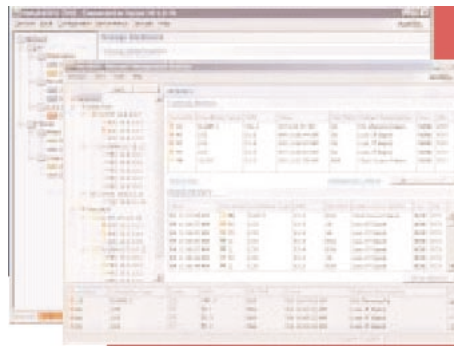




# BLACK BOX<sup>®</sup>

## NETWORK SERVICES

# SpeedXtender Enterprise Management



## Key Features

- ▶ Centrally manage up to 1000 systems
- ▶ Security Configuration
- ▶ Fault Management
- ▶ Performance Management
- ▶ Top-Level Information Graphically Displayed
- ▶ Simple to Install and Use
- ▶ Minimizes Downtime
- ▶ Modular and Scalable Architecture
- ▶ Java-Based
- ▶ CORBA Northbound Interface

The enterprise management system (EMS) is a carrier-class user-friendly software product used for real-time planning, provisioning, monitoring and management of networks comprised of multiple SpeedXtender systems.

It is designed in accordance with the ITU-Telecommunication Management Network (TMN) Fault Configuration Accounting Performance Security (FCAPS) model recommendations for management systems supporting the following specified functions:

- **Fault Management:** alarm handling, event handling, testing and diagnostics
- **Configuration Management:** network discovery; element provisioning and inventory
- **Performance Management:** real-time statistics presentation
- **Security Management:** access control, access logs

The EMS is designed to support standard northbound interfaces towards higher OSS and NMS systems such as CORBA (Common Object Request Broker Architecture) and TL1.

### Architecture

The EMS is a java-based modular and scalable Client-Server management system, providing centralized configuration and fault management for multiple distributed systems.

It includes the Server, Database and a Graphical Client. It is able to manage up to 1000 assorted SpeedXtender systems from the following list:

Each system is a separate manageable entity, which can be a single shelf in a point-to-point link, or a CO hub in a point-to-multipoint architecture.

### Server and Database

The EMS platform is scalable to allow for future expansion, starting at up to 1000 elements. It can run on a UNIX or a PC based platform with any commercial database.

Optional database redundancy can be supported. The following information is stored in the database:

- Faults
- Configuration backup of all managed elements
- Long term performance monitoring data\*
- Network level information - such as customer data\*

The EMS can be used as a standalone system providing element management layer (EML) functionality. Standard northbound interface supporting service configuration as well as alarm reporting can be supported as well allowing integration into existing Network Management Systems (NMS). Multiple NMS are supported.

EMS manages the systems via an IP network using Telcordia standards. Subtending systems are managed in-band via the High **Speed Link™ (HSL™)**.

**Network Display**

EMS displays multiple managed entities using a topological map of the connection between the managed entities (Point-to-point, Point-to-multipoint). This network view includes colored status indications for each entity.

It supports customized views and event filtering allowing operators to tailor view to the precise requirements.

**Configuration Management**

EMS enables configuration of shelves, cards, ports and services. Configured managed entities can be either auto discovered or manually added and deleted.

The Backup and Restore capability allows storage of a managed element configuration information. To ease large-scale deployment, default configurations may be downloaded to any new element.

EMS provides centralized software release storage in the database allowing centralized software management for all network elements.

**Performance Monitoring and Reporting**

The EMS provides the ability to view current and historical performance data, stored within the managed network elements. The information is periodically collected and stored in its database.

**Security**

EMS enforces access control through a login mechanism, based on personal user ID and password. Four levels are supported for multiple users: level 1 – queries only (read-only), level 2 - queries and modifications (read and write), level 3 - queries, modifications and privileges operations (administrator) and a level for EMS user management.

**Fault Management**

EMS collects equipment and services alarms, events and notifications.

Graphic representation of alarm status at network, sub-network, node/element, card and port levels, are available in a hierarchical color-coded status representation. Alarms are aggregated and displayed as a summary of all Critical, Major and Minor alarms and Warnings.

The system offers filtering and sorting capabilities according to time, severity and element name making the system easily tailored to the preferences of the user.

EMS provides centralized date and time to all managed elements to synchronize event timing.

All alarms are stored in the database, and can be flagged as Active or Cleared; each alarm can be acknowledged.

All alarms can be reported via a northbound interface using either TL1, CORBA or SNMP.

**System Requirements**

**Operating system**

- Solaris 8, Windows 98 (Client only), NT, 2000 and XP

**Database**

- Sybase, Oracle and other commercial SQL databases

\* These features are not supported in the first release of the product, but in subsequent releases.

For information regarding pricing and ordering options, please contact us.

**Ordering information**

| ITEM   | CODE        |
|--|-------------|
| SpeedXtender Enterprise Management . . . . . | MDS1100-EMS |

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