Element Status report by giving IP address



- Managing Link configuration
- Adding / deleting link between Elements / Ports



ACCOUNTING MANAGEMENT

- All the actions, operations of the users will be logged.
- Resource utilization reports for network / sub-network / element will be stored in the database
- Link utilization
- Provides for a comprehensive audit of changes in network elements reported chronologically.
- Maintains records of modifications in the areas of both hardware and configuration.

SECURITY MANAGEMENT

- Role and user based access control (Admin, Operator)
- Different level of control for each type of user
- Unauthorized access to database is prevented using SNMP V3