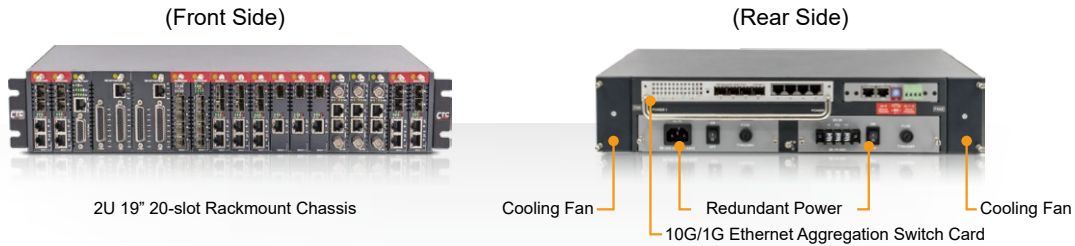


The FRM220A series is an Ethernet based aggregation platform, which incorporates a 24+4 port L2 Gigabit Ethernet switch (FRM220AGSW/SNMP-(n) or a new 20+4 port L2 Gigabit Ethernet switch with 4x10Gigabit uplink (FRM220A-GSW/SNMP-10G). The FRM220A has a built-in Gigabit Ethernet backplane to interconnect the Ethernet access with the FRM220-GSW/SNMP card. The L2 switch card supports many advanced Layer 2 switch technologies including port and tag based VLAN, QoS, LACP, RSTP to name just a few. The FRM220A chassis solution significantly lowers the OPEX for operator and service provider when deploying fiber access networks.

## ► Ethernet Aggregation Platform



## ► Uplink Ethernet Aggregation Switch Cards

The FRM220A chassis incorporate an Ethernet trunk card (FRM220A-GSW/SNMP-10G), for grooming traffic from all twenty (20) card slots and for Device Management. This card has four (4) uplink ports of either **1G/10G** SFP+, depending on model, and is built with GbE interfaces to connect the backplane with each slot of FRM220A chassis. The FRM220A-GSW/SNMP-10G Ethernet switch trunk card transmits Ethernet between the subscriber equipment (bridge/modem or network interface card) and provides a user-networking interface with Ethernet packets.

### ■ FRM220A-GSW/SNMP-10G

**4x 10G** uplink Ethernet Aggregation Switch Card with In-Band Management



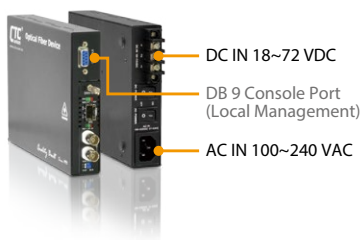
### ■ FRM220A-GSW/SNMP(n)

4x Gigabit uplink Ethernet Aggregation Switch Card with In-Band Management



## ► Standalone Chassis

### ■ CH01M (Power Built-in)



### ■ CH01 (Adapter Type)



### ■ CH02M (Power Built-in)



## ► FRM220A Module Cards

The products listed below are designed for FRM220A-CH20 Ethernet Aggregation Switch Applications

**Ethernet Switch:** FRM220A-2000EAS/4F



- 4-port 100/1000Base-X SFP
- Standalone IP Based, Web GUI, SSH and SNMP v3 management
- Supports dying gasp
- Supports Cisco® like CLI
- Online local / remote F/W upgrade
- Supports local / remote IEEE 802.3ah OAM / IP management

**Ethernet Switch:** FRM220A-2000EAS/1 & FRM220A-2000EAS/2



- 10/100/1000Base-T and 100/1000Base-X SFP (2000EAS/1)
- 2x 10/100/1000Base-T and 2x 100/1000Base-X SFP (2000EAS/2)
- Standalone IP Based, Web GUI, SSH and SNMP v3 management
- Supports dying gasp
- Online local / remote F/W upgrade
- Supports local / remote IEEE 802.3ah OAM / IP management

## ▶ SmartView™ WEB EMS

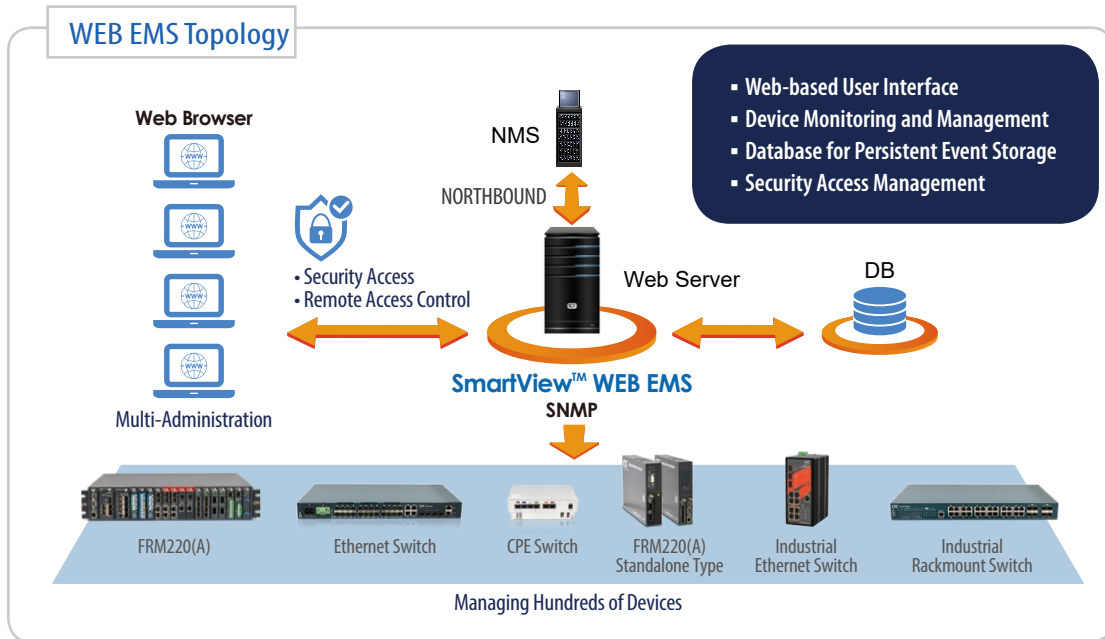
- **Web-based User Interface**
- **Remote Access and Centralized Device Management**
- Real-time visual representations & processing of alarms
- Long term event storage (up to 1 year)

### ▶ Functions

- Main Functions (FCAPS):  
Fault Management,  
Configuration Management,  
Accounting Management,  
Performance Management,  
Security Management



- Remote access control for efficient configuration
- Network element performance monitoring
- Alarm event and notification
- Auto discovery and device viewer
- Allow 20 concurrent operating users

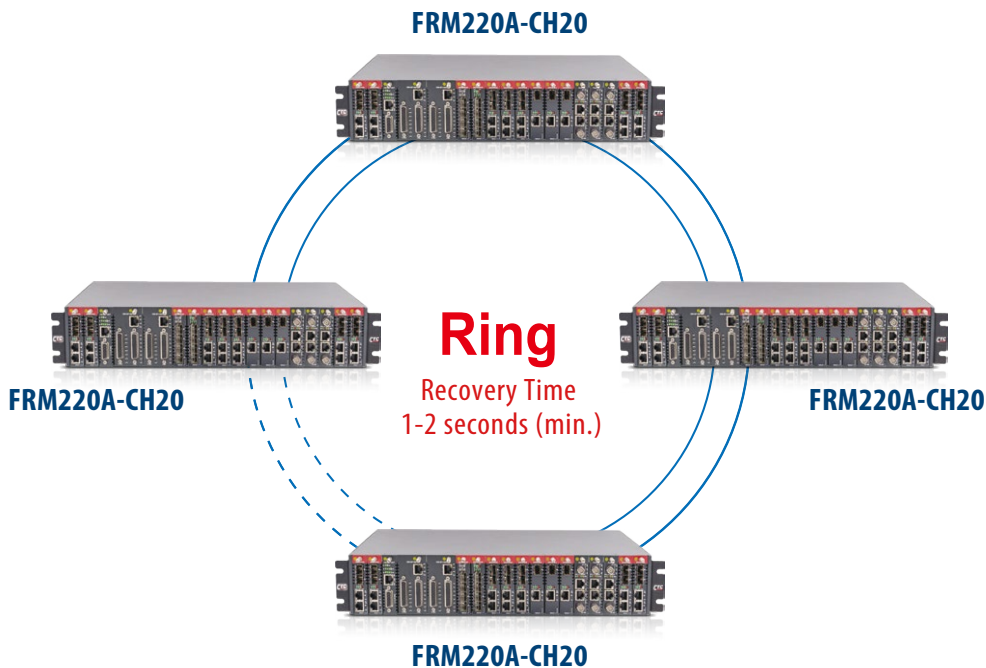


## ▶ Application

### Enabling IP Transportation Protection Mechanism

- STP/RSTP Featured Ring Protection

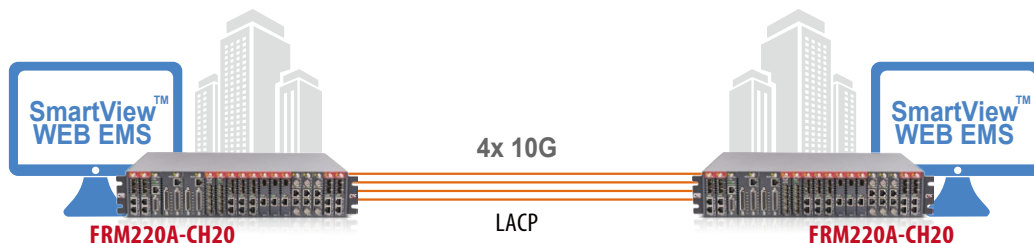
- Standard based but advanced fault protection systems
- Rapidly recovery path from failed connection (1-2 seconds min. recovery time)



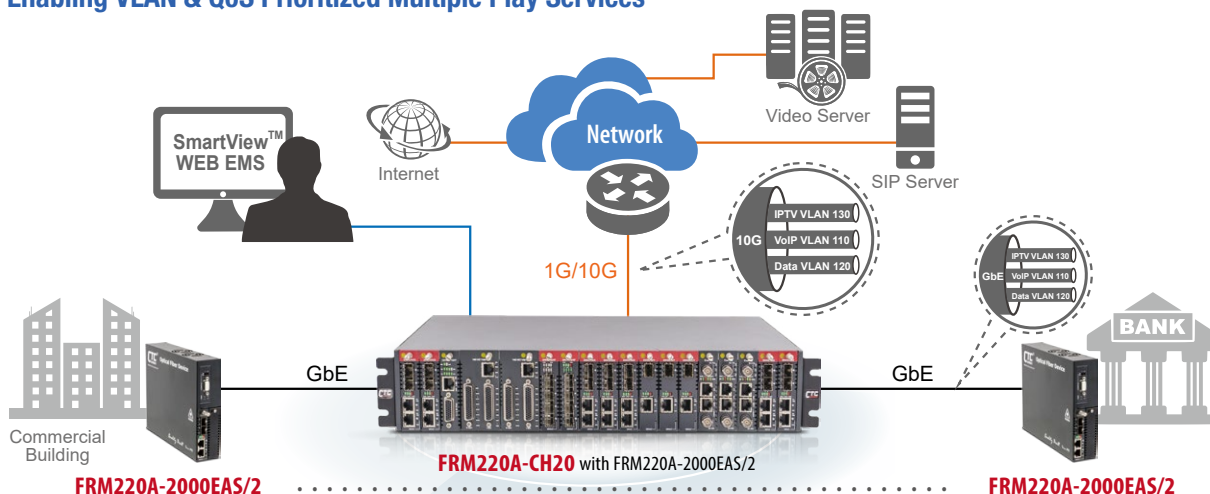
## LACP Enabled Traffic Aggregation

- Fiber Redundant / Trunking Application

- Dynamic port aggregation or trunking to increase bandwidth between LACP peer devices
- Redundant paths to reduce network fault risk



## Enabling VLAN & QoS Prioritized Multiple Play Services



## Secured Access Control Enhancement

- Centralized Management of Accessing the Network for user or device

