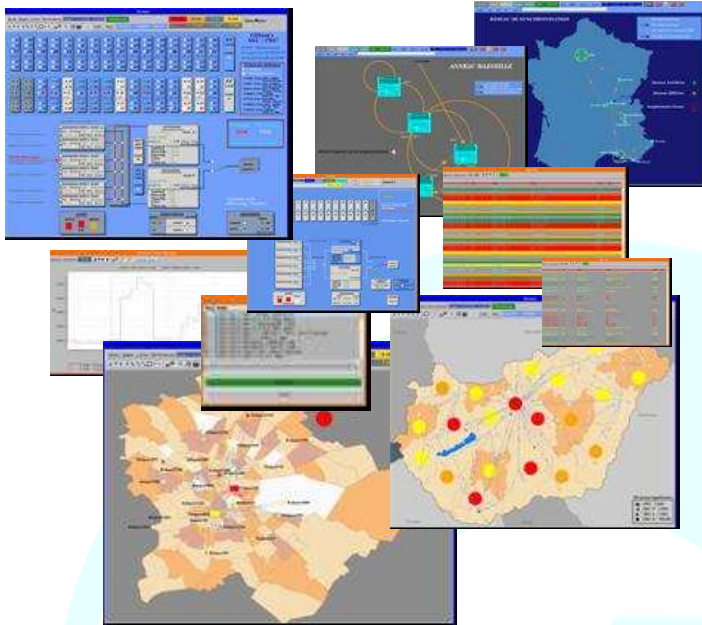




LYNX RSNM SYNCHRONIZATION NETWORK MANAGER



PRODUCT OVERVIEW

GILLAM-FEI has a strong know-how in Remote Network Management Systems (SCADA) for the Telecom Industry and Utilities, embedded with state-of-the-art data bases and large scale IT technologies.

The LYNX RSNM is a powerful cost effective Synchronization Network Manager (monitoring & control) based on an open architecture, standards and protocols.

A global view on your network is your Quality of Service insurance.

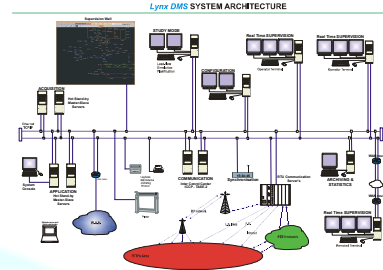
WHICH SOLUTION?

- Best Price-Performance ratio solution, minimum total cost of ownership
- Legacy of management of very low to very high number of SSU's (existing customers of 2-1000 SSU's)
- SQL database server used for the LYNX RSNM system is PostgreSQL
 - it is a cost effective solution
 - its integration capacity in the SCADA systems is very high
 - it allows many extensions (eg. accessing real-time information through the SQL interface)
 - it is a very open system (interface to other existing databases, including but not limited to, ODBC JDBC, and Oracle connectivity)
- GILLAM-FEI is specialized in standard and proprietary protocols management integration (possibility of integration of other suppliers (sync.) equipment):
 - Standard protocols management: ISO/IEC 60870-5-1, ISO/IEC 60870-5-3, ISO/IEC 60870-5-4, DNP 3.0, MODBUS, HNZ PA4, PA20, JBUS TIME STAMPED OR NOT, S-BUS, SNMP, TCP/IP, TL1...
 - Proprietary protocols management: TELEGYR, SIEMENS, ABB, SAIA, ...
- SNMP Proxies to make information about LYNX RSNM managed SSU's available for a generic SNMP manager. It includes a MIB generator to select appropriate alarm, configuration and performance data.
- Data Communication Network : PSTN, X25, Ethernet, GPRS, ADSL, ...
- Friendly and fully integrated GUI working environment, including zero client WEB access



PROGRESSIVE hardware ARCHITECTURE

- Client - Server Architecture
- UNIX/LINUX operating system for servers
- Hardware used from state of the art manufacturers (HP/Compaq...) : servers, workstations, laptops, laser printers, dot-matrix printers
- X11 OSF/MOTIF graphical interface
- Multi-screen operator stations
- Redundant acquisition and application servers (hot stand-by)
- Archiving server
- Redundant LAN Ethernet network
- Decentralized operators stations
- Interface with other remote control systems
- External synchronization (GPS, DCF77,...)
- Alphanumerical displays management, Images wall, ...



CONFIGURATION MANAGEMENT

- Full NE (PRS Cesium & GPS, SSU, SDU) management (I/O, holdover, etc.)
- LYNX RSNM—NE communication management
- Heartbeat functions (LYNX RSNM and NE)
- Dynamic reconfiguration of the sync network

PERFORMANCE MANAGEMENT

- SSU, SDU performance management (MRIE, TDEV, df/f, false frequ, inputs phase jumps, etc.)
- SECs monitoring : Network Elements Frequency feedback monitoring (return control)
- Synchronization links quality management
- Graphing & reporting available (statistics and trend plots using the archiving module)
- TIE, TDEV, MRTIE, LMRTIE, FFOFF with template comparison
- Automatic Timing loops recognition algorithm

FAULT & EVENT MANAGEMENT

- Intra nodes & inter nodes alarms and events management
- Events log, Black box and Not Acknowledged events log and reports
- Automatic archiving of logs (up to 15 archives on-line)
- Alarms & Events display, sorting, filtering and archiving
- Dynamic alarm counter per severity
- Real time Synchronization Network health status
- Geographic & Local view : from all the Network Map view to a specific unit by simple click
- Trouble tickets management

SECURITY AND INVENTORY MANAGEMENT

- Security and password protected access rights (Top Administrator, Manager, Users, etc.)
- Dedicated user profiles and domains management
- Login & logout manager
- Error reporting
- Secure architecture : Hot-Standby Master / Slave stations, RAID architecture and Backup / Restore Management

QUALITY MANAGEMENT (option)

- Quality of the synchronization network (time % in conformity to G811 and G812) and the equipments (oscillator, ...)
- Determination of the best oscillator in each SSU (the lowest aging)
- In case of synchronisation loop between two or more SSU, indication of the SSU which must be forced in holdover (opportunity to switch automatically)
- Slope calculations are performed automatically (the last 2, 7, 15 days and 2 months)
- Deviations between max and min value of servo loop voltages (on 1 year (last 8760 measures) and on 60 days (last 1440 measures))