IPICS - Cisco IP Interoperability and Collaboration System

Because every second counts

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System Engineer

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Agenda

- Frontal Communication: Who we are
- IPICS – IP Interoperability and Collaboration System
- Case Study
- Q&A
Key Points

- Established in 1994
- Top Romanian SYSTEM INTEGRATOR
- Cisco GOLD Partner
- VMware Partner Premier Solution Provider
- EMC Velocity Partner
- Areas of competency in Infrastructure, Datacenter, Multiservice, Security
- Authorized Cisco and VMware Training Center
- Testing Center PEARSON VUE and PROMETRIC due to strategic partnerships
- VCE partner
- Cisco Global Award Winner
Competencies Areas

**DATA CENTER**
- Storage
- Switching
- Applications
- Security
- Network Management

**SECURITY**
- Firewall
- Attack and Intrusion Prevention
- Spam and Virus Protection
- Virtual Private Networks
- Network Admission Control
- Security Management
- Physical Security
- Web and Email security
- Video Surveillance
- Identity Services Engine

**NETWORK SYSTEMS**
- Routing
- LAN Switching
- Network Management

**MOBILITY SOLUTIONS**
- Wireless LAN
- Remote Access
- Business Class Teleworker Solutions
- Mobile Solutions for
- Unified Communications

**UNIFIED COMMUNICATION**
- IP Telephony
- Applications
- Contact Center
- Voice Management
- Call accounting
Cisco Partnership

Certifications
• Gold Certified Partner

Specialization
• Advanced Collaboration Architecture (1st in Romania and Region)
• Advanced Borderless Architecture
• Advanced Routing & Switching
• Advanced Security
• Advanced Data Center Architecture

Other Authorizations
• Cisco Learning Partner Associate
• Academy Network Partner
• Customer Satisfaction Excellence
• ATP Telepresence Express
• ATP Telepresence Advanced (in progress)
• ATP Identity Services Engine
• ATP IP Interoperability and Collaborative System (the only one in Romania)
Agenda

➤ Frontal Communication: Who we are

➤ IPICS – IP Interoperability and Collaboration System

➤ Case Study

➤ Q&A
IPICS Overview
Every Vertical Faces the Challenge:

“How to Deliver the Right Information in the Right Format to the Right Person at the Right Time”
The IPICS Solution Architecture…

Push to Everything!

Assets Subscriptions

Publish Assets

Subscribe to Assets

Pooled Assets

Fire Dept
Ambulance Dept
Mobile Command
Fusion Center or EOC
Digital Signage

Dispatch Console
Mobile Client
Video Surveillance
Unified Communications

VHF/UHF/Nextel PTT Radios

LMR
Threat Incident work flow

- Camera
- Alarms
- Sensors

- Video Surveillance
- Access Control
- Intrusion Detection, etc

- IP Dispatch Console
- Notification
- Collaboration

Rich Media

P25

Tetra
The Next Generation in Incident Response and Situation Awareness

Detection and Monitoring

Response

Cisco IPICS Dispatch Console
What’s New in IPICS 4.5

- Virtualization – UCS C-Series for IPICS Server, UMS, ISSI-Gateway
- Broadens Radio Interop – IPICS ISSI Gateway for P25
- Secure native (end to end encryption) and proxied P25 talkgroups
- Media Mixing outside of Router via Unified Media Service
- Audio High Availability through UMS HA
- LDAP Authentication – Active Directory Integration
- Local language support for Unicode and Double Byte Characters
- Increase dialer from 2 to 10 lines
- US Government CAC/PIV single sign, STIG security certification
- Bulk download of user parameters, USB recovery, joystick support, enhanced logging support, etc.
IPICS Architecture
IPICS Comprehensive Communications Interoperability
Cisco IPICS Solution Architecture

Cisco IPICS Software

- IP Dispatch Console
- IPICS Server Software
- P25 ISSI Gateway/UMS Software
- Mobile Client App
- IP Phone PTT App

Enhanced

NEW

Secure IP Network

Hardware

- LMR Gateway
- P25/VHF/UHF PTT Radios

NEW

Physical Security Multiservices Platform

- P25 ISSI Gateway
  2RU Server - P25 Encryption/Encoding
- Unified Media Service
  2 RU Server - Audio Mixing Optional HA
- IPICS Server
  1RU, 2RU Server Administration Management/Storage Optional HA

4–24 TB Flexible Storage

NEW
Radio Interoperability
Today’s Current Operating Environment

… Silo’d Systems

Lack of Situational Awareness

- Parallel Networks
- Radio outages
- Restricted Radio coverage
- “Arrive and Report” model
- Serial Operating environment
IPICS 4.5 New standard IP interface

Traditional
RMS/LMRG

IPICS Mobile Client
IP Dispatch Console

IPICS IP Phone
PTT App

LAN/ WAN

Land Mobile
Router Gateway

2W/4W Audio
Serial Control
Donor Radio

Radio System

P25 IP
Radio/UMS

IPICS Mobile Client
IP Dispatch Console

Unified
Media Service
ISSI Gateway

LAN/ WAN

• Direct IP Connection
• End to end encryption
• Dispatch priority

P25 Radio System

Enhanced
NEW
NEW
A Few Radio Vendors

- Here are a few of the more common vendors…
IPICS Platforms
Supported Rack Servers

Scalability / Capacity vs Performance / RAS

- **Entry / Scaleout**: MSP-1, MSP-2
- **Mainstream**: C220
- **High Performance & Mission Critical**: C240, C250, C260

The “Sweet Spot” for Virtualized IPICS
Cisco 3945 + UCS-160-E-Series = “Thin” IPICS

The Cisco ISR G2 paired with the UCS-E Blade server is the perfect IPICS solution for vehicle borne tactical and light-weight fixed installations.
IPICS User Interfaces

IVR
Cisco IPICS Dispatch Console

- **Radio Interoperability**
- **Virtual Talk Groups** - Multiple Channels, Users, Phones
- **Simple Patch**
- **P25 Supplemental Radio Services**
- **Integrated Video, VTG, Policy**
- **Integrated 10 Line Telephony Client**
IDC User Options

• **Multiple user** interfaces for user flexibility
  ‣ Light and dark options
  ‣ Always on top option
  ‣ Multiple configurations from basic to full featured

• **Multiple user** options to customize console operations
  ‣ Per console and per channel volume control
  ‣ Per console and per channel mute
  ‣ Four configurable audio choices
  ‣ Multi-select
  ‣ All talk
<table>
<thead>
<tr>
<th>Feature</th>
<th>IDC Silver</th>
<th>IDC Platinum</th>
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<tbody>
<tr>
<td>Basic Push to Talk</td>
<td>✔</td>
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<tr>
<td>Select / Unselect / Deselect Channel</td>
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<td>✔</td>
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<tr>
<td>DTMF, Confirmation, and Paging Tones</td>
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<td>Channel Patch</td>
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<td>Channel Audio Playback</td>
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<tr>
<td>Serial and Tone Control Radio</td>
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<tr>
<td>Channel and Console Volume Control &amp; Mute</td>
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<tr>
<td>Instant Transmit</td>
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<tr>
<td>Multi-Select and All Talk</td>
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<tr>
<td>Network Status</td>
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<tr>
<td>Emergency Alerts / Acknowledge</td>
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<tr>
<td>Transmission Times</td>
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<td>Policy Activation</td>
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<tr>
<td>Third Party Recorder Support</td>
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<tr>
<td>Incident View</td>
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<tr>
<td>Incident Management</td>
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<tr>
<td>Integrated Telephony Client</td>
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<tr>
<td>Telephone to Channel Patch</td>
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<tr>
<td>Virtual Talkgroup Management</td>
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Cisco IPICS XML IP-Phone Client
Push-to-Talk service for Cisco Unified IP Phones

- Secure access to radio PTT talkgroups and channels from anywhere in the UC network
- Available on a wide range of IP-phones including wireline and WiFi IP-phones
- Intuitive user interface with smooth transition between telephony and radio communications

Phone users can now respond to incidents or emergencies, boosting responsiveness and operational effectiveness
Cisco IPICS Mobile Client

Application for Apple iPhone

View:
- incidents
- status journal
- media (video, pictures, etc.)

Add:
- status updates
- media (video, pictures, etc.)

Integrated PTT with radio interoperability
Secure access to media
3G, 4G/LTE and WiFi support

Puts mobile rich media incident collaboration into the hands of the responder in the field
Cisco IPICS Mobile Client (cont.)

View assigned incidents

View available media choices within an incident
Cisco IPICS Mobile Client (cont.)

View live video within incident

Participate in PTT session with radios

Add media to incident
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