

dynspv

Accès Images Listes Tables

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LYNX

Navigation icons

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Zoom IN: Positionnez le centre du Zoom

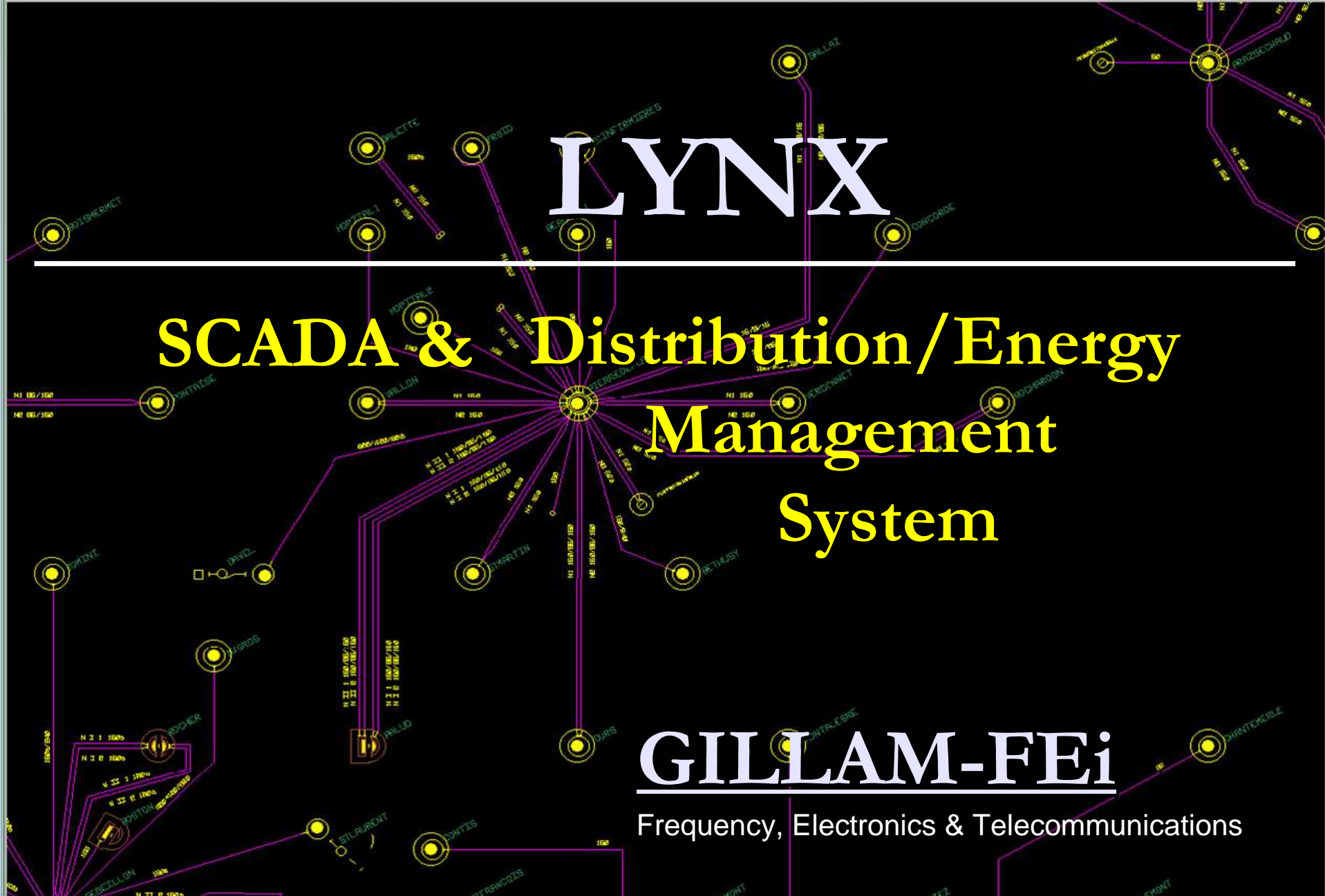
EMU

# LYNX

## SCADA & Distribution/Energy Management System

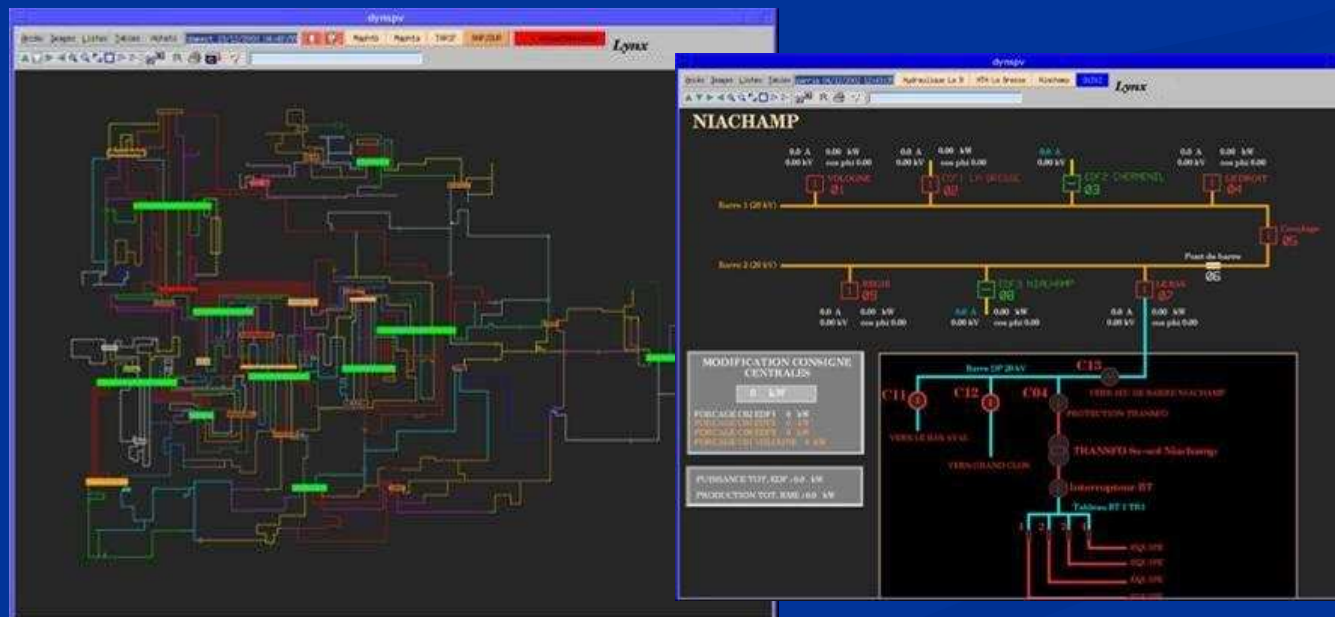
# GILLAM-FEi

Frequency, Electronics & Telecommunications



LYNX SCADA/DMSMulti-Activities solution

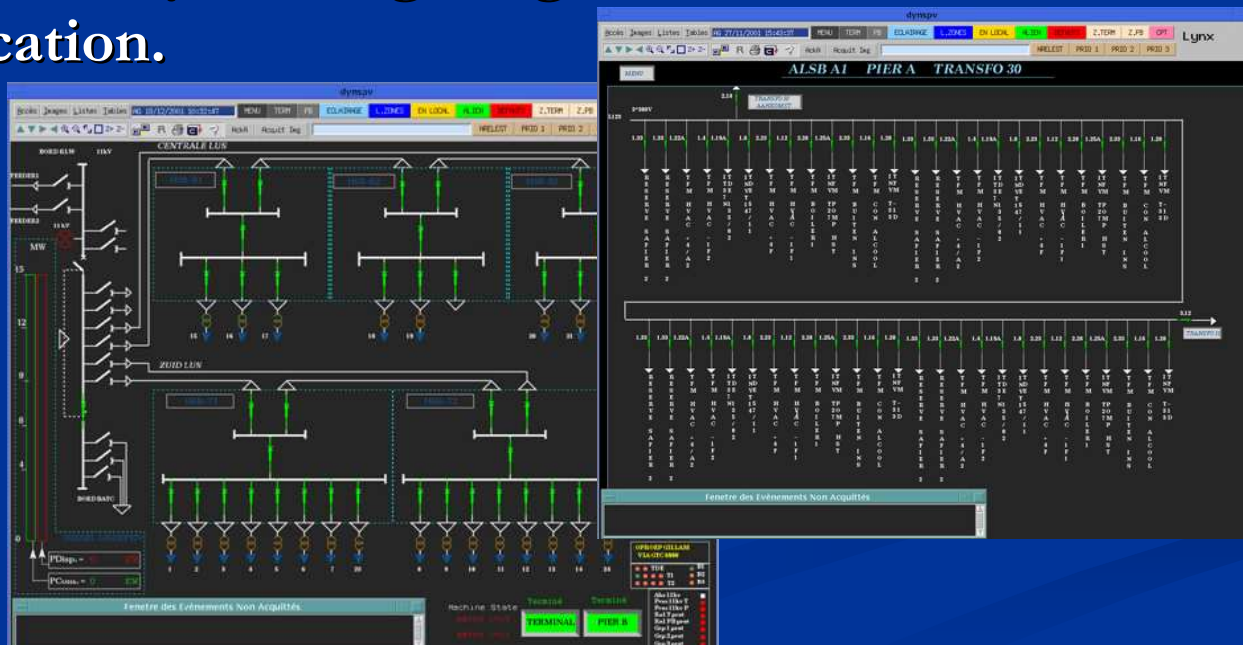
- **For electricity distribution networks** : Objects such as circuit breakers, transformers, disconnecting switches, bus bars and any other object related to electric networks are managed by LYNX



***LYNX SCADA/DMS***

***Multi-Activities solution***

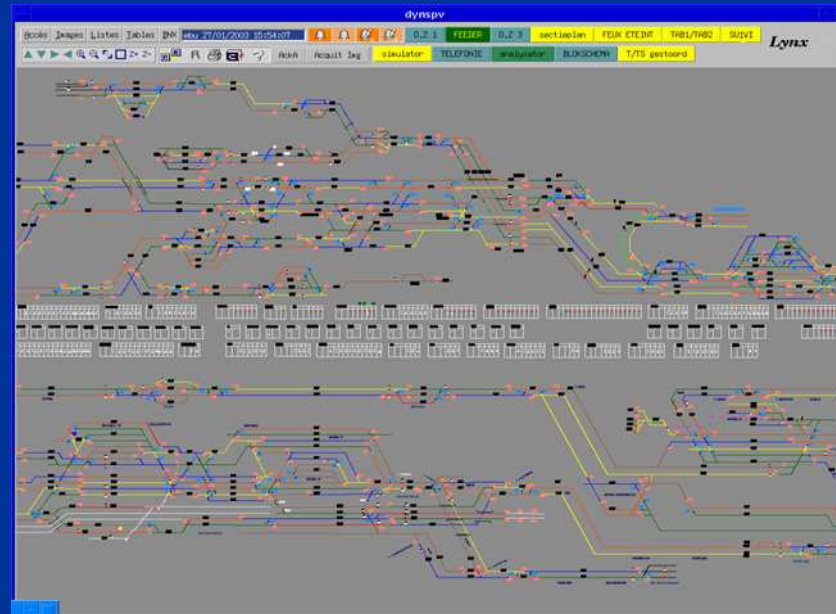
- For remote control of Middle and Low Voltage energy distribution of airports : Objects specific to this application type such as relays and lighting zones are added and managed by our application.



**LYNX SCADA/DMS**

**Multi-Activities solution**

- For remote control of the electric traction fixed facilities for **railways traction networks** : Objects specific to this application type such as catenaries networks sections are also managed by our application.







## **Strengths of *LYNX SCADA/DMS* application**

- Client - Server architecture
- UNIX/LINUX operating system for servers ; Windows for operators workstations
- Hardware supplied from state of the art manufacturers (HP/Compaq...) : servers, workstations, laptops, laser printers, dot-matrix printers
- X11 graphical interface

## **Strengths of *LYNX SCADA/DMS* application**

- RDBMS for information storage and retrieval: POSTGRESQL, 100% SQL database without any associated license fee with standard ODBC and Oracle interfaces available.
- Data transfer through ODBC links between Lynx and office standard applications (Customer Care application and Billing application)

## **Strengths of *LYNX SCADA/DMS* application**

- Standard protocols management with RTU's: 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...
- IEC 61850 Interface
- Proprietary protocols management with RTU's :  
TELEGYR (TG709, TG800, TG809, TG065),  
SIEMENS, ABB (RP570, RP571), SAIA
- Exchanges between control centres : ICCP Tase2 and  
TCP/IP

## **Strengths of *LYNX SCADA/DMS* application**

- Object Oriented Technology
- Possibility to manage several hundred thousands of objects/points
- Modular application / possibility to perform upgrading
- Interoperability with other relational database (Oracle,...)

## **Strengths of *LYNX SCADA/DMS* application**

- Possibility to manage and import existing database
  - SEL Lausanne : import of LS 3000
  - SIG Genève : import of LS3200 and SINAUT SPECTRUM
  - SIM La Chaux-de-Fonds : import of LS 2000
  - SI Lutry : import of ABB (Micro-Scada)
  - ALE Liège : import of TG8000

**Strengths of *LYNX SCADA/DMS* application**

- Recovery of map files (in DXF format) from Autocad
- Interface with market software modules (software for long term network planning)
- WEB Interfaces for data consulting and controlling
- Remote maintenance possibility

## **Strengths of *LYNX SCADA/DMS* application**

- Multi-screen operating stations
- Redundant acquisition and application servers (in a hot stand-by mode)
- Archiving server
- Redundant LAN Ethernet network
- On the field laptops
- Decentralized operator stations
- Interface with other remote control systems

**Strengths of *LYNX SCADA/DMS* application**

- External synchronisation (GPS, DCF77,...)
- Alphanumerical displays management
- Screen wall,...

## **SCADA Features**

- Software functional redundancy for SCADA and DMS functions,
- Full and User Friendly Graphic user interface,
- User friendly tools for online display generation and database management maintenance,
- Support for high level programming languages,
- Involve wideband communication system for data transfer,
- Integration of energy meters with RTUs / Data Concentrator,

## **SCADA Features**

- Modbus & IEC 870-5 protocols and many others protocols,
- Network operations Forecast Management,
- Customer Management,(MV/LV) Alarm handling,
- Tagging, trending,
- SOE,
- Real time data acquisition & calculations.

## **DMS/EMS Features**

- **Load flow** calculation,
- **Loss minimization** via feeder reconfiguration,
- **Load Balancing**,
- **Simulator** with offline environment
- **Outage Management** ( with statistics like number of de-energized customer, average outage time per customer)
- **FDIR** (Fault detection, Localisation, Isolation and Restoration),
- **State Estimator**

## **Lynx new features**

- **Lynx Daybook :** The Daybook feature is the system operation log. It informs the operators on any past, current, and future operation events, and allows to track troubleshooting and response sheets.
- **Lynx Diary :** The Diary tool allows to associate actions, tasks or instructions with given moments in time. It groups all the days in the year with a monthly and daily breakdown. It allows users to schedule tasks to be done or instructions to follow.

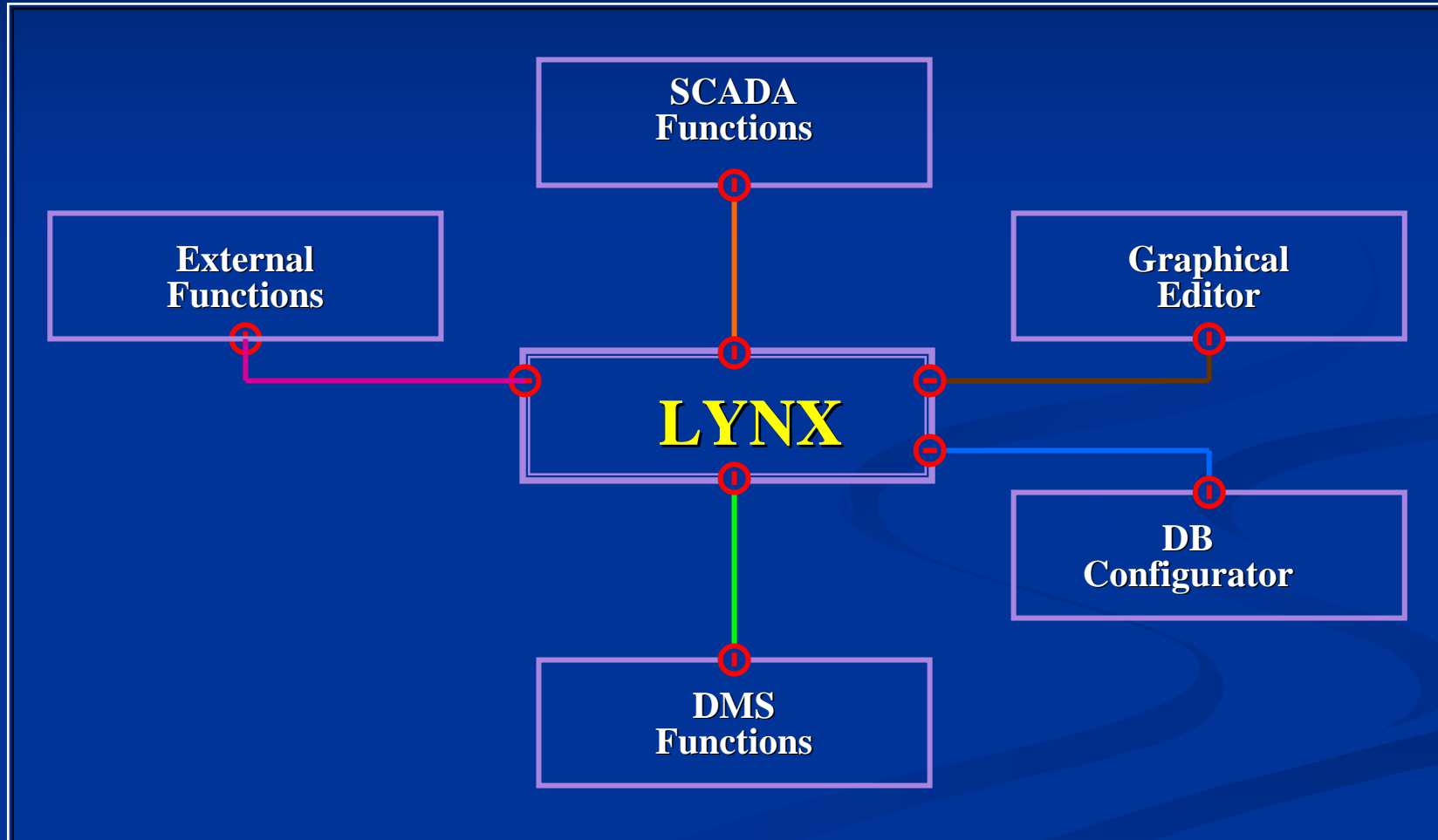
## **Lynx new features**

- **Lynx SIMU** : The simulator is used to study, in a non-RT context, the effect of one or more incidents on the network. The simulator includes a tool that is used to generate event sequences (scripts), which can then be played in continuous or step-by-step mode.
- **Lynx Web Interface** : The Web server that is embedded in Lynx is used to have access to most of the remote administration and supervision features of the SCADA, without any heavy installation, through LAN (corporate Local Area Network) and WAN (Wide-Area Network, including the Internet) interfaces.
- **Archiving & Consolidation** : With multiple consolidation, the operator can validate a set of tables when a specific problem occurs.

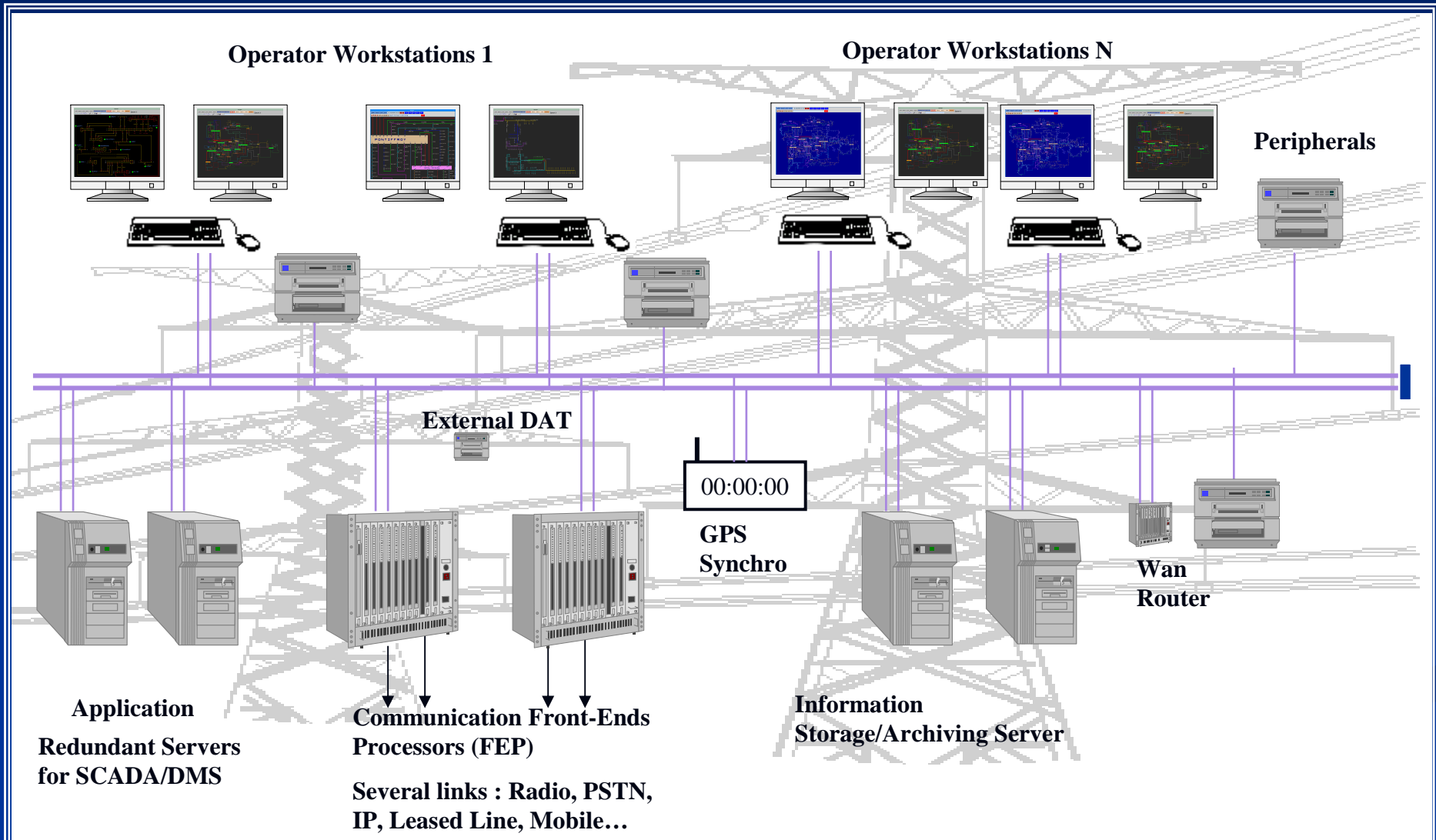
## **Lynx new features**

- **Report Editor** : The LYNX Reporting feature is based on the JasperReports report building engine which is the most powerful reporting tool currently available in Open Source.
- **Lynx ET** : state estimation module for HV and distribution networks. allows to calculate a quality index at input values (topology, measurements) and calculate an estimation of observed measurements.
- **The new DYNSPV** :
  - New Drag & Drop functions
  - New lists
  - Support of new fonts
  - New object types

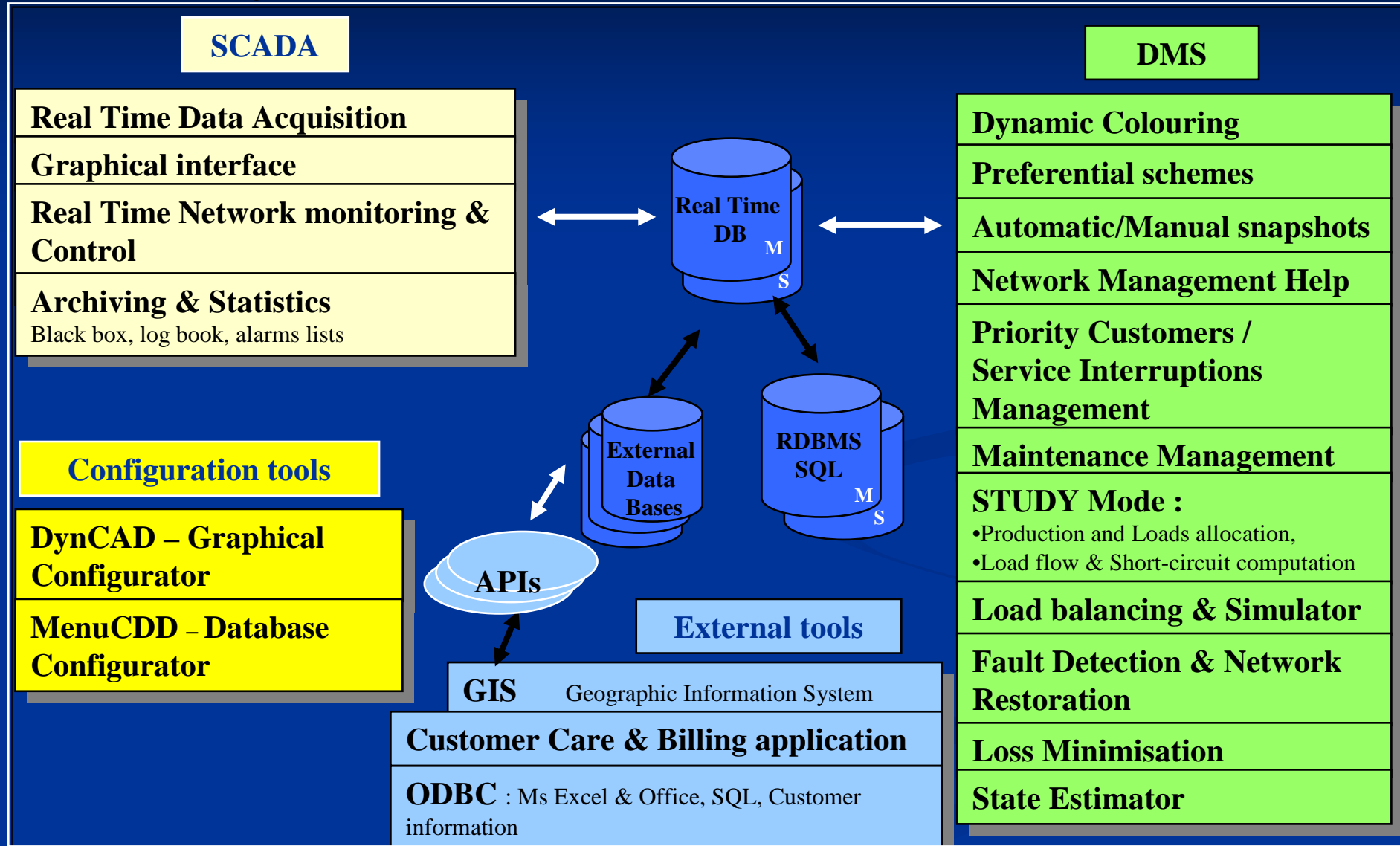
# **LYNX Global Architecture**



# Sample of proposed Architecture

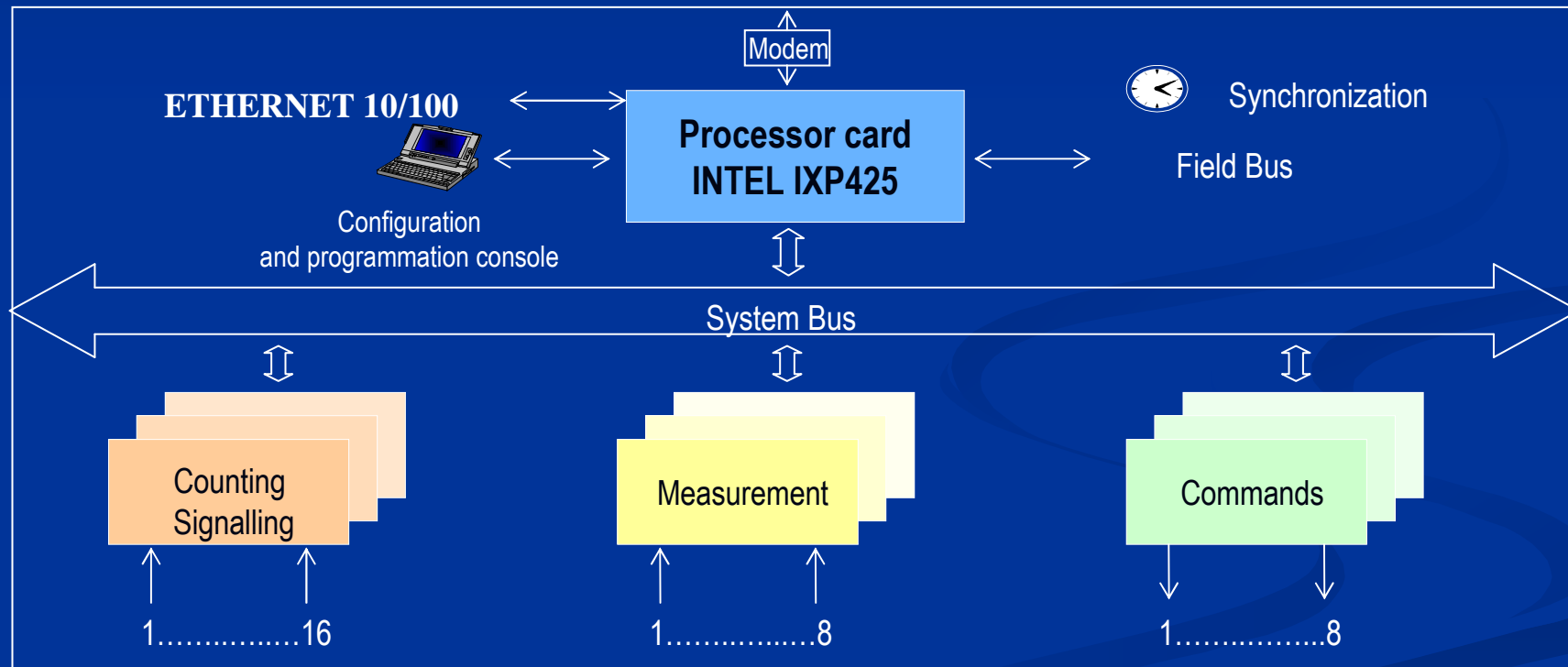
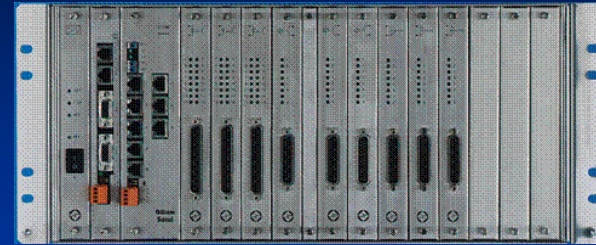


# Lynx Software Architecture



# Remote Terminal Unit

## Remote Terminal Unit USC 3000



## *Remote Terminal Unit*

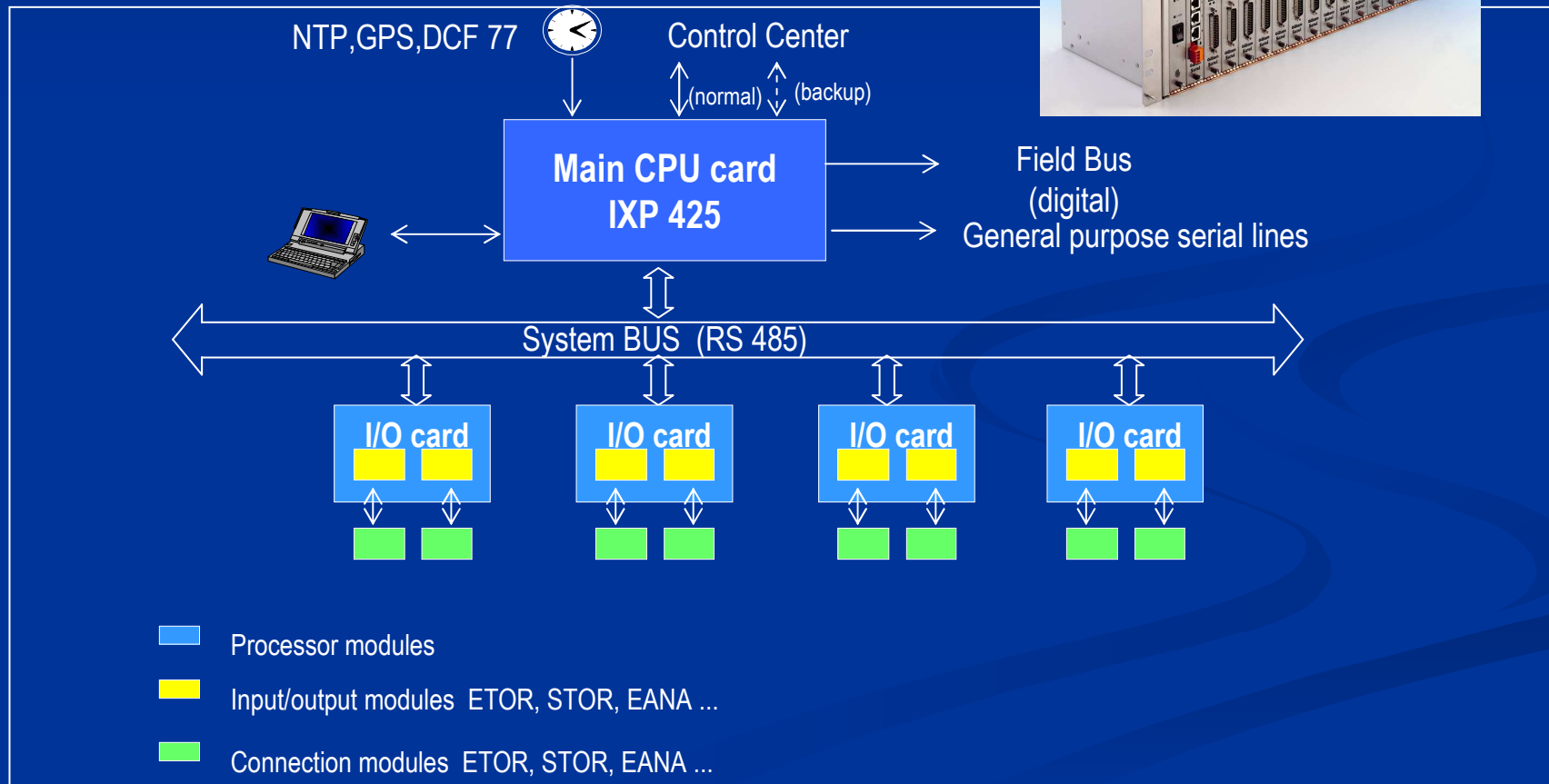
### **Remote Terminal Unit USC 3000**



- ❑ The USC-3000's are designed around a powerful main CPU card driving a set of Input/Output cards. The system is modular. It is offered in 19" or half 19" chassis with a height of 5 DIN Units. The maximum number of input/output points (by 19" unit) handled is more than 220.
- ❑ The USC 3000 allows to combine, without any restriction, all the input/output cards, thus offering the possibility to customize the system with the desired configuration.
  - Capacities:
    - MINI USC 3000 : 6 input/output cards
    - USC 3000 : 14 input/output cards

# Remote Terminal Unit

## Remote Terminal Unit USC 3003



## *Remote Terminal Unit*

### **Remote Terminal Unit USC 3003**



- ❑ The USC 3003 Remote Terminal Unit is designed around an intelligent main CPU card and intelligent Input/Output cards (multi-processor architecture). Modular, it is offered in 19" chassis with a height of 5 DIN units (1U = 44.45 mm). Its processing capacity is slightly superior to 1800 input/output points (main shelf + 3 expansion shelves).
- ❑ The main CPU card is responsible, among others, for the management of the internal serial bus, for data processing (automates, archiving, periodic tests, ...), and for the communication with the Control Center.
- ❑ I/O cards operate the pre-processing of the input/output data. Each card contains a microprocessor dedicated to the immediate processing of the special functions (fine chronology, filtering, management of avalanches,...)

# *Remote Terminal Unit*

## **Remote Terminal Unit USC 3003**



- When the amount of points to manage requires the use of a expansion chassis, they are usually located at a short or average distance from the main chassis countaining the processor card. When the points to manage are located further, it is possible to set up a modems scheme allowing to artificially lengthen the internal bus while guaranteeing the transmitted data integrity.
- This configuration is useful when you'd like to only have one processor card so as to, for example, have only one transmission canal towards the chef unit.

**Questions ?**

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