Course : IP video surveillance, deploying a network

Practical course - 2d - 14h00 - Ref. VID
Price : 1590 CHF E.T.

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At the end of this course, you will have understood the objectives and characteristics of an IP video project, as well as the main advantages of IP over analog. You will have learned how to size the right equipment, optimize architecture and storage, and anticipate and manage network evolution.

Teaching objectives

At the end of the training, the participant will be able to:

- Understand the legal context of video protection and the possible missions of video cameras
- Know the chronological stages of a video surveillance project
- Understand the main technologies used in IP video cameras: choice of focal lengths, choice of models
- Evaluate throughputs according to context: realistic calculation of power and storage capacities, choice of disks
- Master key equipment selection criteria: cameras, servers, networks, video analysis
- Understand simulation and design work documents in the project phase, and the maintenance monitoring table

Intended audience

Security or video surveillance managers, network managers in charge of IP surveillance. Security-related design and project managers. Installation technicians.

Prerequisites

No special knowledge required.

Course schedule

1 Video surveillance

- Key features of a video surveillance system.
- Comparative analog SD, AHD, CVI/TVI and IP systems.

PARTICIPANTS

Security or video surveillance managers, network managers in charge of IP surveillance. Security-related design and project managers. Installation technicians.

PREREQUISITES

No special knowledge required.

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

2 Designing a video project

- Main stages in system design.
- Information gathering and risk analysis.
- Functional analysis and type of operation.
- Cost concepts (TCO, Capex/Opex).
- Current legislation on private and public sites, expected developments. CNIL and prefecture: what controls?
- Role of FIPD, PSE.

3 Cameras

- Camera layout strategy, camera missions EN 62676, VPI, Lapi.
- Choice of models, focal lengths and pixel density.
- Depth of field, iris, night vision, infrared and thermal sensors.
- Wdr, DNR, Smart IR correction functions, 4/3 or 16/9 format, IP and IK ratings.
- Main parameters for data rates, H264+, H265+ compression codecs.
- CVR, VBR or MBR flow settings strategy.
- Pixel density on figures and targets.

Hands-on work

Use 3D camera simulation software on real plans and participants. Compare H264/H365 bit rates and 4 brands of H264/H265 IP cameras/encoders. Check pixel density.

4 Video server and recorder

- Main criteria for choosing and sizing a video server, NVR or VMS.
- Recommended recording strategy, storage types and disk fault tolerance (RAID).
- Connection, access control and intrusion.
- Possible architectures and redundancies.
- Types of operation, video walls, supervision and Hypervision.

Hands-on work

Connection of a multi-brand NVR recorder and live demonstration of video analysis in a real-time scenario, visualization of mosaic and fast replay streams.

5 Video technologies and architectures

- Main existing IEEE network technologies and other technologies used in video.
- Types of POE, fiber, WiFi radio bridge, mesh, radio, 3G/4G.
- Management of power consumption and protection, choice of network equipment.
- Advanced equipment functions (Vlan, Aggregation, Miroring, Filtering, Radius, POE Stats and Timer flows).
- POE accessories essential for IP camera settings.
- Options for migrating analog cameras to IP, types of urban camera connections.
- IT security recommendations from ANSII.

Hands-on work

Camera connection on ethernet, POE, repeater, longspan, IP over coaxial networks.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

6 Conclusion

- What is effective video protection?
- Glossary of technical terms.

Storyboarding workshops
Review quiz.