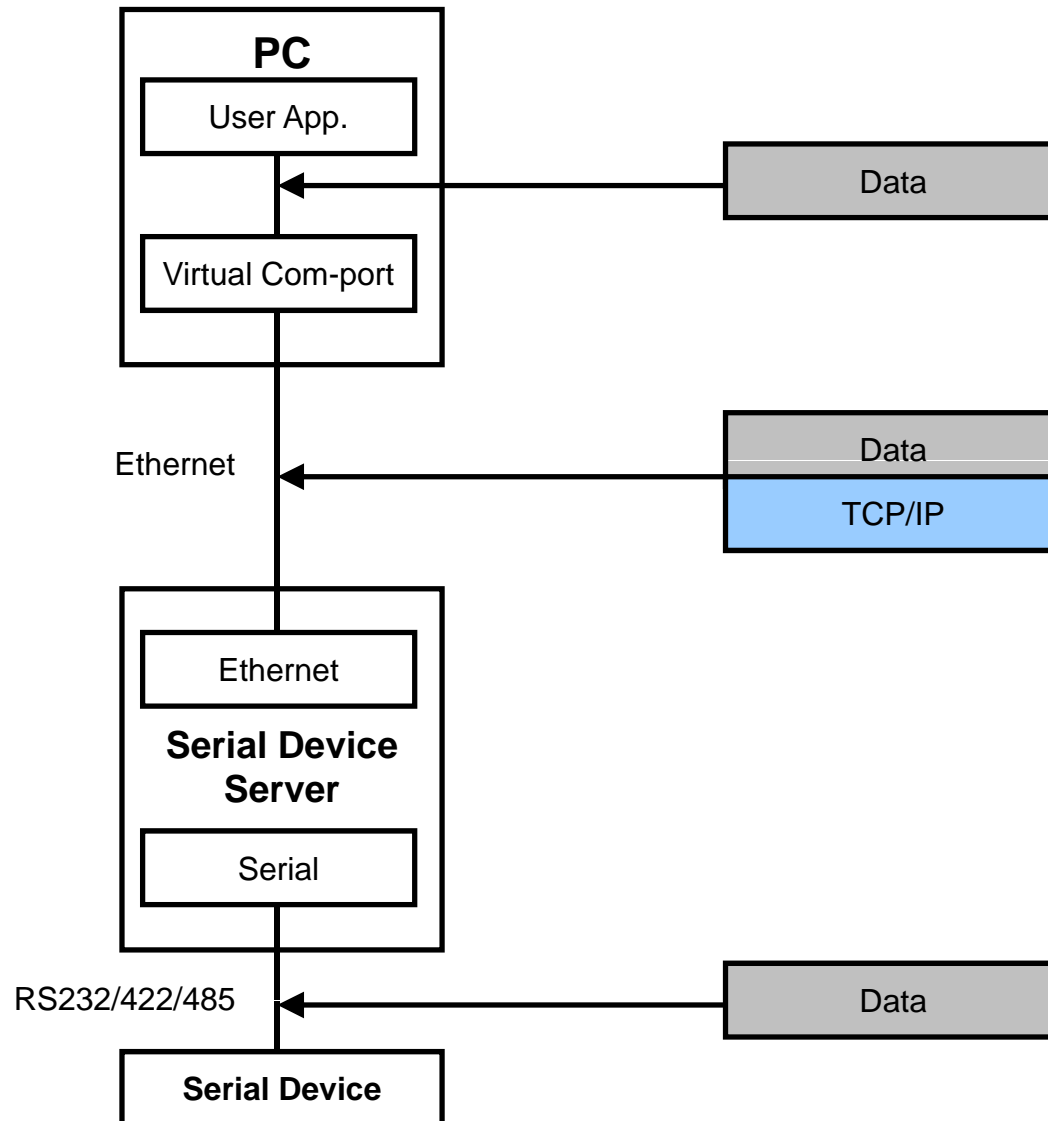


Training Material: Case Studies

Serial Device Servers & Terminal Servers

- LS100
- PS100/200/400 (and IALink100)
- SS100/110/400/800
- STS800/1600
- The main differences between models:
 - Serial types (RS232 or 422/485)
 - Protocols supported (TCP or UDP)
 - Security (3DES, SSL)
 - User Customizability (& PCMCIA)

Serial Device Server Communication Diagram



Overview

- LS100
 - RS232 only
 - Basic features of TCP server & client
- PS100/200/400 compared to the LS100
 - RS232/422/485
 - UDP
 - 3DES, IP filter
 - Menu driven configuration
- SS100/110/400/800 compared to the PS
 - SSL/TLS
 - Web management
 - PCMCIA (except SS100)
 - User code & web
 - Linux shell
 - Multiple connection, Back up destination
- STS800/1600 compared to the SS
 - No user code & web
 - RS232 only

Applicable Fields

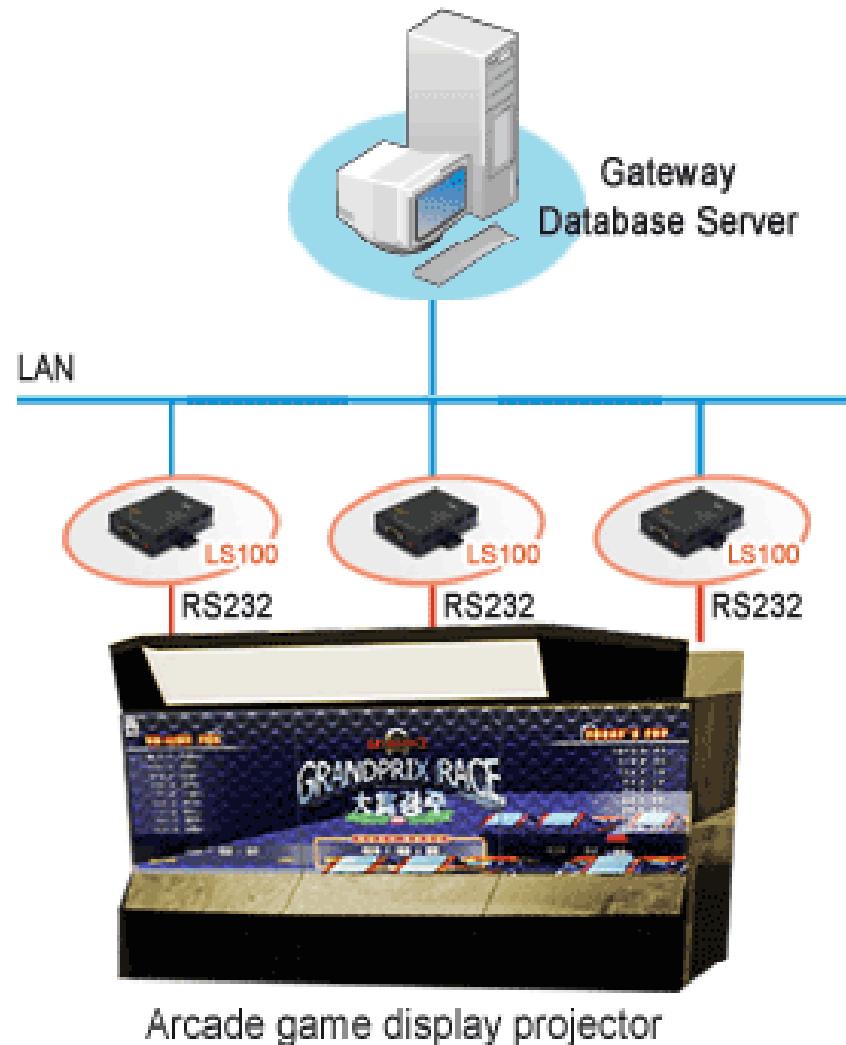
- IT/Telco Industry
 - FLC, DSLAM Monitoring and Control
 - DACS Monitoring and Data Logging
- Retail/POS Industry
 - Payment Terminal Connectivity through VPN network
- Factory/Building Automation
 - Door Access Controller Networking
 - Bridge Monitoring System
- Medical Automation
 - Medical Device Monitoring
- Etc
 - Arcade Game Center/Display Projector Control
 - And more and more...

Case Studies: HelloDevice Lite Series

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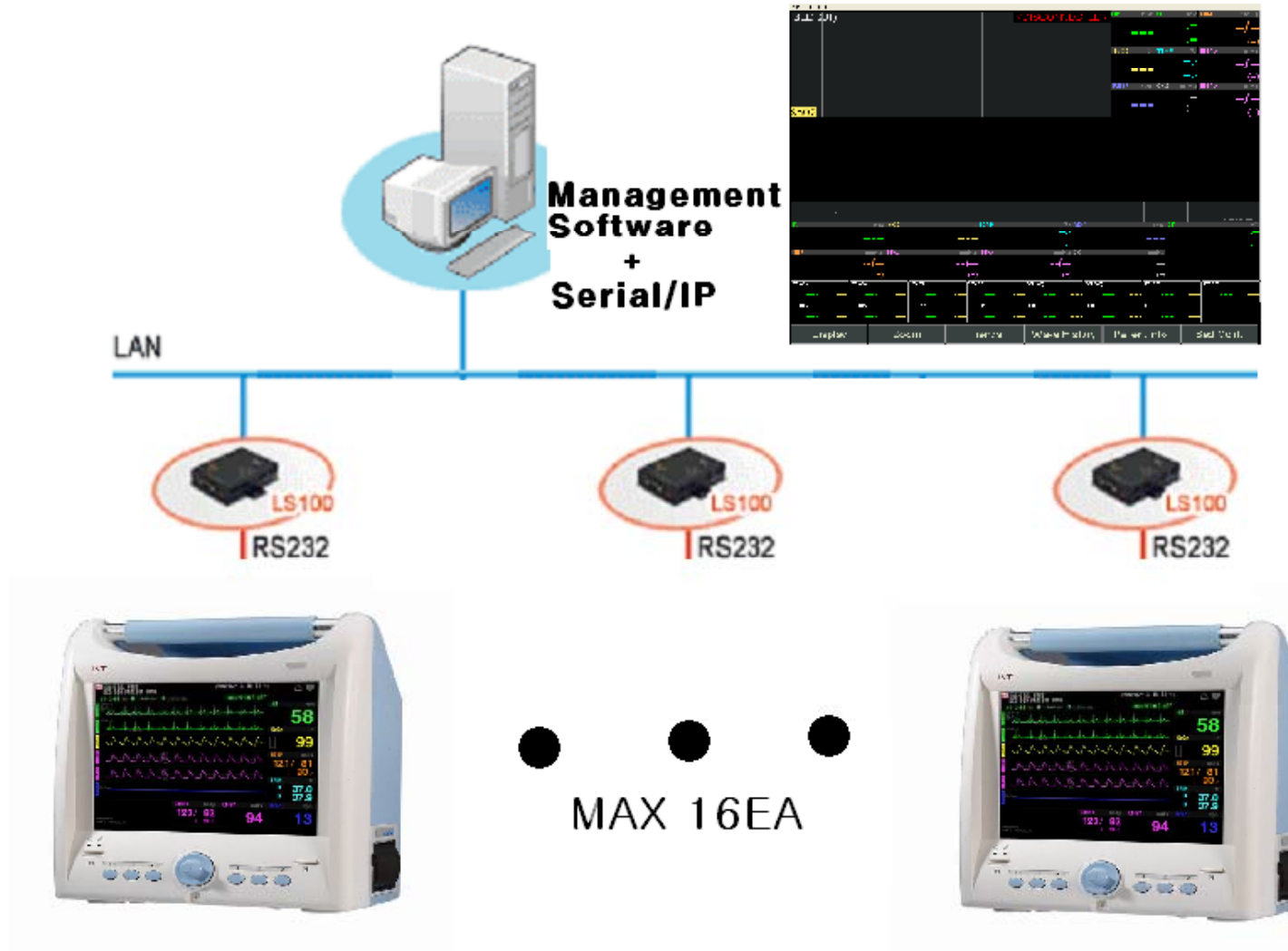
Arcade Game Application



Arcade Game Application

- Customer: F2 (Korea)
- Target Device: LCD Display Projector
- Application Detail:
 - Display projector sends the data to a gateway server through the LS100
 - Upon the completion of one game, gateway database server sends the computational and networked data to the LS100 that will be displayed on the display projector

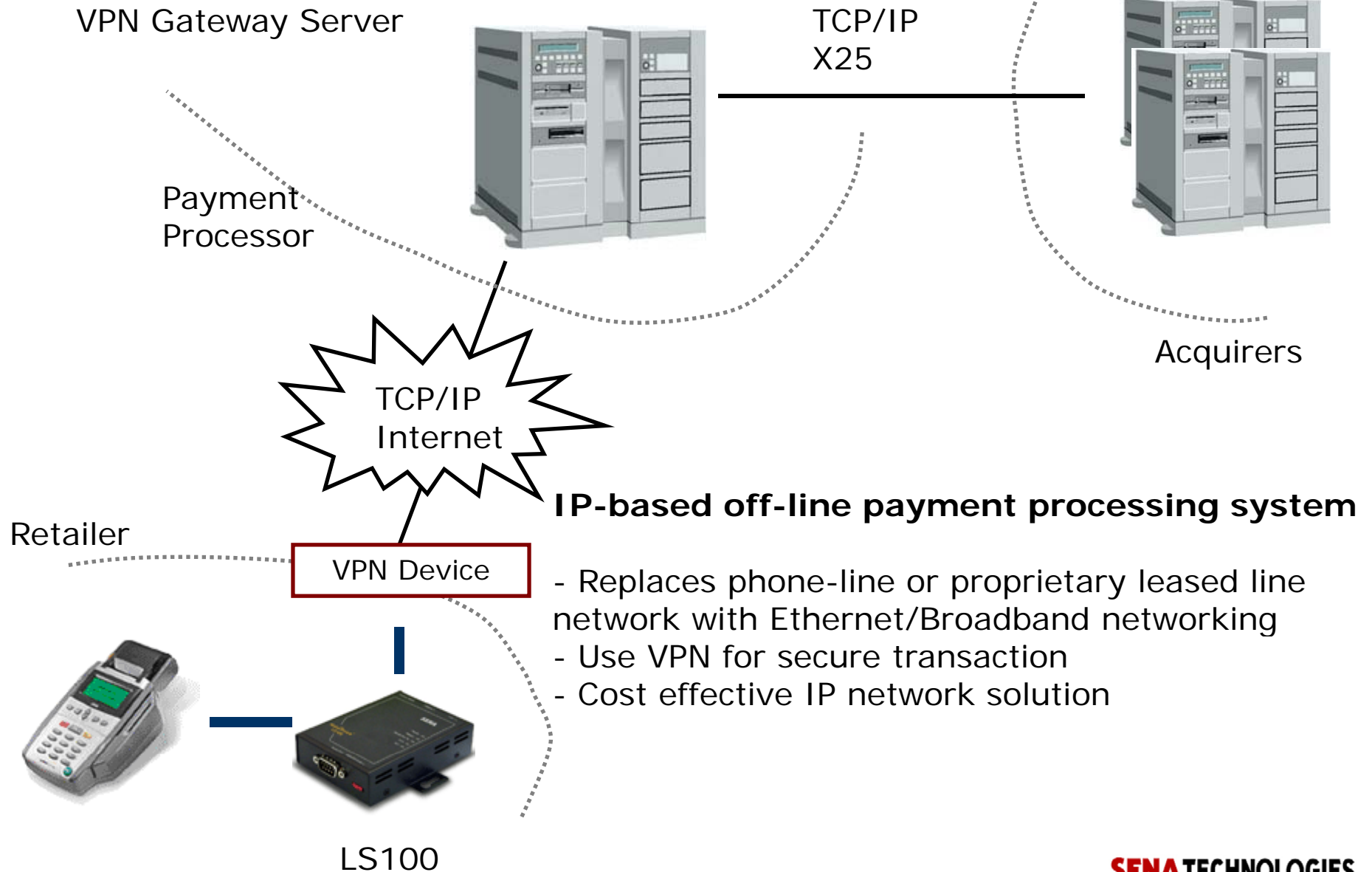
Medical Application



Medical Application

- Customer: MEK (Korea)
- Target Device: Patient Monitor(MP1000NT)
- Application Detail:
 - User Application communicates via serial
 - Serial/IP is a comport redirector software
 - User Application can open 16 comports, and communication is done between the LS100 and MP1000NT via Serial/IP.

Payment Terminal Application



Payment Terminal Application

- Customer: CyberNet (Korea)
- Target Device: Payment Terminal
- Application Detail:
 - Replaces phone-line or proprietary leased line network with Ethernet/Broadband networking
 - Use VPN for secure transaction
 - Cost effective IP network solution

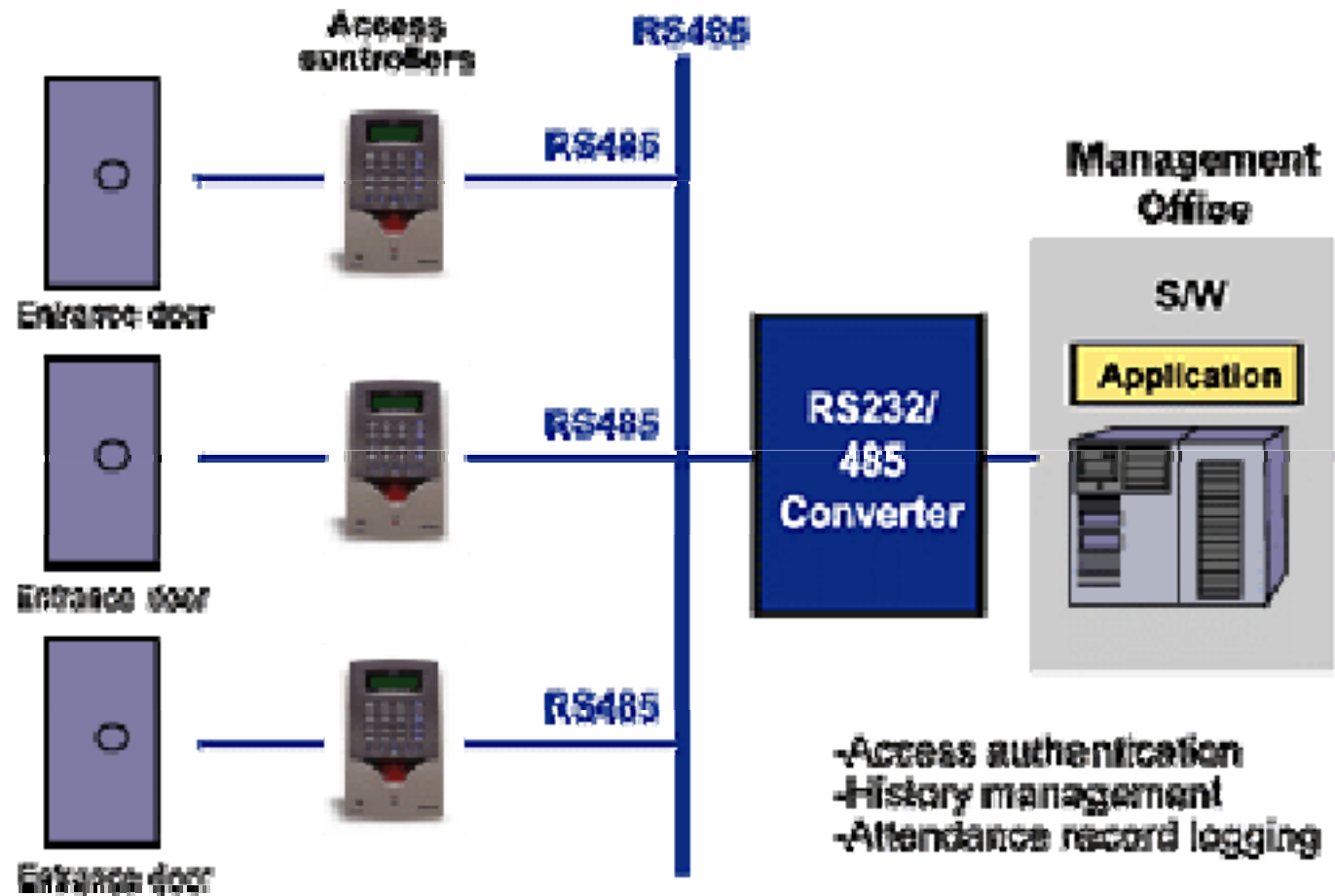
Case Studies: HelloDevice Pro Series

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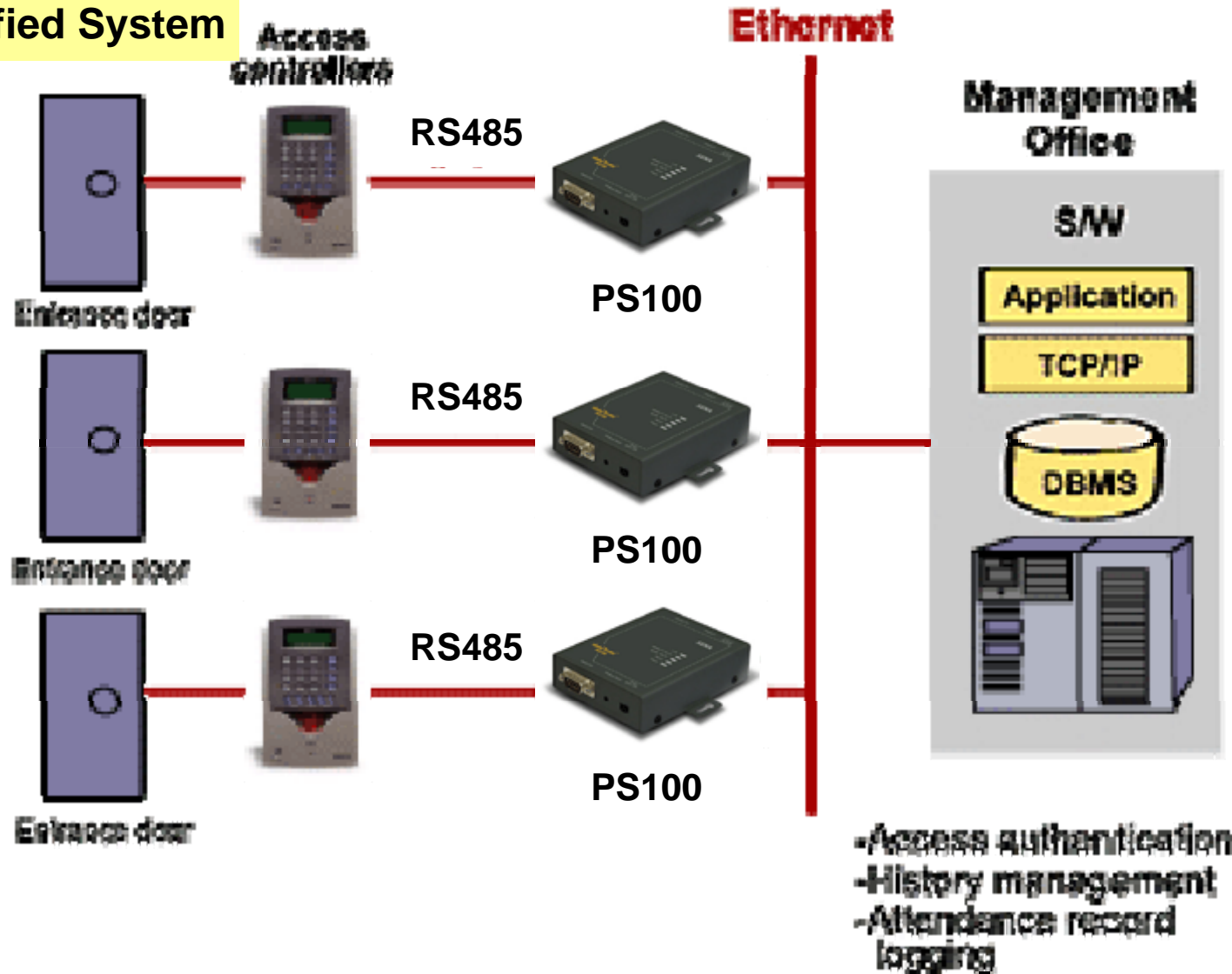
Door Access Application

Previous System



Door Access Application

Modified System

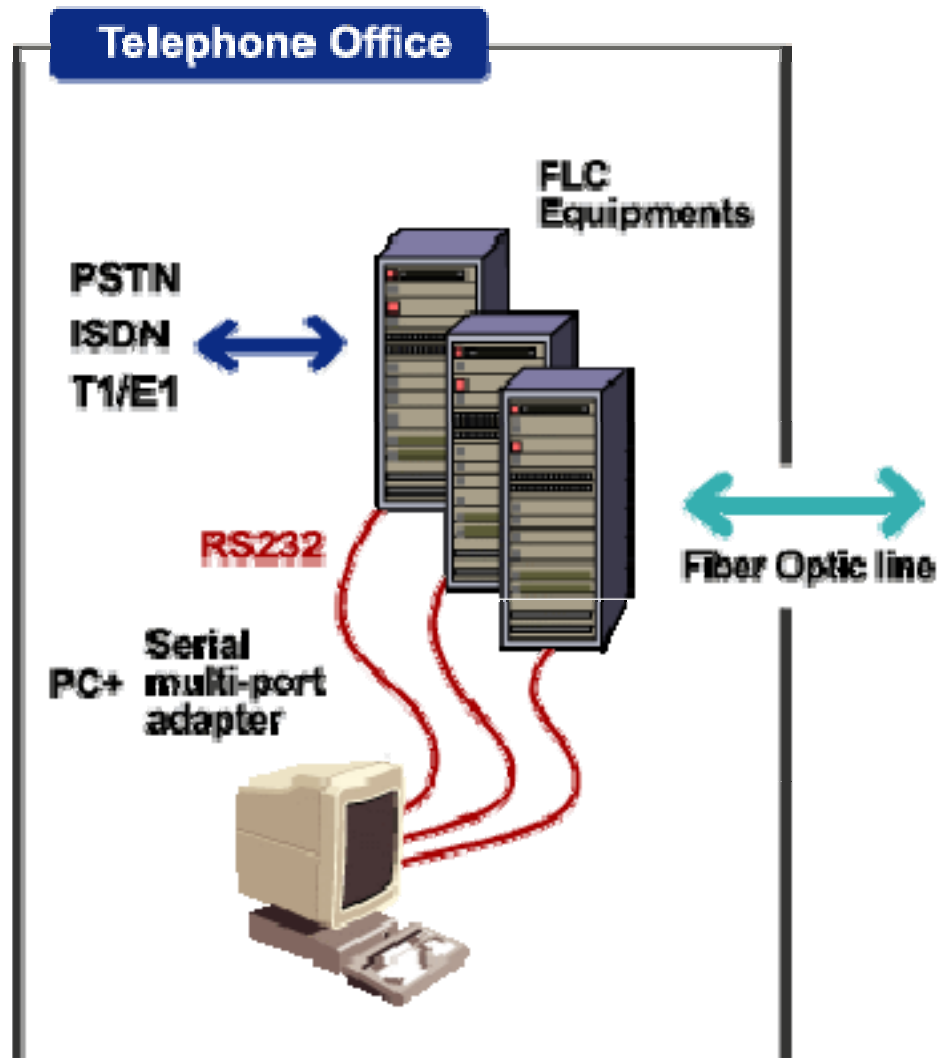


Door Access Application

- Customer: Honeywell Korea
- Target Device: Door Access Controller
- Application Detail:
 - Previous systems used RS485 for communication between door access controller and server
 - To remove distance and networking limitation of the RS485 network, the PS100/400 are used for Ethernet conversion
 - Why PS instead of the LS?
 - RS485 is required which is not supported by the LS

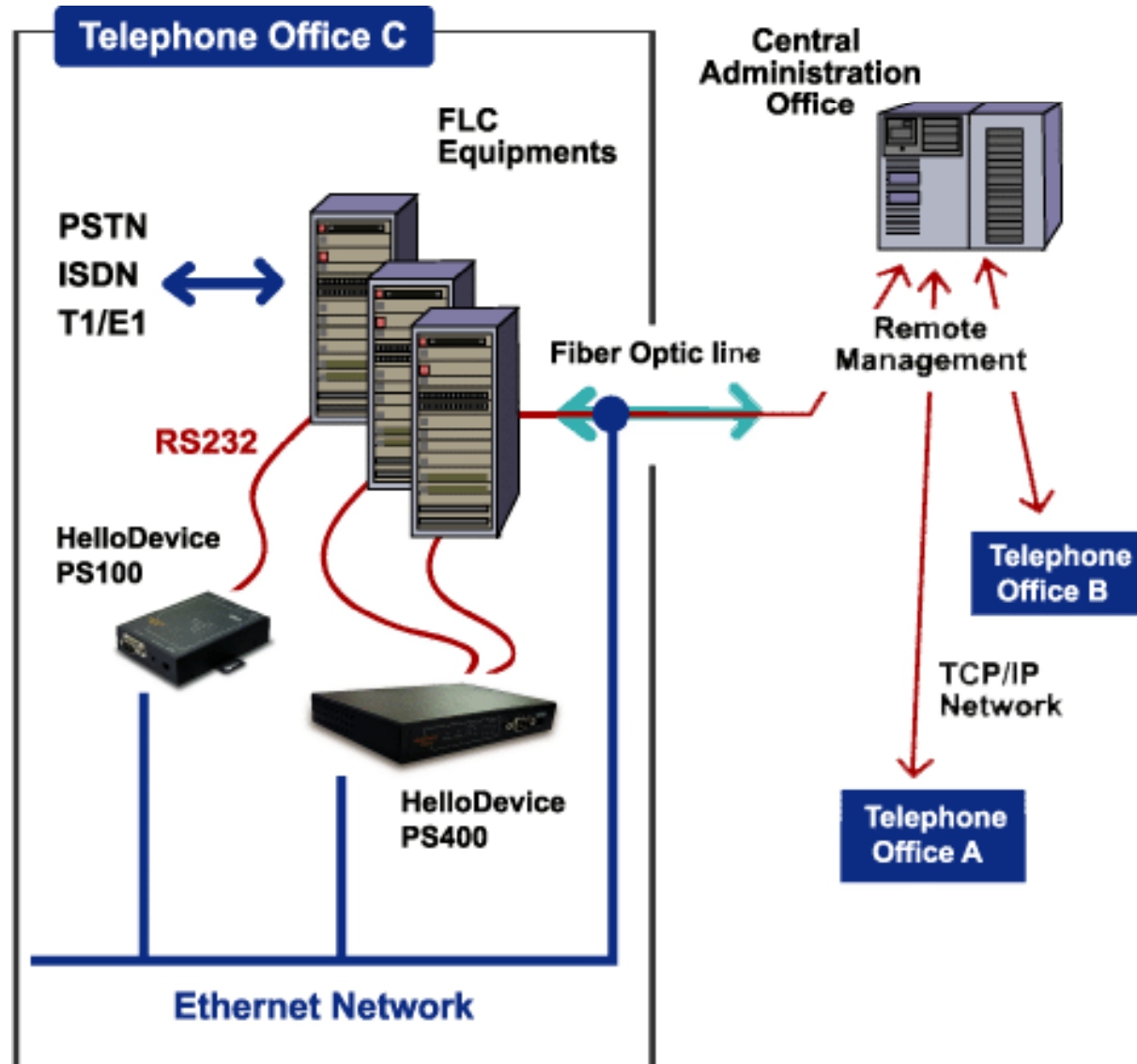
Telco Application

Previous System



Telco Application

Modified System



Telco Application

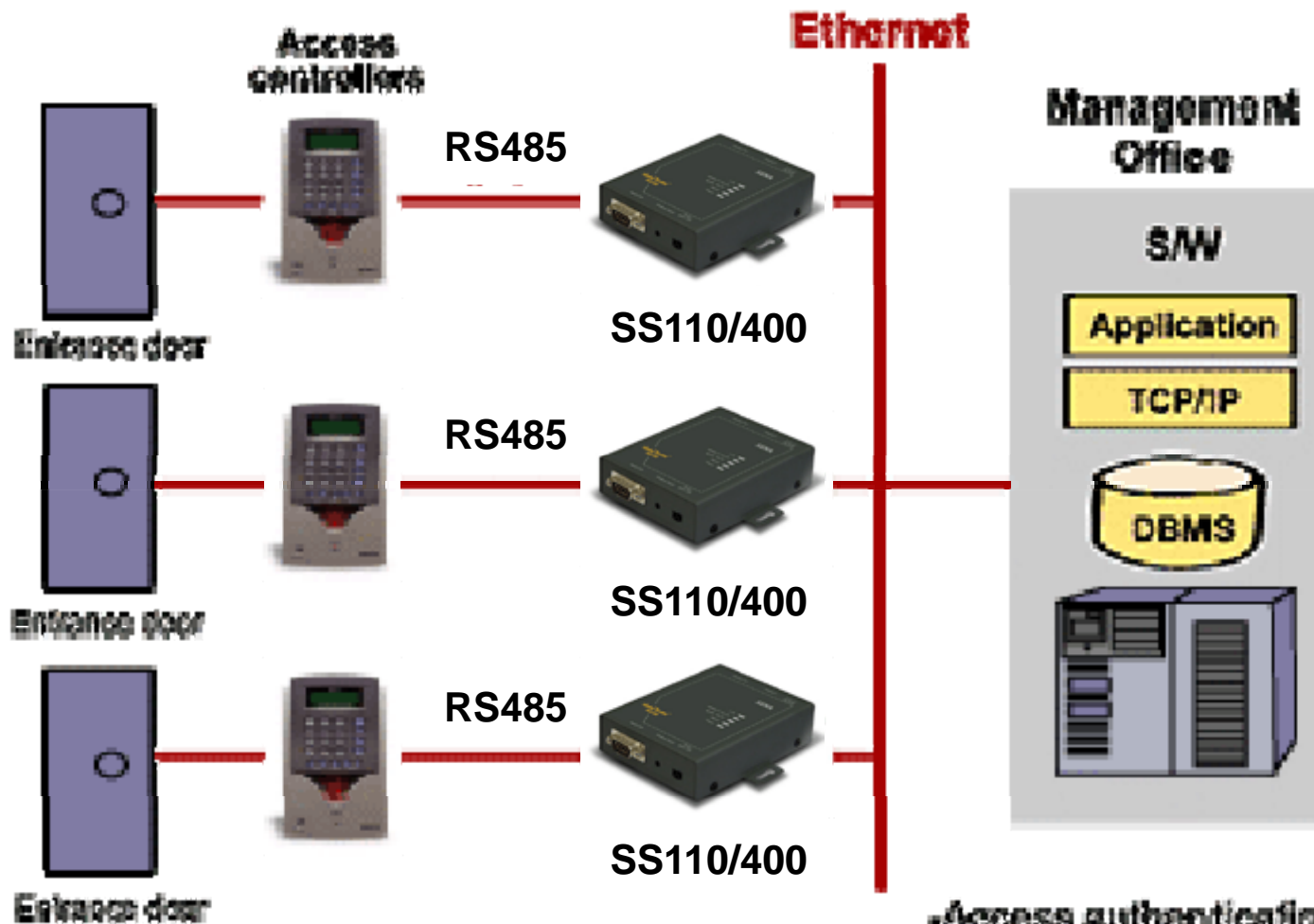
- Customer: KT
- Target Device: FLC, DSLAM
- Application Detail:
 - The PS replaces standalone PC for monitoring
 - The PS is connected to remote centralized monitoring server
 - Why PS instead of the LS?
 - Multi-ports feature (PS400)
 - RS422/485 requirement

Case Studies: HelloDevice Super Series

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Door Access(RFID) Application (Customized)



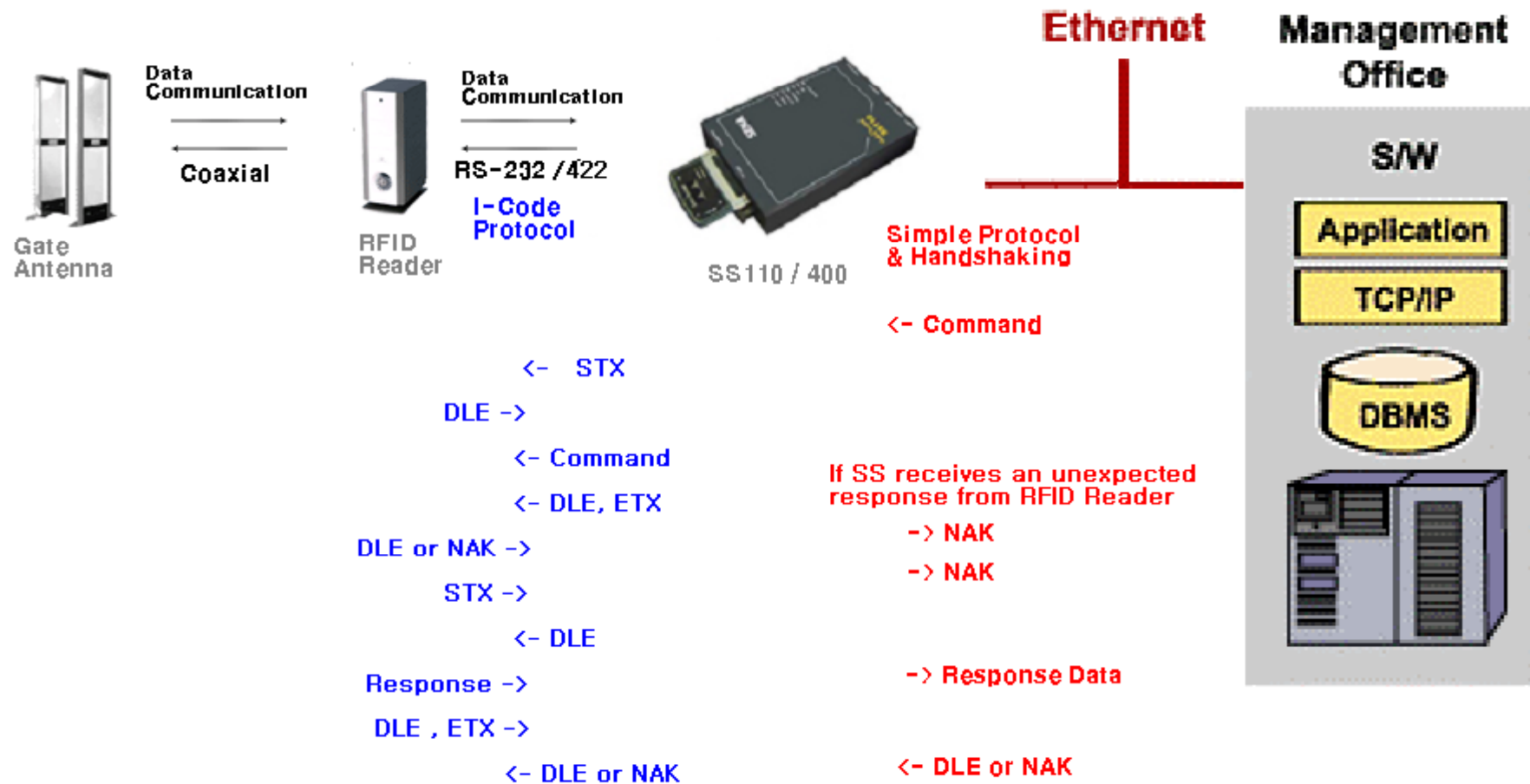
**Customized to parse protocol locally
to reduce network traffic**

- Access authentication
- History management
- Attendance record logging

Door Access Application (Customized)

- Customer: Samsung R&D Park
- Target Device: Door Access Control
- Application Detail:
 - Replace RS485 network with Ethernet using SS110/400
 - User customized serial server application downloaded to reduce network traffic
 - Why SS instead of the PS?
 - Fast response required → Local protocol parser application is required on the SS to reduce the network traffic

Door Access(RFID) Application (Customized)



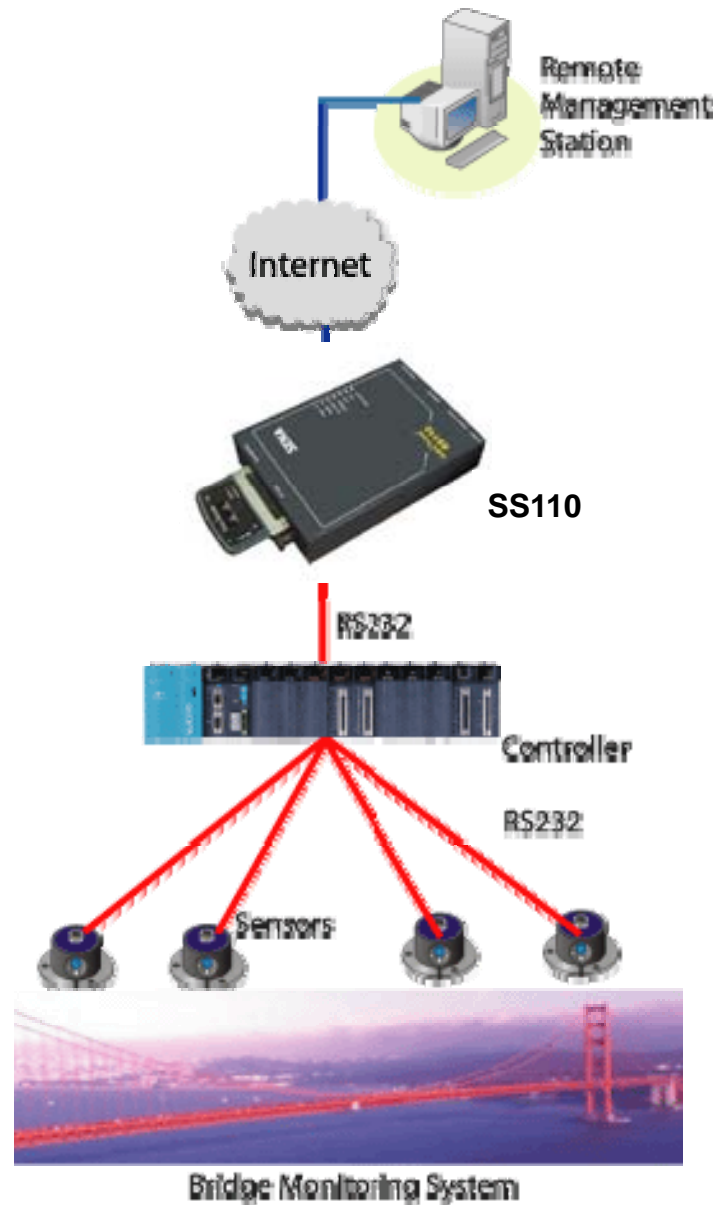
**Customized to parse protocol locally
to reduce network traffic**

Door Access(RFID) Application (Customized)

- Customer: S1-Samsung LCD factory
- Target Device: RFID Reader
- Application Detail:
 - Replace RS232/422 network with Ethernet using SS110/400
 - User customized serial server application downloaded to reduce network traffic
 - Why SS instead of the PS?
 - Fast response required → Local protocol parser application is required on the SS to reduce the network traffic

Bridge Monitoring System

System Architecture



Bridge Monitoring System

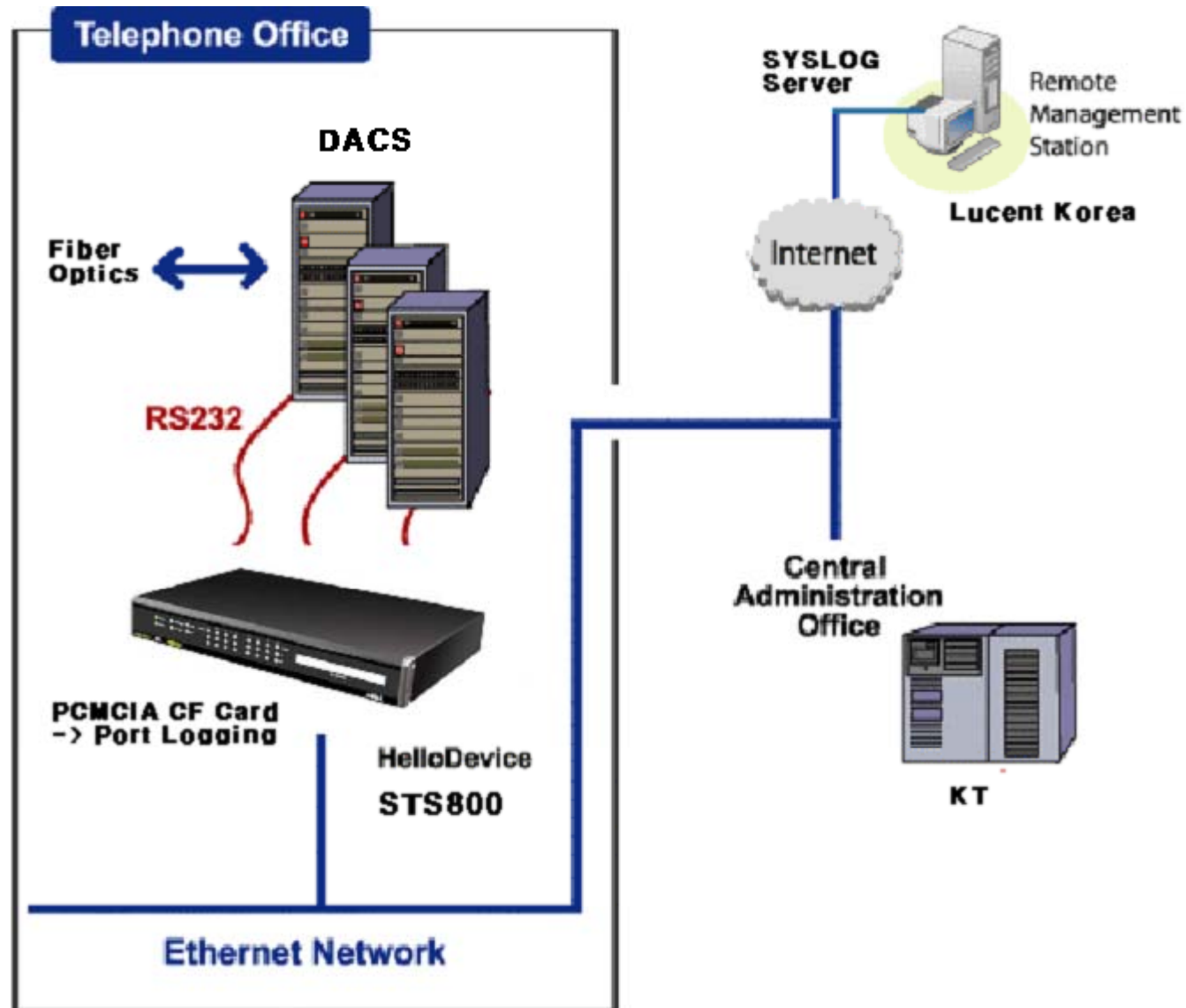
- Target Device: Gage length deformation sensors on a Railway Bridge
- Application Detail:
 - Long gage length deformation sensors (GPS) that are installed throughout a railway bridge to gain actionable information from the bridge
 - Why SS110?
 - Powerful logging capability (Syslog server)
 - Wireless LAN thru PCMCIA slot

Medical Application

- Customer: GE Medical (US)
- Target Device: Medical Monitoring Device
- Application Detail:
 - Serial based medical devices are connected to Ethernet using the SS400/800
 - Medical devices are reset remotely by sending “serial-break” signal thru the SS
 - “Serial-break” feature is implemented using the SS customization feature

Case Studies: STS Terminal Server

Telco Application (DACs)



Telco Application (DACS)

- Customer: Lucent Korea
- Target Device: DACS (Telco Equipment)
- Application Detail:
 - Serial interface of the DACS is connected to the STS for monitoring and remote access
 - Monitoring data from the DACS serial interface are logged using the STS logging feature to
 - Remote syslog server, and
 - Local Compact Flash card at the PCMCIA slot
- Why STS?
 - High port density
 - No customization needed (SS is expensive than the STS)
 - Powerful logging feature needed