SyncManager

Complete Synchronization Network Manager

KEY FEATURES

- Fault Management
- Configuration Management
- Inventory Management
- Performance Management
- Security Management

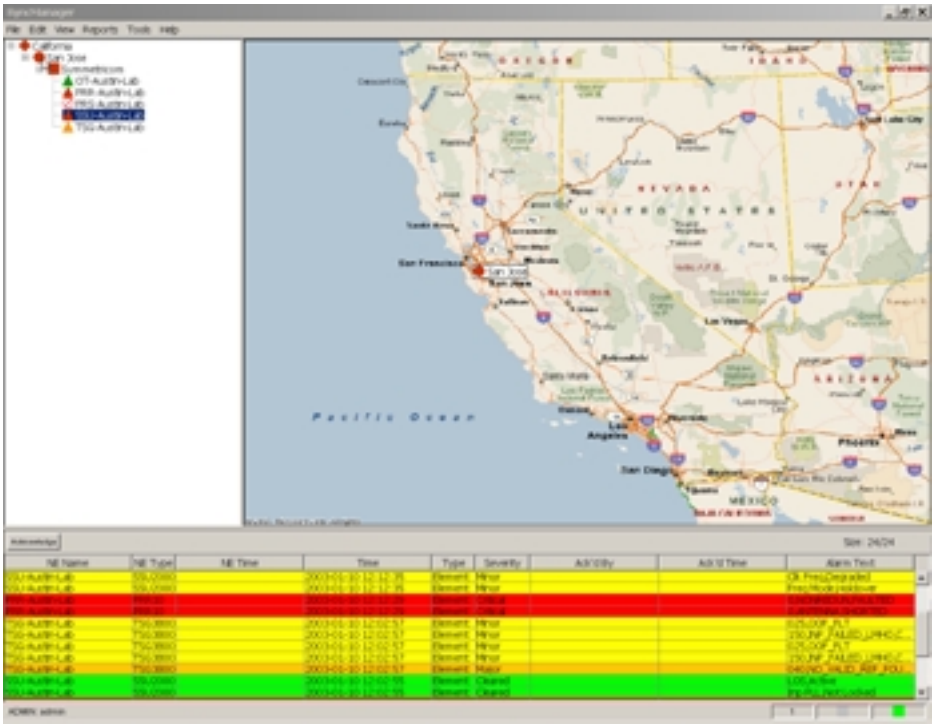

FIG.1 SyncManager interface surveillance of the network

INTRODUCTION

Symmetricom's SyncManager™ is a comprehensive synchronization management solution providing the full extent of FCAPS functionality without the frustration of complex operability. It utilizes current JAVA technology to provide feature rich graphical interfaces and is consistent to generic Microsoft Windows® applications. SyncManager offers a client/server architecture relationship ensuring smooth, remote operations management.

Superior management features, such as remote firmware upgrades and provisioning to the port level, eliminates the need of on-site assistance with the exception of physical changes to the network element.

FAULT MANAGEMENT

Real time alarm reporting is indicated to the user visually via the main graphical interface. Alarm colors following standards bodies provide real time notification of the network health. Alarms are separated by

categories so that the end user recognizes whether it is a communications problem, a system problem or hardware element problem.

All events that occur are placed into a structured database and can be pulled at anytime for fault analysis and problem tracking. The event window allows the user to display historical events with intelligent filters to aid in their analysis of faults. Audible alarms are an additional user configurable feature. Detailed alarm information and display may be represented as specific as the port level of a module. Audible alarms are an additonal user configurable feature.

Fault Management Features:
- Real time alarm surveillance
- Historical event storage and retrieval
- Audible and visual notification
- Sorting and filtering
- Time stamping of occurrence (both NE and OS)
- Automated alarm correlation
- Independent network element control

CONFIGURATION MANAGEMENT

The SyncManager's main interface represents the health of the network at a glance. When configuration of an element is desired, the user may logically step the view down to a unit level. The user will be presented with both physical and logical views of the network element and will have full accessibility to configure system level, module level and even port level characteristics.

Pick-lists of all the various options are presented throughout, reducing the customer requirements to manually enter information. Context sensitive help is consistent throughout the application so the customer may be educated in the area of their choice.

When a user elects to modify a configuration that may cause an affect to the operation of the unit, a confirmation window announces the potential risk and requires confirmation of the request. Two levels of confirmation are presented whenever the elected configuration may cause an affect on the network.

INVENTORY MANAGEMENT

Real time inventory is displayed on all managed elements.

Typical inventory information available include:
- Serial number
- Hardware part number
- Hardware revision
- Software part number
- Software revision
- Access identifier
- Description
- Manufactured date
- Last reset date

PERFORMANCE MANAGEMENT

Performance information collected and graphed from a synchronization supply unit provides indication of how well their network is performing. MTIE, TDEV and Phase performance parameters are collected from all managed SSUs on a user configurable basis.

The user may graph the performance of an SSU over a period of time or elect to retrieve and graph the performance data of the SSU in real time. The user may view graphs in color or black and white, zoom to portions of the graph, print the graph or save it in either CSV or JPEG format.

All synchronization industry masks are included so that the user may plot against any or all to understand whether they are meeting industry standards.

SECURITY MANAGEMENT

SyncManager employs three levels of security to ensure data integrity and relieve customer concerns. Multi-leveled user accounts may be created allowing varying degrees of management privileges. Network element security is utilized to adhere to the hardware specifications of secured access. Lastly, SyncManager permits the usage of the least level access level for its main operation. This final approach eliminates hackers from attaining user/password combinations that can be used to adversely affect the network.

All user/password account information is encrypted via display or logs to further impede tampering of the network.

TMN OPTION

SyncManager adheres to TMN compliancy by providing a CMIP (Q3) NorthBound interface. This can then allow regional and network management layers to communicate through the SyncManager application. Additional NorthBound interfaces may be customized for users including SNMP, CORBA and XML.

SyncManager provides management control and remote firmware upgrades of the SSU 2000, OfficeTime 21, TSG 3800, PRR 10 and PRS 50 product families.

RECOMMENDED MINIMAL REQUIREMENTS FOR SYNCMANAGER

Requirements	SyncManager Server	SyncManager Client
Operating System	Windows NT, 2000 or XP	Windows 95 and up
Processor	766 MHz Pentium	766 MHz Pentium
RAM	256 MB	128 MB
Hard Drive	20 GB	2 GB
CDROM	for installation only	for installation only
Monitor	17 inch SVGA	15 inch SVGA
Interface	TCP/IP	TCP/IP

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