Critical Infrastructure

VoIP
Communications Solutions

Rohde & Schwarz Topex

At a Glance

As constant threats to critical infrastructure assets are day-by-day realities, Incident Response as well as Operational Coordination Centers are required to provide the environment for Critical Infrastructure Protection event cycle.

The Rohde & Schwarz voice communication collaboration framework allows the support of:

· National command centers
· Branch command centers
· Critical Infrastructure Incident Response command centers

Thanks to its high versatility, the VoIP Dispatcher can accommodate different operational scenarios such as fixed, deployable and mobile systems, based on usage of COTS products and also Rohde & Schwarz Topex specific furnished equipment.

Having the advantage of the full IP system and of the open standards-based architectural model it provides:

• Integrated communications: media gateways – telephony and radio, to enable the connectivity to available voice services
• Main/Fall-back command centers support mechanisms: three layers of resilience supported (equipment level, subsystem level and operational level), quad redundancy and virtual center
• Emergency/Operational Management applications integration support: mapping (GIS/AVL) and messaging integration possibilities (optional and customer specific)
• 3rd party applications integration support: recording and playback systems, video feeds, sensors
• Pay-as-you-grow scalability / Reliable, flexible and easy to upgrade solution
• Extensive use of commercial off-the-shelf hardware and software
• Possibility to use same network for Voice and Data
• Emergency cases resource management and contingency planning at the operator GUI

Key Benefits

Full VoIP based Voice Communication System:
• IP Deployment – voice and data
• Powerful routing modules
• Virtual unlimited user capacity
• Supporting advanced cyber-security mechanisms and policies

Vendor independent integration platform
• Radio (HF, VHF, UHF, Satellite, TETRA, Digital Radios)
• Telephony and Intercom (FXO, FXS, MFC-R2, ISDN BRI, ISDN PRI, QSIG, LB, SATCOM)
• Advanced conferencing machine – call taker, advanced dispatching services (complex mixed conferencing support)
• SCADA integration capabilities and with 3rd party sensor acquisition systems and reporting applications

Mission planning benefits
• Centralized mission planning
• Automatic resources setup & assignment
• Advanced GUI customization based on end-user operational experience

Open and distributed system
• The VoIP Dispatcher can work as standalone or part of large system
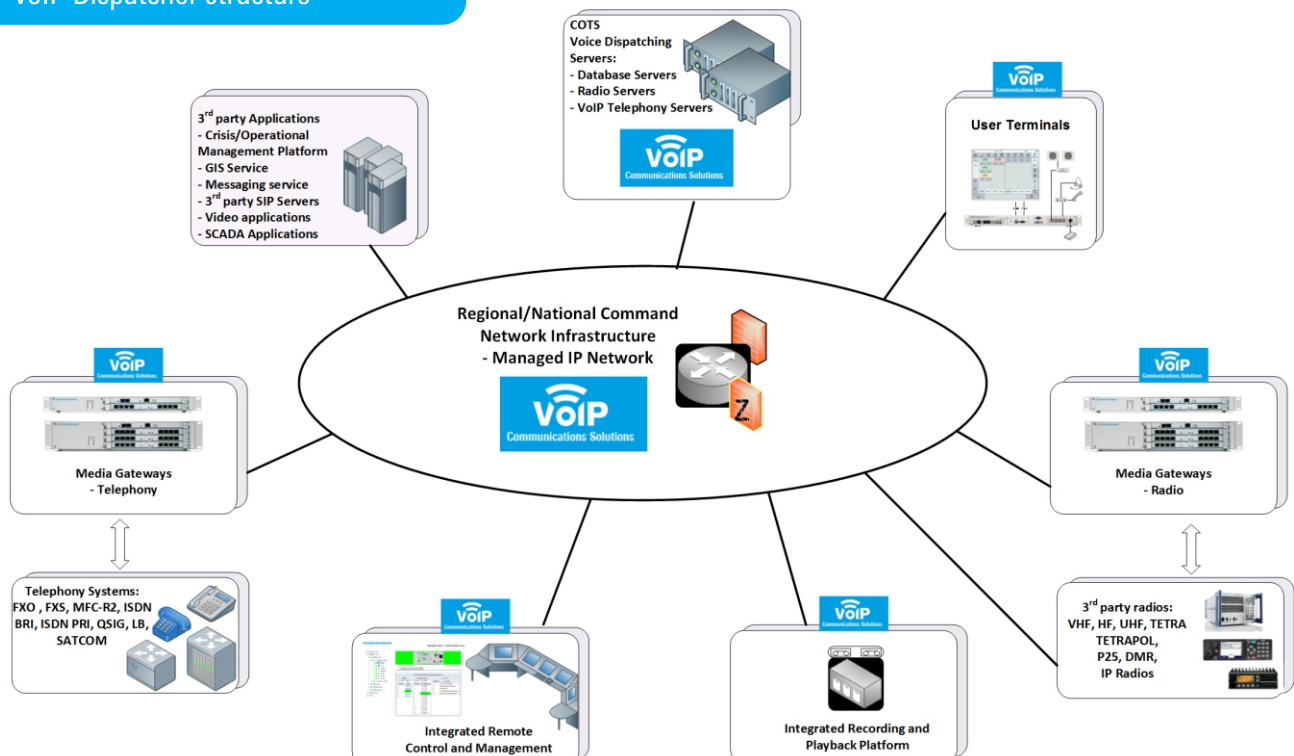• No single point of failure
• Scalable and portable solution

Role based access and mission control
• Advanced role management and mission/scenario based operations support
• Enhanced mission planning
• Assets planning/allocation and load balancing mechanisms
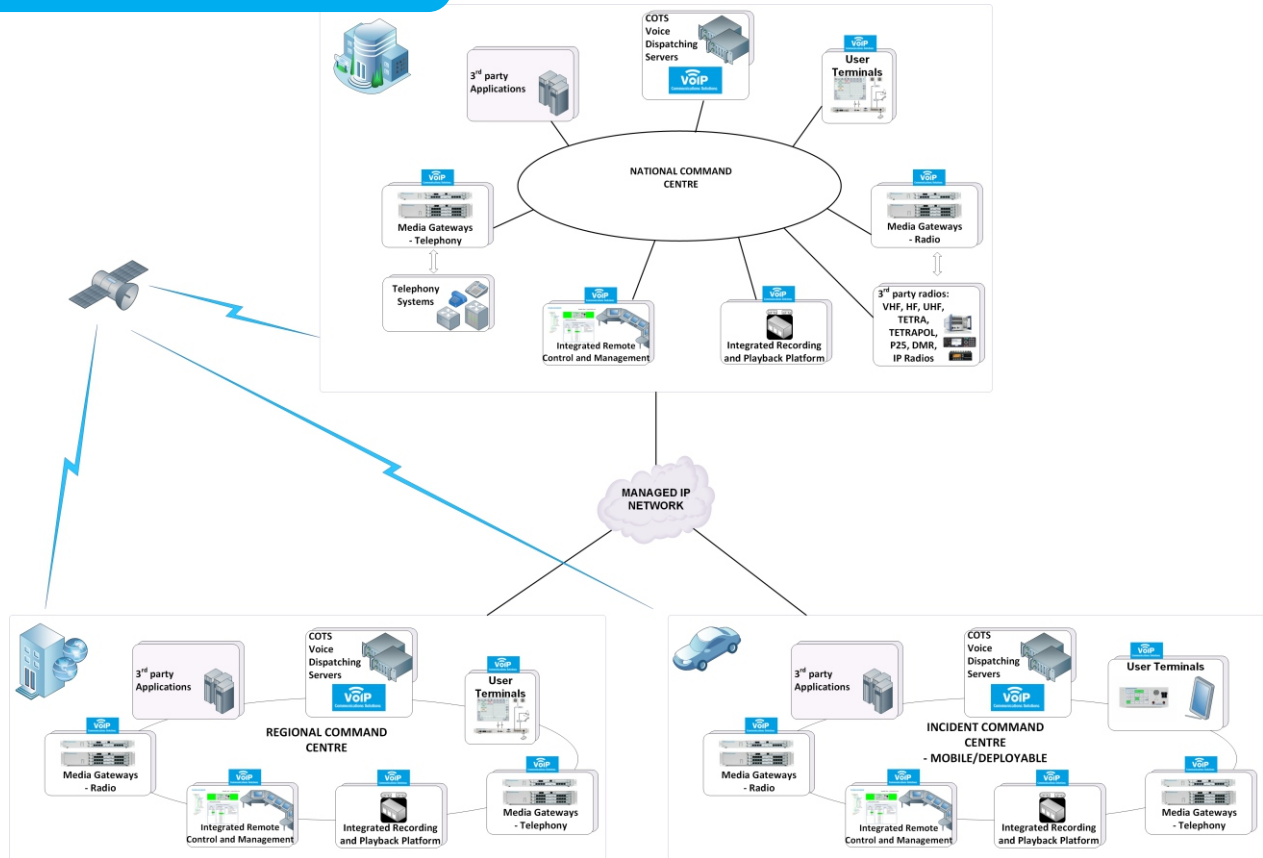• Authentication mechanisms with single sign-on authority

Centralized IP Recording System
• Synchronized recording capabilities

VoIP Dispatcher structure

VoIP Dispatcher deployment layout

The VoIP Dispatcher is adaptable to the end-user specific operational and technical views, mapping the command structure layouts from one to many users (virtual unlimited capacity) and under different servers and network topologies, inclusive Virtual Environment or segregated networks.

Rohde & Schwarz products to fit the establishment of various command posts structures consists of the already field proven equipment such as:

• Operator Working Position : standard user terminal acting as the resource media access for the command center personnel, with several available and fully configurable GUI

• Compact Operator Working Position (OWP): all-in-one user terminal with the operational capabilities of the standard OWP

• Embedded Operator Working Position: platform bringing the OWP operational capabilities to the COTS hardware – seamless usability

• Media Gateways for radio and telephony accessibility

• Standard COTS servers and networking infrastructure, to accommodate the end-user requirements and specific constraints

• Advanced monitoring and remote control capabilities for providing the integrated management and equipment reconfiguration capabilities for secure and coherent user experience

Rohde & Schwarz Topex supports every delivery with a tailored service structure, to accommodate each user's specific deployment and project requirements and with the support of in-country partners:

• Consultation Services
• Professional Project Management Services
• Professional Engineering services:
  - Requirements Analysis
  - Engineered design process
  - Site preparation
  - System installation
  - Setting to Work
  - Acceptance Testing (Factory, Site)
  - Transition Support
  - Certified Tailored Training Services:
  - Operational
  - Administrative
  - Train the Trainer
• Supporting services:
  - Configuration Management
  - Risk Management
  - Quality Management
  - Advanced safety analysis
  - Reliability/Availability and Maintainability analysis
• After sales support:
  - Spares plan
  - Maintenance plan
  - Preventive and Corrective maintenance
  - Service support, inclusive remote access (secure)
  - On-call and helpdesk support
  - Obsolescence management

The overall lifecycle costs are reduced by:

- Using an open and standards based VoIP platform
- Providing accessible upgrade plans
- Extensive usage of COTS equipment
- Enabling the international partners for local services support content maximization
- Implementing Cost-effective warranty extension mechanisms

Based on the existing user experience and the high variety of system deployments, Rohde & Schwarz Topex provides an advanced VoIP Dispatching System and a world class customer support plan to reduce the customer's risks and to maximize the investment value.

Rohde & Schwarz global coverage:
- Europe
- Americas
- Middle East & SE Asia
- Australia, New Zeeland
- Africa

Why Us !?

When assessing the requirements to buy a new communications systems for mission critical applications, goals such as operational benefits, business continuity, future capacity growth, costs and transition to operation, have to be considered.Rohde & Schwarz Topex, a Romanian engineering company, specialized in designing and manufacturing of complex voice and data communications systems for various global industries, provides integrated platforms for mission critical applications that makes these goals effective and smooth for the end-user.

The Voice Communications System – VoIP Dispatcher, enables the end-user to facilitate reliable communications, ease operations, adapt to task/ mission specific environment, sustain capacity growth and reduce operational costs.The VoIP Dispatcher proved itself as a versatile, scalable and cost-effective integration framework, being currently used in more than 30 countries around the world for applications ranging from air traffic control to civil defense systems, covering the full span of mission critical applications.
The Rohde & Schwarz Topex capabilities provides the basis for successful implementations of challenging projects, delivering the full range of services from consulting for solution definition to customized after-sales support agreements.

The internal R&D department, professional engineering capabilities and management processes supported Rohde & Schwarz Topex in becoming the world first Full-IP VCS manufacturer for Air Traffic Control applications in 2007. The technical challenges from this highly safety industry enabled Rohde & Schwarz Topex to bring the performances and time sensitive parameters to the general mission critical environment.By gradual and natural growth of the company, its engineering and management profile enabled Rohde & Schwarz Topex to easily adapt and successfully establish in industry wise emergent markets.

Rohde & Schwarz Topex provides a reliable, scalable and modular voice communication solution dedicated for command and control centers used in mission critical environments: Defense Applications; Border Security applications; Public Safety Applications for Police, Firefighting, Ambulance, Disaster Management; Emergency Systems and 112/911 call centers; Coast Guard and Maritime Platforms; Utilities Companies (Electricity, Oil and Gas); Large Facilities Management (Harbors, Airports); Public Transportation or Mobile Dispatching Units.

The VoIP Dispatching system is designed to offer advanced voice communication services for command and control centers, supporting integration and interconnection with 3rd party systems acting as a vendor independent integration platform.The ideal solution for command and control centers, Rohde & Schwarz Topex VoIP Dispatcher is an Integrated Communication and Control System which combines radio, telephony and intercom in a secured solution for Mission Critical Applications, along with C2/C4I/CIMS platforms, GIS/AVL information, video streaming applications, assets management platforms and collaborating sensors platforms.