



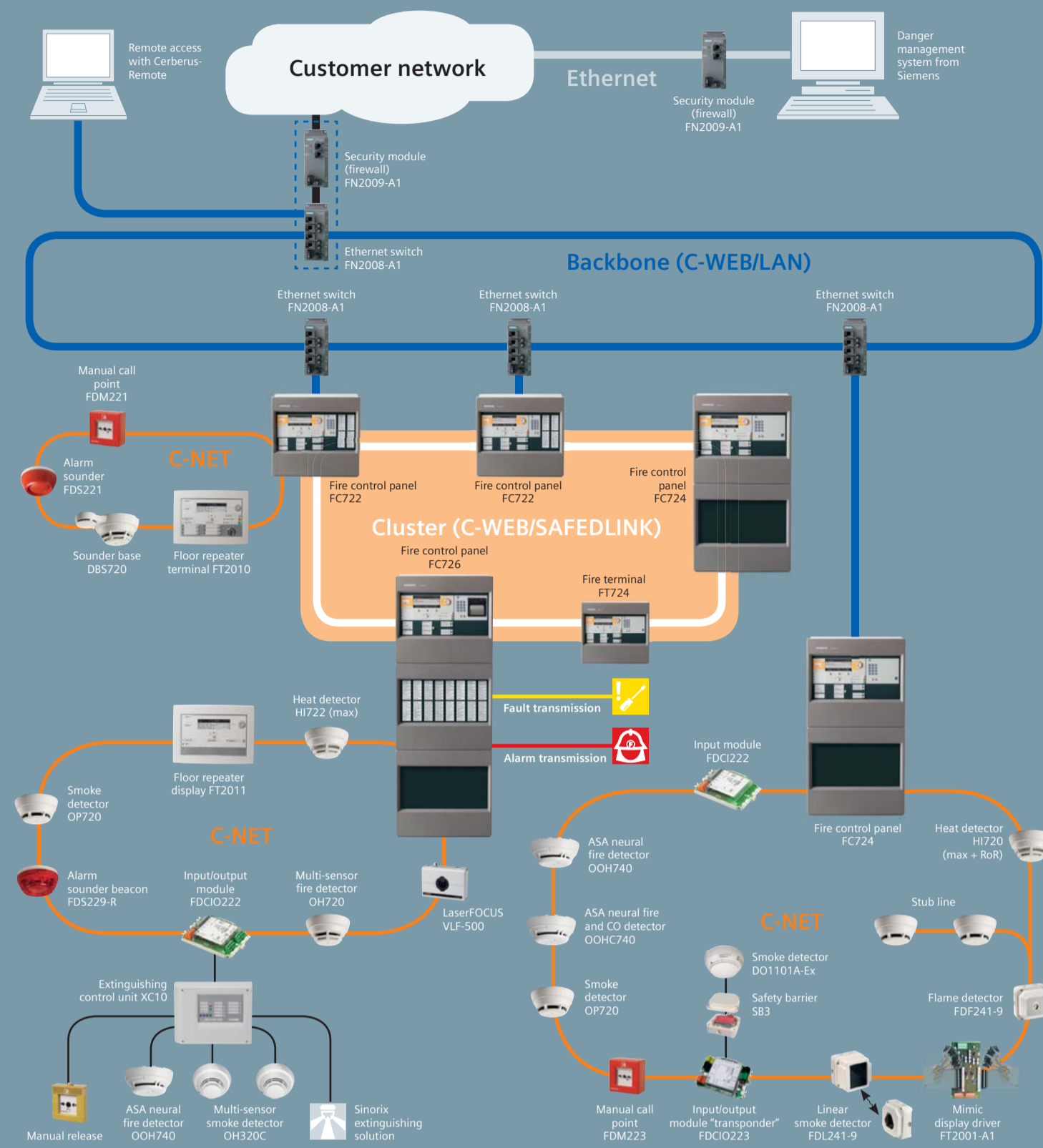
# Cerberus PRO – panels, network, and accessories

Planning Tool

Answers for infrastructure.

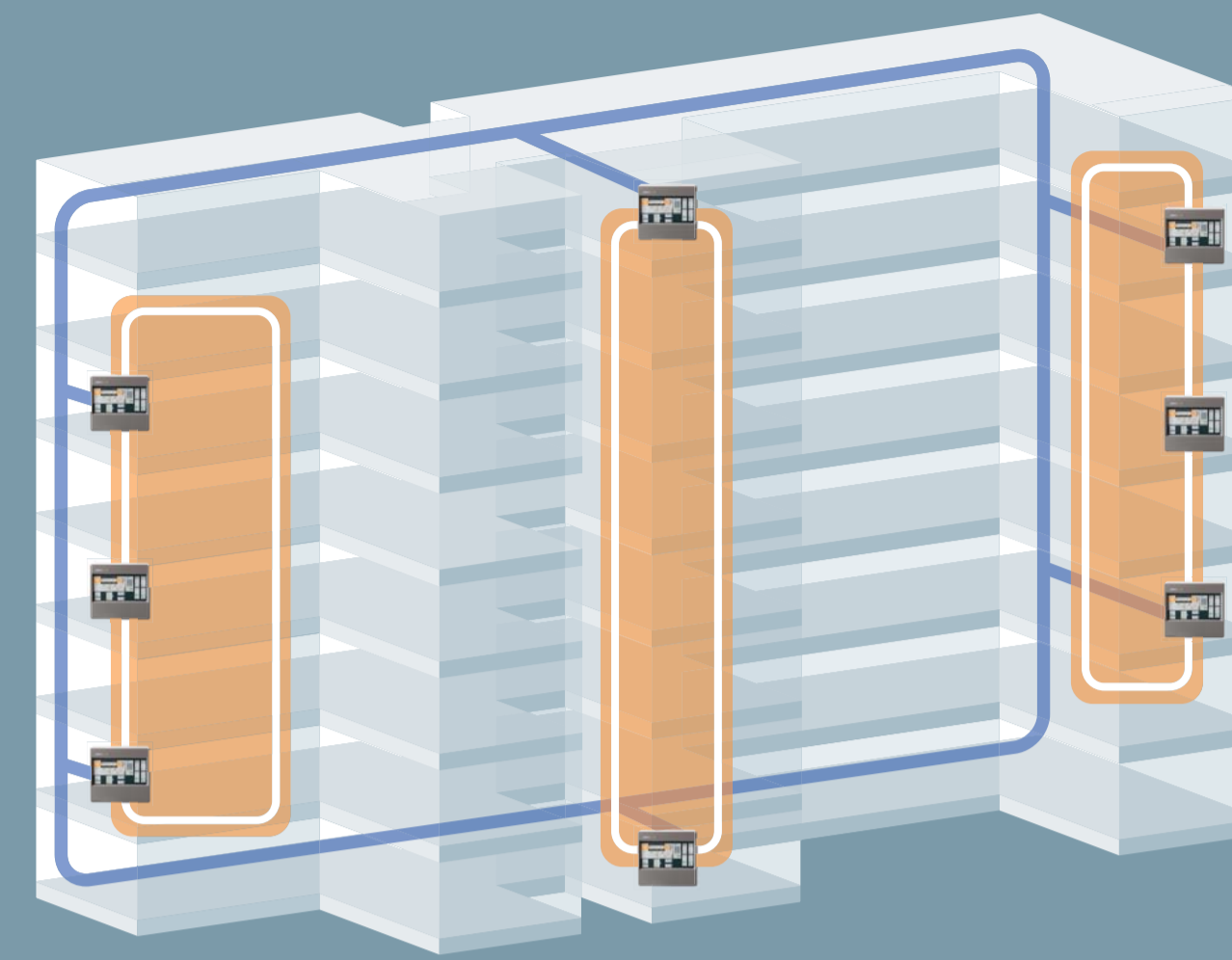
www.siemens.com/cerberus

## Your system for fire detection, alarming, and control: Cerberus PRO



## Application: complex building

Network in a complex building, for example a university.



### Description

In complex buildings, the fire safety system can be adapted to the building structure. The control panels as well as fire terminals are networked via clusters (C-WEB/SAFEDLINK) with each other. These clusters are connected via industrial LAN technology per backbone (C-WEB/LAN) to an EN 54-conform overall system.

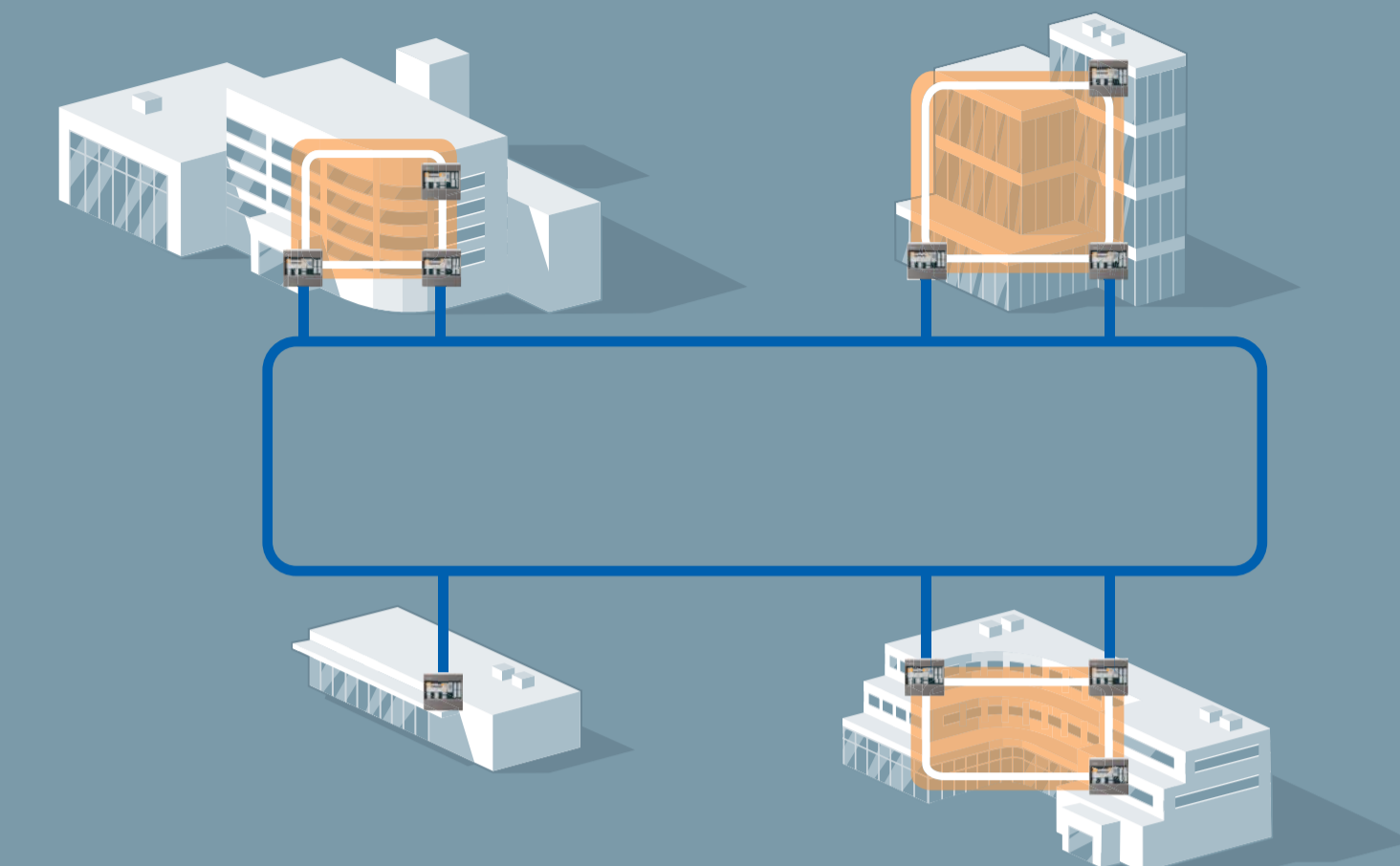
### Benefits

- Only one remote transmission to fire brigade for entire system necessary
- One interface to common pager system
- Visibility of entire system from any, configured terminal
- Fiber-optic backbone with high immunity against electromagnetic disturbances
- System-wide EN 54-conform operation
- Timely hand-over due to parallel commissioning of individual panels or clusters
- Distributed intelligence: A cluster maps entire fire control; this enables ideal adaptation to structural as well as process requirements



## Application: extensive campus

Very large network spanning large distances, for example for a university campus.

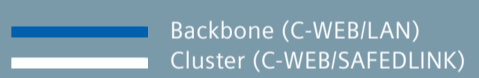


### Description

A campus comprises different, independent buildings. These have their own organization and structure that can be mapped ideally with a cluster of up to 16 panels. The backbone connects these clusters to a common, EN 54-conform network.

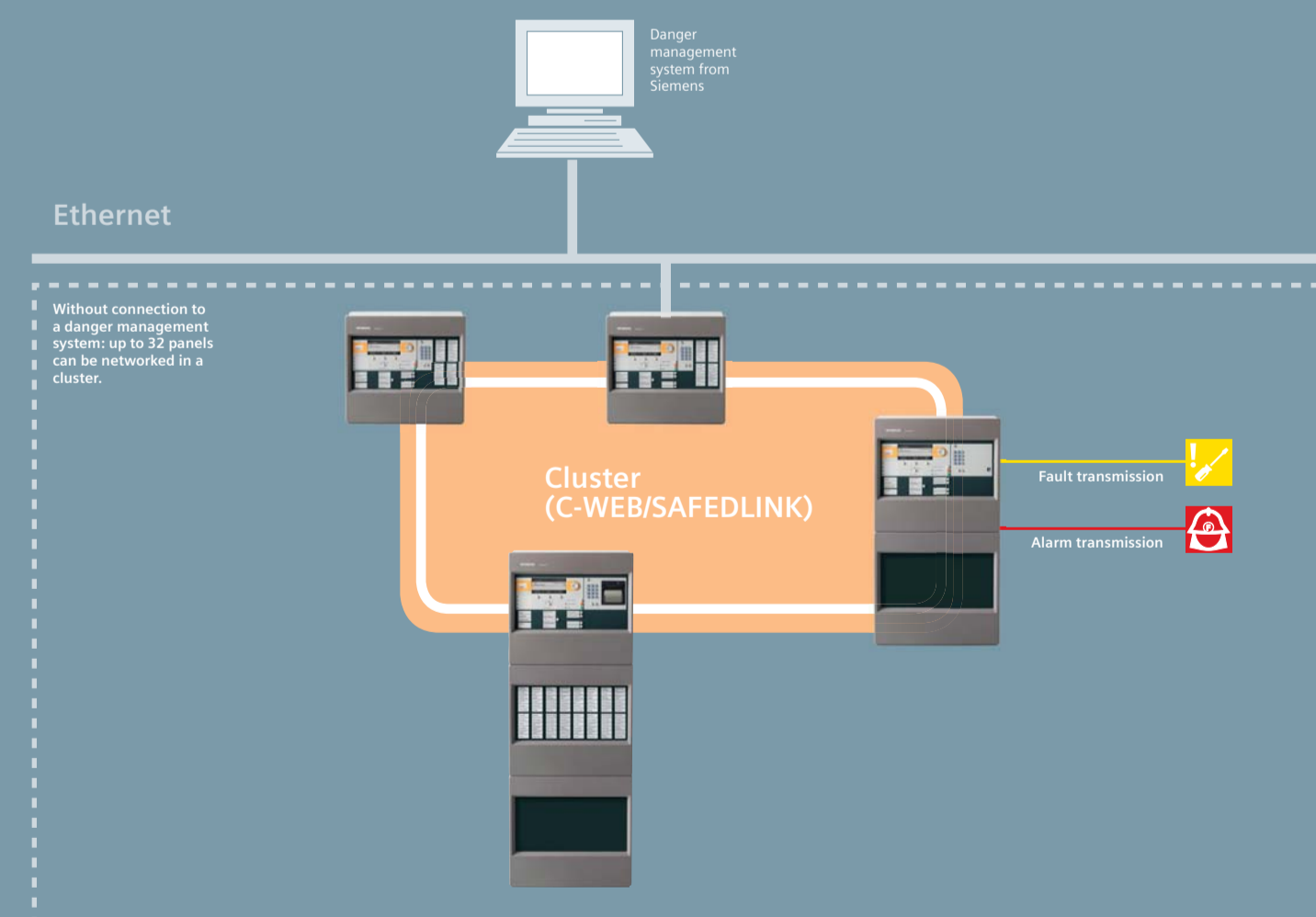
### Benefits

- Smartly arranged network structure with clear clusters
- Only one control panel necessary to access entire system with all subsets
- Backbone is EMC-protected and EN 54 conform
- Commissioning is possible at several places simultaneously (gain in time)
- Only one central connection to pager system for entire system
- Distributed intelligence: A cluster maps entire fire control; this enables ideal adaptation to structural and process conditions
- Security personnel has entire campus in view
- The right information at the right place: Predefined views can be displayed according to customer requirements over the entire system; all controls can be configured to specific requirements



## Topology 1

Up to 16 panels can be networked in a cluster (C-WEB/SAFEDLINK) – if connected to a danger management system. Without a danger management system, even up to 32 panels can be networked.



### Characteristics of topology example

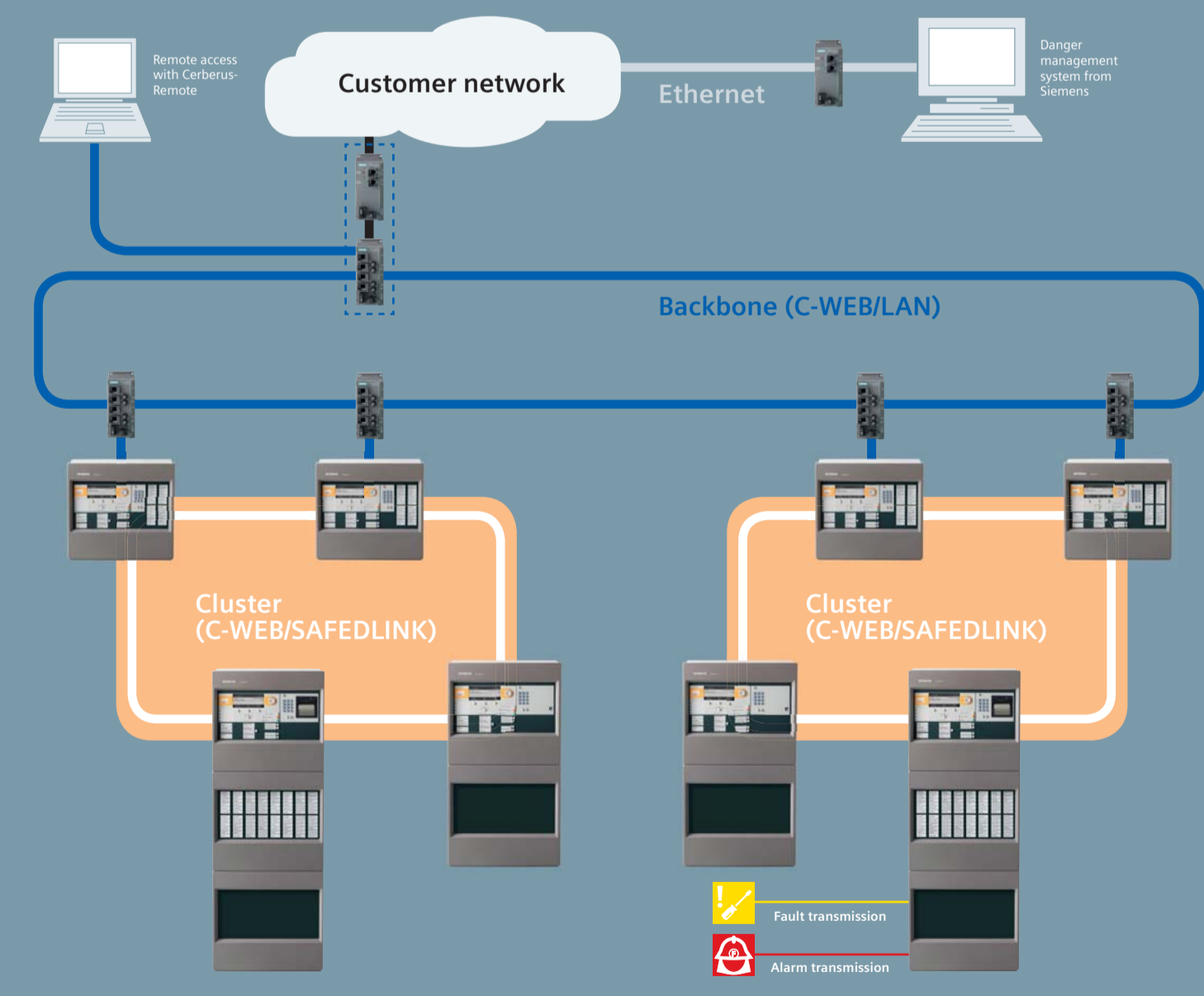
- Easy networking of panels
- Operation of panels as stand-alone solution or networked with a total length of up to 460 km
- Data rate can be adapted to line quality

### Key data

- Max. number of networkable panels:	32
- Max. number of networkable panels if connected to a danger management system:	16
- Max. distance between panels with copper cable:	1,000 m
- without repeater:	2,000 m
- with repeater:	2,500 m
- Max. distance between panels with fiber-optic cable:	15,000 m
- multi mode:	2,500 m
- single mode:	15,000 m
- Max. number of panels with system-wide view:	5

## Topology 2

Up to 64 panels in one EN 54-conform system with different combinations of clusters and backbone – and with connection to a danger management system via a customer network.



### Characteristics of topology example

- EN 54-conform networking of up to 64 panels via backbone
- Very large networks spanning long distances
- Highest system availability thanks to system-wide redundancy
- Panels on different clusters can communicate with each other
- Only one remote transmission to fire brigade over entire system necessary
- Distributed building complexes can be ideally protected
- Backbone is realized with fiber-optic cable

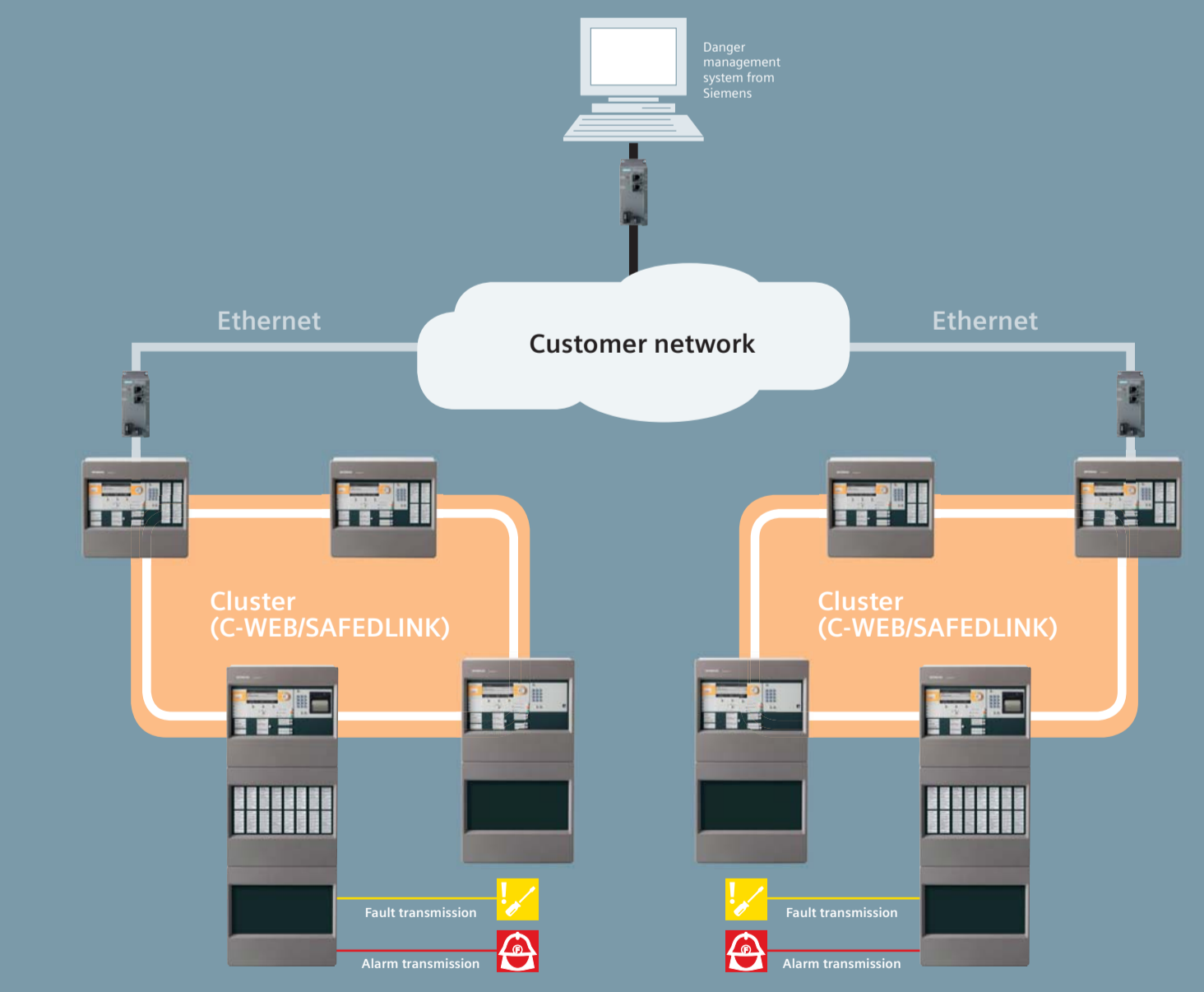
### Key data

- Max. number of networkable panels incl. clusters (EN 54 conform):	64
- Max. number of clusters:	14
- Max. number of networkable panels per cluster:	16
- Number of panels with system-wide view:	5

\* and more with respective system topology

## Topology 3

Using a customer network to transmit relevant information from several localities to one central danger management station.



### Characteristics of topology example

- Connecting independent locations via IT network provided by your customer with a danger management station
- Reduced installation or maintenance costs thanks to usage of customer networks
- Autonomous clusters with their own remote transmission to fire brigade (to fulfill EN 54 regulations)

### Key data

- Max. number of networkable panels per cluster:	16
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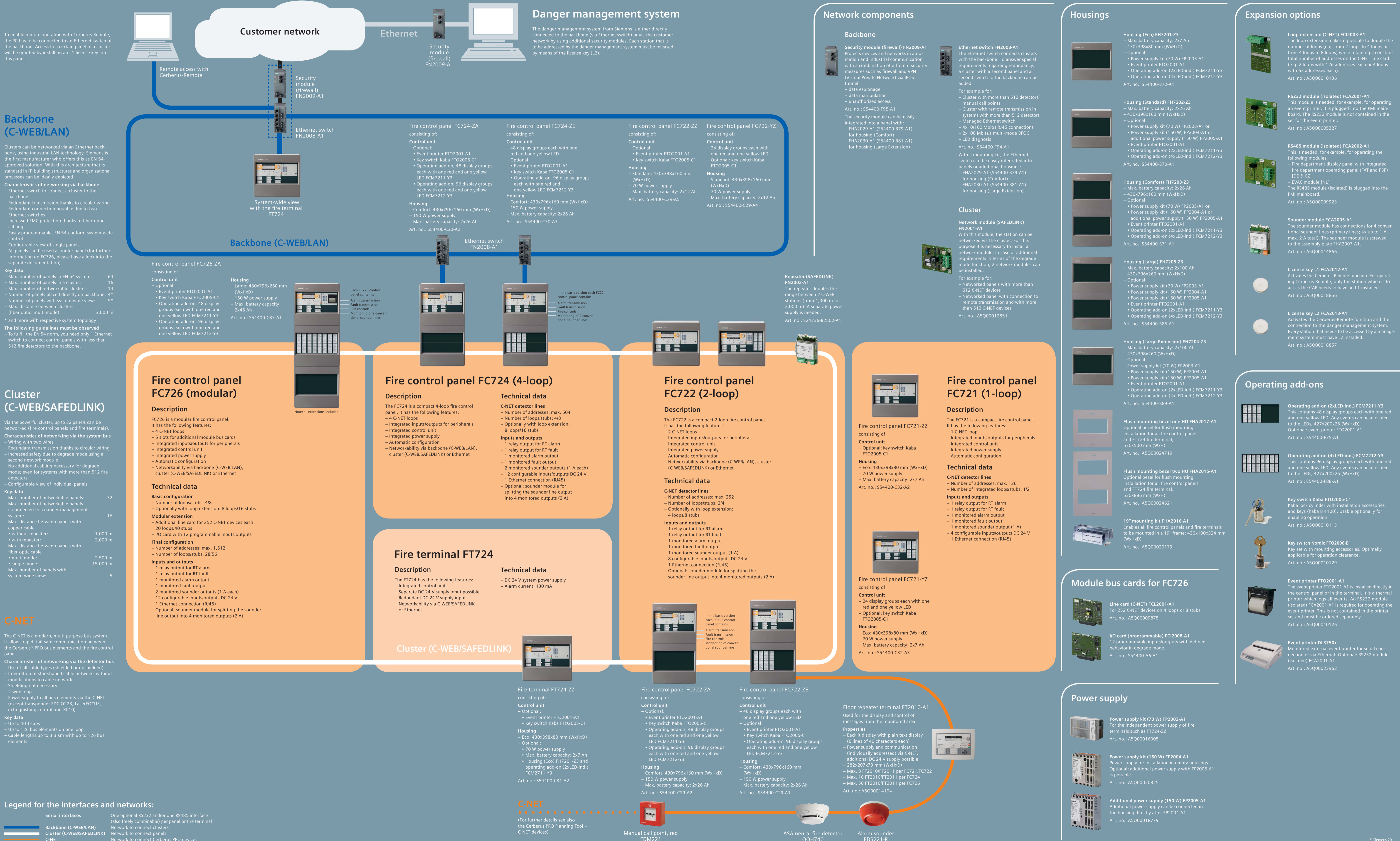
The maximum number of additional clusters, panels or data points depends on the management station.

Our world is undergoing changes that force us to think growing. For our customers, success is defined by how well they manage these challenges. Siemens has the answers. In new ways: demographic change, urbanization, global warming, and resource shortages. Maximum efficiency, has top priority – and not only where energy is concerned. In addition, we need to increase control for the well-being of users. Also, our need for safety and security is constantly increasing. We are the preferred partner for energy-efficient, safe, and secure buildings and infrastructure.”

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 The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.  
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# Cerberus PRO Planning Tool – panels, network, and accessories

Answers for infrastructure.



To enable remote operation with Cerberus-Remote, the PC has to be connected to an Ethernet switch of the backbone. Access to a certain panel in a cluster will be granted by installing an L1 license key into this panel.

### Backbone (C-WEB/LAN)

Clusters can be networked via an Ethernet backbone, using industrial LAN technology. Siemens is the first manufacturer who offers this as EN 54-approved solution. With this architecture that is standard in IT, building structures and organizational processes can be ideally depicted.

**Characteristics of networking via backbone**

- Ethernet switch to connect a cluster to the backbone
- Redundant transmission thanks to circular wiring
- Redundant connection possible due to two Ethernet switches
- Increased EMC protection thanks to fiber-optic cabling
- Easily programmable, EN 54-conform system-wide control
- Configurable view of single panels
- All panels can be used as router panel (for further information on FC726, please have a look into the separate documentation).

**Key data**

- Max. number of panels in EN 54 system: 64
- Max. number of panels in a cluster: 16
- Max. number of networkable clusters: 14
- Number of panels placed directly on backbone: 4\*
- Number of panels with system-wide view: 5\*
- Max. distance between clusters (fiber optic; multi mode): 3,000 m

\* and more with respective system topology

The following guidelines must be observed

- To fulfill the EN 54 norms, you need only 1 Ethernet switch to connect control panels with less than 512 fire detectors to the backbone.

**Fire control panel FC726-ZA** consisting of:  
Control unit  
Optional:  
• Event printer FTO2001-A1  
• Key switch Kaba FTO2005-C1  
• Operating add-on, 48 display groups each with one red and one yellow LED FCM7211-Y3  
• Operating add-on, 96 display groups each with one red and one yellow LED FCM7212-Y3

**Housing**  
- Large: 430x796x260 mm (WxHxD)  
- 150 W power supply  
- Max. battery capacity: 2x26 Ah  
Art. no.: S54400-C87-A1

### Cluster (C-WEB/SAFEDLINK)

Via the powerful cluster, up to 32 panels can be networked (fire control panels and fire terminals).

**Characteristics of networking via the system bus**

- Wiring with two wires
- Redundant transmission thanks to circular wiring
- Increased safety due to degrade mode using a second network module
- No additional cabling necessary for degrade mode; even for systems with more than 512 fire detectors
- Configurable view of individual panels

**Key data**

- Max. number of networkable panels: 32
- Max. number of networkable panels if connected to a danger management system: 16
- Max. distance between panels with copper cable  
• without repeater: 1,000 m  
• with repeater: 2,000 m
- Max. distance between panels with fiber-optic cable  
• multi mode: 2,500 m  
• single mode: 15,000 m
- Max. number of panels with system-wide view: 5

### C-NET

The C-NET is a modern, multi-purpose bus system. It allows rapid, fail-safe communication between the Cerberus PRO bus elements and the fire control panel.

**Characteristics of networking via the detector bus**

- Use of all cable types (shielded or unshielded)
- Integration of star-shaped cable networks without modifications to cable network
- Shielding not necessary
- 2-wire loop
- Power supply to all bus elements via the C-NET (except transponder FDCI0223, LaserFOCUS, extinguishing control unit XC10)

**Key data**

- Up to 40 T-taps
- Up to 126 bus elements on one loop
- Cable lengths up to 3.3 km with up to 126 bus elements

**Legend for the interfaces and networks:**

- Serial interfaces
- One optional RS232 and/or one RS485 interface (also freely combinable) per panel or fire terminal
- Backbone (C-WEB/LAN) Network to connect clusters
- Cluster (C-WEB/SAFEDLINK) Network to connect panels
- C-NET Network to connect Cerberus PRO devices

### Danger management system

The danger management system from Siemens is either directly connected to the backbone (via Ethernet switch) or via the customer network by using additional security modules. Each station that is to be addressed by the danger management system must be released by means of the license key (L2).

### Network components

#### Backbone

**Security module (firewall) FN2009-A1**  
Protects devices and networks in automation and industrial communication with a combination of different security measures such as firewall and VPN (Virtual Private Network) via IPsec tunnel:  
- data espionage  
- data manipulation  
- unauthorized access  
Art. no.: S54400-F95-A1

The security module can be easily integrated into a panel with:  
- FHA2029-A1 (S54400-879-A1) for housing (Comfort)  
- FHA2030-A1 (S54400-881-A1) for housing (Large Extension)

**Ethernet switch FN2008-A1**  
The Ethernet switch connects clusters with the backbone. To answer special requirements regarding redundancy, a cluster with a second panel and a second switch to the backbone can be added.

For example for:  
- Cluster with more than 512 detectors/manual call points  
- Cluster with remote transmission in systems with more than 512 detectors  
- Managed Ethernet switch  
- 4x10/100 Mbit/s RJ45 connections  
- 2x100 Mbit/s multi-mode BFOC  
- LED diagnosis  
Art. no.: S54400-F94-A1

With a mounting kit, the Ethernet switch can be easily integrated into panels or additional housings:  
- FHA2029-A1 (S54400-879-A1) for housing (Comfort)  
- FHA2030-A1 (S54400-881-A1) for housing (Large Extension)

#### Cluster

**Network module (SAFEDLINK) FN2001-A1**  
With this module, the station can be networked via the cluster. For this purpose it is necessary to install a network module. In case of additional requirements in terms of the degrade mode function, 2 network modules can be installed.

For example for:  
- Networked panels with more than 512 C-NET devices  
- Networked panel with connection to remote transmission and with more than 512 C-NET devices  
Art. no.: ASQ00012851

**Repeater (SAFEDLINK) FN2002-A1**  
The repeater doubles the range between 2 C-NET stations (from 1,000 m to 2,000 m). A separate power supply is needed.  
Art. no.: S24236-B2502-A1

### Fire control panel FC726 (modular)

**Description**  
FC726 is a modular fire control panel. It has the following features:  
- 4 C-NET loops  
- 5 slots for additional module bus cards  
- Integrated inputs/outputs for peripherals  
- Integrated control unit  
- Integrated power supply  
- Automatic configuration  
- Networkability via backbone (C-WEB/LAN), cluster (C-WEB/SAFEDLINK) or Ethernet

**Technical data**

**Basic configuration**  
- Number of loop/stubs: 4/8  
- Optionally with loop extension: 8 loops/16 stubs

**Modular extension**  
- Additional line card for 252 C-NET devices each: 20 loops/40 stubs  
- IO card with 12 programmable inputs/outputs

**Final configuration**  
- Number of addresses: max. 1,512  
- Number of loop/stubs: 28/56

**Inputs and outputs**  
- 1 relay output for RT alarm  
- 1 relay output for RT fault  
- 1 monitored alarm output  
- 1 monitored fault output  
- 2 monitored sounder outputs (1 A each)  
- 12 configurable inputs/outputs DC 24 V  
- 1 Ethernet connection (RJ45)  
- Optional: sounder module for splitting the sounder line output into 4 monitored outputs (2 A)

### Fire control panel FC724 (4-loop)

**Description**  
The FC724 is a compact 4-loop fire control panel. It has the following features:  
- 4 C-NET loops  
- Integrated inputs/outputs for peripherals  
- Integrated control unit  
- Integrated power supply  
- Automatic configuration  
- Networkability via backbone (C-WEB/LAN), cluster (C-WEB/SAFEDLINK) or Ethernet

**Technical data**

**C-NET detector lines**  
- Number of addresses: max. 504  
- Number of loop/stubs: 4/8  
- Optionally with loop extension: 8 loops/16 stubs

**Inputs and outputs**  
- 1 relay output for RT alarm  
- 1 relay output for RT fault  
- 1 monitored alarm output  
- 1 monitored fault output  
- 2 monitored sounder outputs (1 A each)  
- 12 configurable inputs/outputs DC 24 V  
- 1 Ethernet connection (RJ45)  
- Optional: sounder module for splitting the sounder line output into 4 monitored outputs (2 A)

### Fire control panel FC722 (2-loop)

**Description**  
The FC722 is a compact 2-loop fire control panel. It has the following features:  
- 2 C-NET loops  
- Integrated inputs/outputs for peripherals  
- Integrated control unit  
- Integrated power supply  
- Automatic configuration  
- Networkability via backbone (C-WEB/LAN), cluster (C-WEB/SAFEDLINK) or Ethernet

**Technical data**

**C-NET detector lines**  
- Number of addresses: max. 252  
- Number of loop/stubs: 2/4  
- Optionally with loop extension: 4 loops/8 stubs

**Inputs and outputs**  
- 1 relay output for RT alarm  
- 1 relay output for RT fault  
- 1 monitored alarm output  
- 1 monitored fault output  
- 1 monitored sounder output (1 A)  
- 8 configurable inputs/outputs DC 24 V  
- 1 Ethernet connection (RJ45)  
- Optional: sounder module for splitting the sounder line output into 4 monitored outputs (2 A)

### Fire control panel FC721 (1-loop)

**Description**  
The FC721 is a compact fire control panel. It has the following features:  
- 1 C-NET loop  
- Integrated inputs/outputs for peripherals  
- Integrated control unit  
- Integrated power supply  
- Automatic configuration

**Technical data**

**C-NET detector lines**  
- Number of addresses: max. 126  
- Number of integrated loop/stubs: 1/2

**Inputs and outputs**  
- 1 relay output for RT alarm  
- 1 relay output for RT fault  
- 1 monitored alarm output  
- 1 monitored fault output  
- 1 monitored sounder output (1 A)  
- 4 configurable inputs/outputs DC 24 V  
- 1 Ethernet connection (RJ45)

### Fire terminal FT724

**Description**  
The FT724 has the following features:  
- Integrated control unit  
- Separate DC 24 V supply input possible  
- Redundant DC 24 V supply input  
- Networkability via C-WEB/SAFEDLINK or Ethernet

**Technical data**  
- DC 24 V system power supply  
- Alarm current: 130 mA

### Fire control panel FC724-ZA

**Description**  
consisting of:  
Control unit  
Optional:  
• Event printer FTO2001-A1  
• Key switch Kaba FTO2005-C1  
• Operating add-on, 48 display groups each with one red and one yellow LED FCM7211-Y3  
• Operating add-on, 96 display groups each with one red and one yellow LED FCM7212-Y3

**Housing**  
- Eco: 430x398x80 mm (WxHxD)  
- Housing (Eco) FH7201-Z3 and operating add-on (2xLED-ind.) FCM7211-Y3  
Art. no.: S54400-C31-A2

### Fire control panel FC722-ZA

**Description**  
consisting of:  
Control unit  
Optional:  
• Event printer FTO2001-A1  
• Key switch Kaba FTO2005-C1  
• Operating add-on, 48 display groups each with one red and one yellow LED FCM7211-Y3  
• Operating add-on, 96 display groups each with one red and one yellow LED FCM7212-Y3

**Housing**  
- Comfort: 430x796x160 mm (WxHxD)  
- 150 W power supply  
- Max. battery capacity: 2x26 Ah  
Art. no.: S54400-C29-A2

### Fire control panel FC721-YZ

**Description**  
consisting of:  
Control unit  
Optional:  
• Event printer FTO2001-A1  
• Key switch Kaba FTO2005-C1  
• Operating add-on, 96 display groups each with one red and one yellow LED FCM7212-Y3

**Housing**  
- Eco: 430x398x80 mm (WxHxD)  
- 70 W power supply  
- Max. battery capacity: 2x7 Ah  
Art. no.: S54400-C32-A3

### Fire terminal FT724-ZZ

**Description**  
consisting of:  
Control unit  
Optional:  
• Event printer FTO2001-A1  
• Key switch Kaba FTO2005-C1

**Housing**  
- Eco: 430x398x80 mm (WxHxD)  
- 70 W power supply  
• Max. battery capacity: 2x7 Ah  
- Housing (Eco) FH7201-Z3 and operating add-on (2xLED-ind.) FCM7211-Y3  
Art. no.: S54400-C31-A2

### Fire control panel FC722-ZA

**Description**  
consisting of:  
Control unit  
Optional:  
• Event printer FTO2001-A1  
• Key switch Kaba FTO2005-C1  
• Operating add-on, 48 display groups each with one red and one yellow LED FCM7211-Y3  
• Operating add-on, 96 display groups each with one red and one yellow LED FCM7212-Y3

**Housing**  
- Comfort: 430x796x160 mm (WxHxD)  
- 150 W power supply  
- Max. battery capacity: 2x26 Ah  
Art. no.: S54400-C29-A1

### Fire control panel FC722-ZE

**Description**  
consisting of:  
Control unit  
Optional:  
• Event printer FTO2001-A1  
• Key switch Kaba FTO2005-C1  
• Operating add-on, 96 display groups each with one red and one yellow LED FCM7212-Y3

**Housing**  
- Comfort: 430x796x160 mm (WxHxD)  
- 150 W power supply  
- Max. battery capacity: 2x26 Ah  
Art. no.: S54400-C29-A1

### Floor repeater terminal FT2010-A1

Used for the display and control of messages from the monitored area.

**Properties**  
- Backlit display with plain text display (6 lines of 40 characters each)  
- Power supply and communication (individually addressed) via C-NET, additional DC 24 V supply possible - 282x207x79 mm (WxHxD)  
- Max. 8 FT2010/FT2011 per FC724  
- Max. 16 FT2010/FT2011 per FC724  
- Max. 50 FT2010/FT2011 per FC726  
Art. no.: ASQ00014104

### Housings

**Housing (Eco) FH7201-Z3**  
- Max. battery capacity: 2x7 Ah  
- 430x398x80 mm (WxHxD)  
- Optional:  
• Power supply kit (70 W) FP2003-A1  
• Event printer FTO2001-A1  
• Operating add-on (2xLED-ind.) FCM7211-Y3  
• Operating add-on (4xLED-ind.) FCM7212-Y3  
Art. no.: S54400-872-A1

**Housing (Standard) FH7202-Z3**  
- Max. battery capacity: 2x26 Ah  
- 430x398x160 mm (WxHxD)  
- Optional:  
• Power supply kit (70 W) FP2003-A1 or additional power supply (150 W) FP2004-A1 or additional power supply (150 W) FP2005-A1  
• Event printer FTO2001-A1  
• Operating add-on (2xLED-ind.) FCM7211-Y3  
• Operating add-on (4xLED-ind.) FCM7212-Y3  
Art. no.: S54400-870-A1

**Housing (Comfort) FH7203-Z3**  
- Max. battery capacity: 2x26 Ah  
- 430x796x160 mm (WxHxD)  
- Optional:  
• Power supply kit (70 W) FP2003-A1 or additional power supply (150 W) FP2004-A1 or additional power supply (150 W) FP2005-A1  
• Event printer FTO2001-A1  
• Operating add-on (2xLED-ind.) FCM7211-Y3  
• Operating add-on (4xLED-ind.) FCM7212-Y3  
Art. no.: S54400-871-A1

**Housing (Large) FH7205-Z3**  
- Max. battery capacity: 2x100 Ah  
- 430x796x260 mm (WxHxD)  
- Optional:  
• Power supply kit (70 W) FP2003-A1  
• Power supply kit (150 W) FP2004-A1  
• Power supply kit (150 W) FP2005-A1  
• Event printer FTO2001-A1  
• Operating add-on (2xLED-ind.) FCM7211-Y3  
• Operating add-on (4xLED-ind.) FCM7212-Y3  
Art. no.: S54400-886-A1

**Housing (Large Extension) FH7204-Z3**  
- Max. battery capacity: 2x100 Ah  
- 430x398x260 mm (WxHxD)  
- Optional:  
• Power supply kit (70 W) FP2003-A1  
• Power supply kit (150 W) FP2004-A1  
• Power supply kit (150 W) FP2005-A1  
• Event printer FTO2001-A1  
• Operating add-on (2xLED-ind.) FCM7211-Y3  
• Operating add-on (4xLED-ind.) FCM7212-Y3  
Art. no.: S54400-889-A1

**Flush mounting bezel one HU FHA2017-A1**  
Optional bezel for flush mounting installation for all fire control panels and FT24 fire terminal; 530x500 mm (WxH)  
Art. no.: ASQ00024719

**Flush mounting bezel two HU FHA2015-A1**  
Optional bezel for flush mounting installation for all fire control panels and FT24 fire terminal; 530x386 mm (WxH)  
Art. no.: ASQ00024621

**19" mounting kit FHA2016-A1**  
Enables all fire control panels and fire terminals to be mounted in a 19" frame; 430x1100x324 mm (WxHxD)  
Art. no.: ASQ00020179

### Module bus cards for FC726

**Line card (C-NET) FCL2001-A1**  
For 252 C-NET devices on 4 loops or 8 stubs.  
Art. no.: ASQ0009875

**IO card (programmable) FCI2008-A1**  
12 programmable inputs/outputs with defined behavior in degrade mode.  
Art. no.: S54400-A6-A1

### Power supply

**Power supply kit (70 W) FP2003-A1**  
For the independent power supply of fire terminals such as FT24-ZZ.  
Art. no.: ASQ00016005

**Power supply kit (150 W) FP2004-A1**  
Power supply for installation in empty housings. Optional: additional power supply with FP2005-A1 is possible.  
Art. no.: ASQ00020825

**Additional power supply (150 W) FP2005-A1**  
Additional power supply can be connected in the housing directly after FP2004-A1.  
Art. no.: ASQ00018779

### Expansion options

**Loop extension (C-NET) FCI2003-A1**  
The loop extension makes it possible to double the number of loops (e.g. from 2 loops to 4 loops or from 4 loops to 8 loops) while retaining a constant total number of addresses on the C-NET line card (e.g. 2 loops with 126 addresses each or 4 loops with 63 addresses each).  
Art. no.: ASQ00010136

**RS232 module (isolated) FCA2001-A1**  
This module is needed, for example, for operating an event printer. It is plugged into the PMI mainboard. The RS232 module is not contained in the set for the event printer.  
Art. no.: ASQ00005327

**RS485 module (isolated) FCA2002-A1**  
This is needed, for example, for operating the following modules:  
- Fire department display panel with integrated fire department operating panel (FAT) and IFRF [DE & CZ]  
- EVAC module [NL]  
The RS485 module (isolated) is plugged into the PMI mainboard.  
Art. no.: ASQ00009923

**Sounder module FCA2005-A1**  
The sounder module has connections for 4 conventional sounder lines (primary lines; 4x up to 1 A, max. 2 A total). The sounder module is screwed to the assembly plate FHA2007-A1.  
Art. no.: ASQ00014866

**License key L1 FCA2012-A1**  
Activates the Cerberus-Remote function. For operating Cerberus-Remote, only the station which is to act as the CAP needs to have an L1 installed.  
Art. no.: ASQ00018856

**License key L2 FCA2013-A1**  
Activates the Cerberus-Remote function and the connection to the danger management system. Every station that needs to be accessed by a management system must have L2 installed.  
Art. no.: ASQ00018857

### Operating add-ons

**Operating add-on (2xLED-ind.) FCM7211-Y3**  
This contains 48 display groups each with one red and one yellow LED. Any events can be allocated to the LEDs; 427x200x25 (WxHxD)  
Optional: event printer FTO2001-A1  
Art. no.: S54400-F75-A1

**Operating add-on (4xLED-ind.) FCM7212-Y3**  
This contains 96 display groups each with one red and one yellow LED. Any events can be allocated to the LEDs; 427x200x25 (WxHxD)  
Art. no.: S54400-F88-A1

**Key switch Kaba FTO2005-C1**  
Kaba lock cylinder with installation accessories and keys (Kaba 8 #100). Usable optionally for enabling operation.  
Art. no.: ASQ00010113

**Key switch Nordic FTO2006-B1**  
Key set with mounting accessories. Optimally applicable for enabling operation.  
Art. no.: ASQ00010129

**Event printer FTO2001-A1**  
The event printer FTO2001-A1 is installed directly in the control panel or in the terminal. It is a thermal printer which logs all events. An RS232 module (isolated) FCA2001-A1 is required for operating the event printer. This is not contained in the printer set and must be ordered separately.  
Art. no.: ASQ00010126

**Event printer DL3750+**  
Monitored external event printer for serial connection or via Ethernet. Optional: RS232 module (isolated) FCA2001-A1.  
Art. no.: ASQ00023962