SECRICOM
Seamless Communication for Crisis Management

NATO Conference NEW CHALLENGES – BETTER CAPABILITIES

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SEVENTH FRAMEWORK
PROGRAMME

Presentation objectives

- Outline Stakeholder requirements

- Introduce the project
  - Define SECRICOM
  - Vision
  - Programme & Partners

- Introduce the approach taken

- Give examples of architectures and technology

Deployed crisis communication systems

- Variety of different independent communication systems
  - old-fashioned radio communication systems (40 years old technology)
  - dedicated cellular networks (TETRA)
  - standard commercial radio networks (e.g. GSM, UMTS)

- More or less independent systems

"About 1/3 of radio messages of communication were not complete or understandable"

- calculation of Nation Institute for Standards and Technology (NIST) after attack on WTC in New York

First phone call from ammunition store to emergency telephone number more than half hour after first explosion

- records of emergency telephone number 112 after explosion in Novaky (Slovakia)

Added value – Project aims

- Exploit the existing communication systems
- Enhance interoperability among heterogeneous secure communication systems
- Enhance interconnectivity between different networks and User Access Devices
- Interface towards emerging SDR systems
- Reduce the disadvantages faced by users of Existing Systems

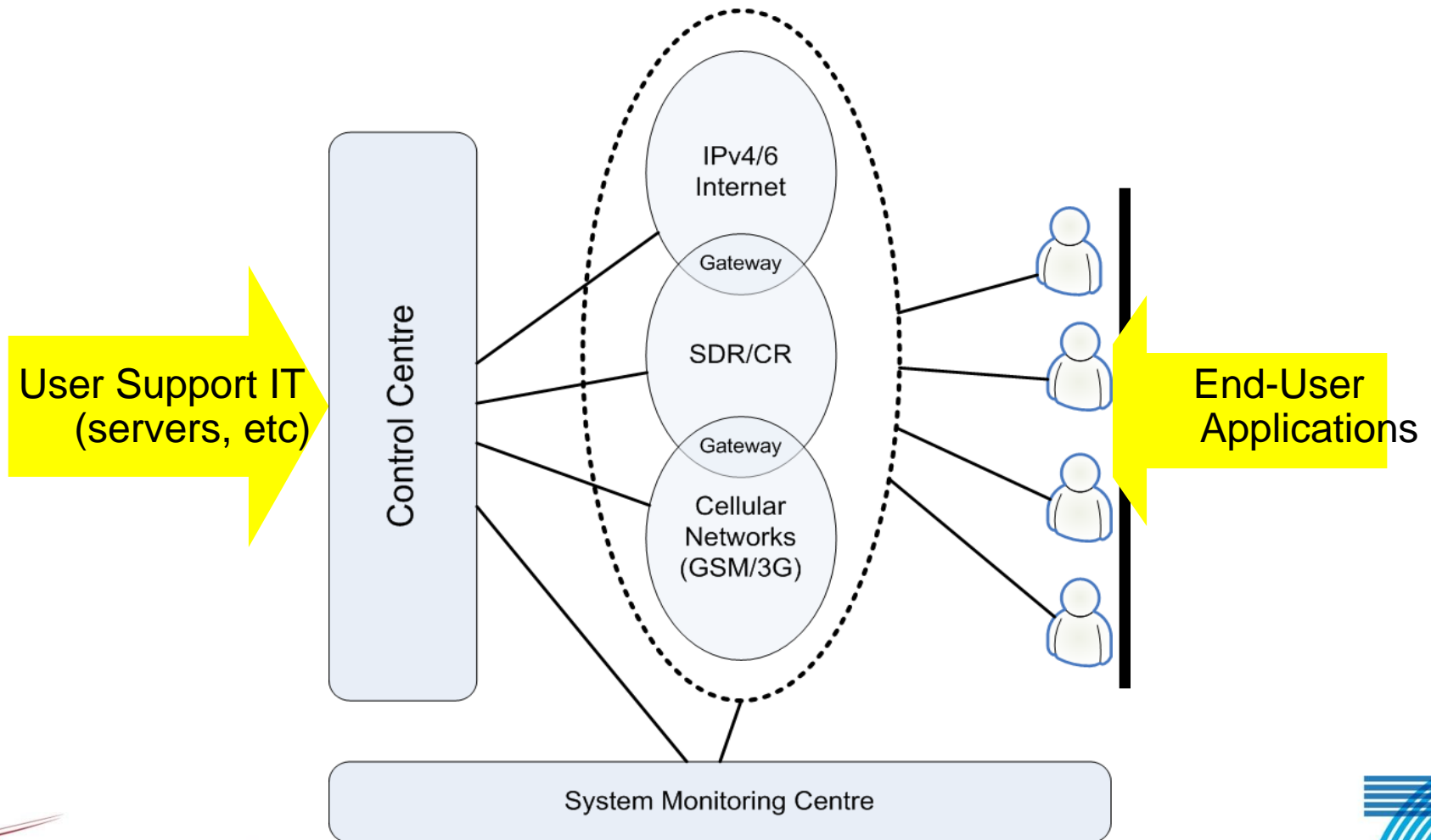# Business Stakeholders

International Border
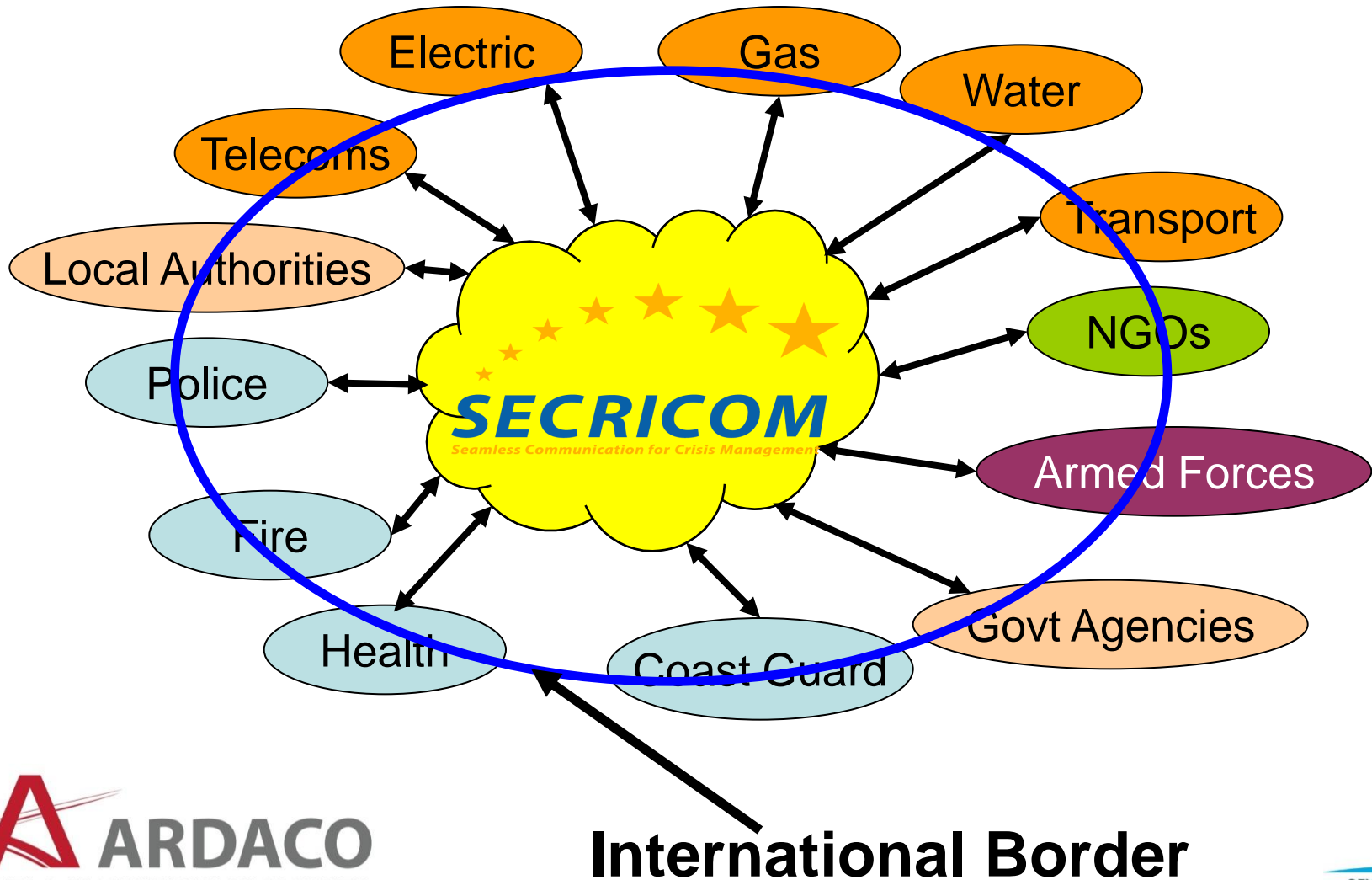
Typical C2 for the Emergency Services
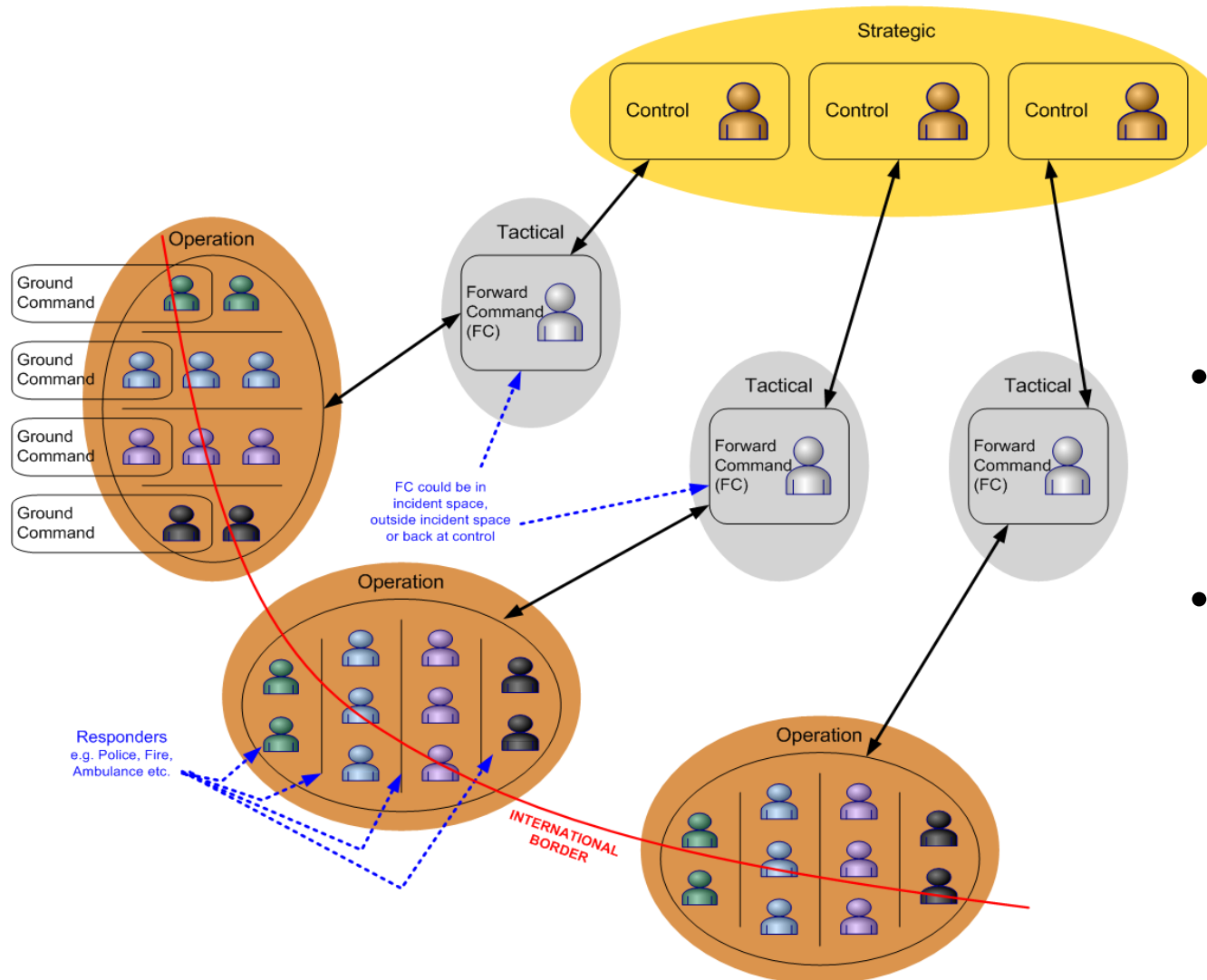
- Extends across international borders
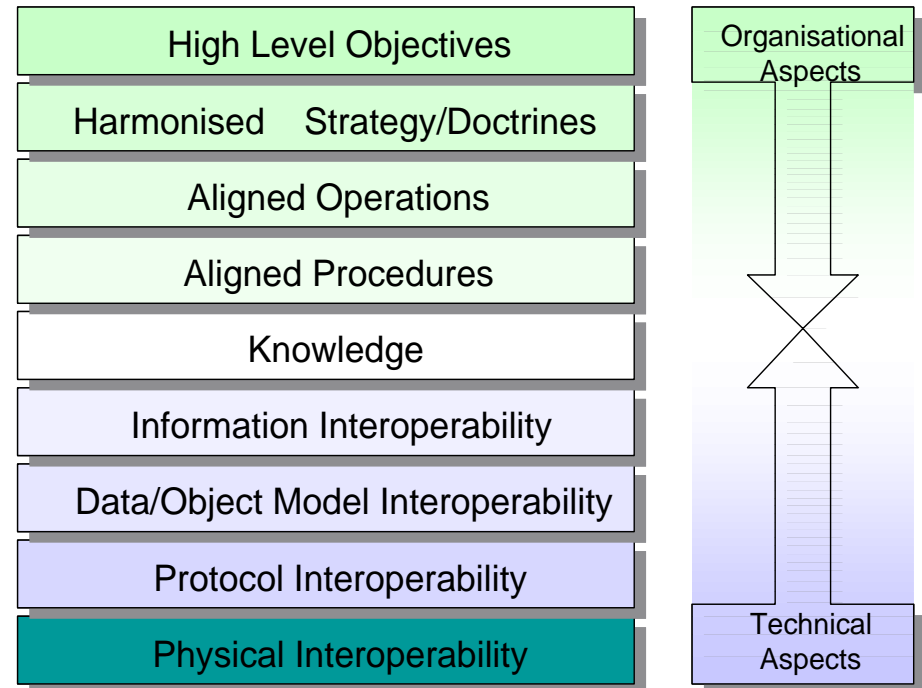- Extends across different agencies

Operator High Level View

Interoperability

Definition:

The capability of two or more organisations or discrete parts of the same organisation to exchange decision-critical information and to use the information that has been exchanged.

Clearly, interoperability ranges from organisational to technical aspects all of which must be 'harmonised' in order to achieve full interoperability.

Layers of Interoperability

Layers of Interoperability
High Level Objectives
Harmonised   Strategy/Doctrines
Aligned Operations
Aligned Procedures
Knowledge
Information Interoperability
Data/Object Model Interoperability
Protocol Interoperability
Physical Interoperability

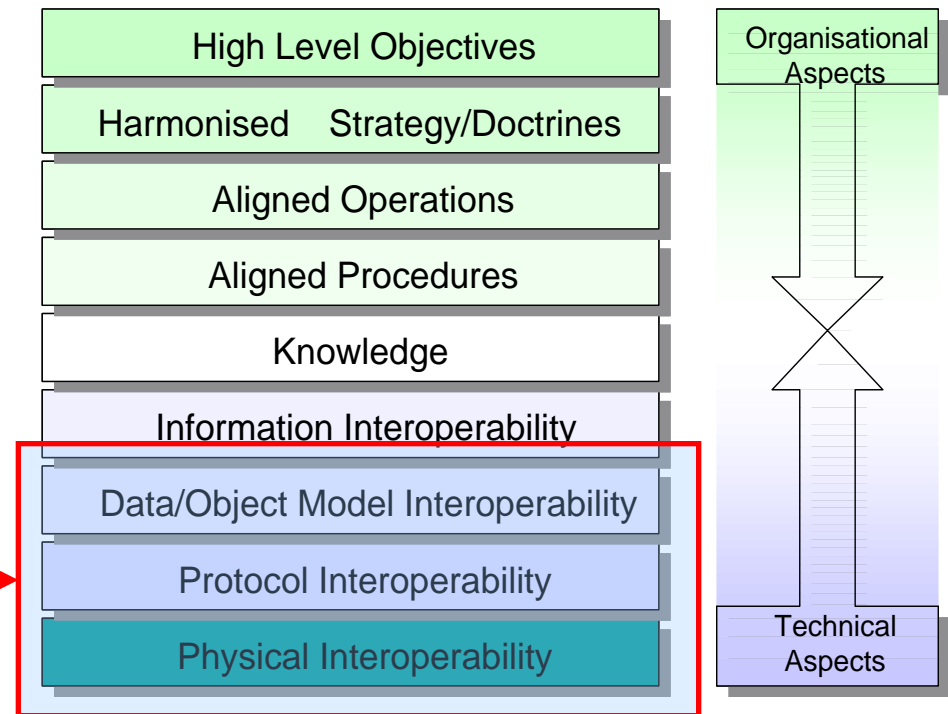Organisational Aspects

Technical Aspects

SECRICOM Project

Seamless Communication for Crisis Management

Scope: The technical aspects of Interoperability

Layers of Interoperability

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Organisational Aspects

Technical Aspects

ARDACO
DATA & COMMUNICATION SECURITY

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Project Consortium

**Manufacturers** **Research & SMEs** **Universities & NGO**

Vision

- Ability for responders to operate across different European emergency services/responder agencies as one cohesive unit at the time of crisis-level emergency

- Secure infrastructure for communication during a crisis with technical interoperability built into the design

Communications System Features for SECRICOM
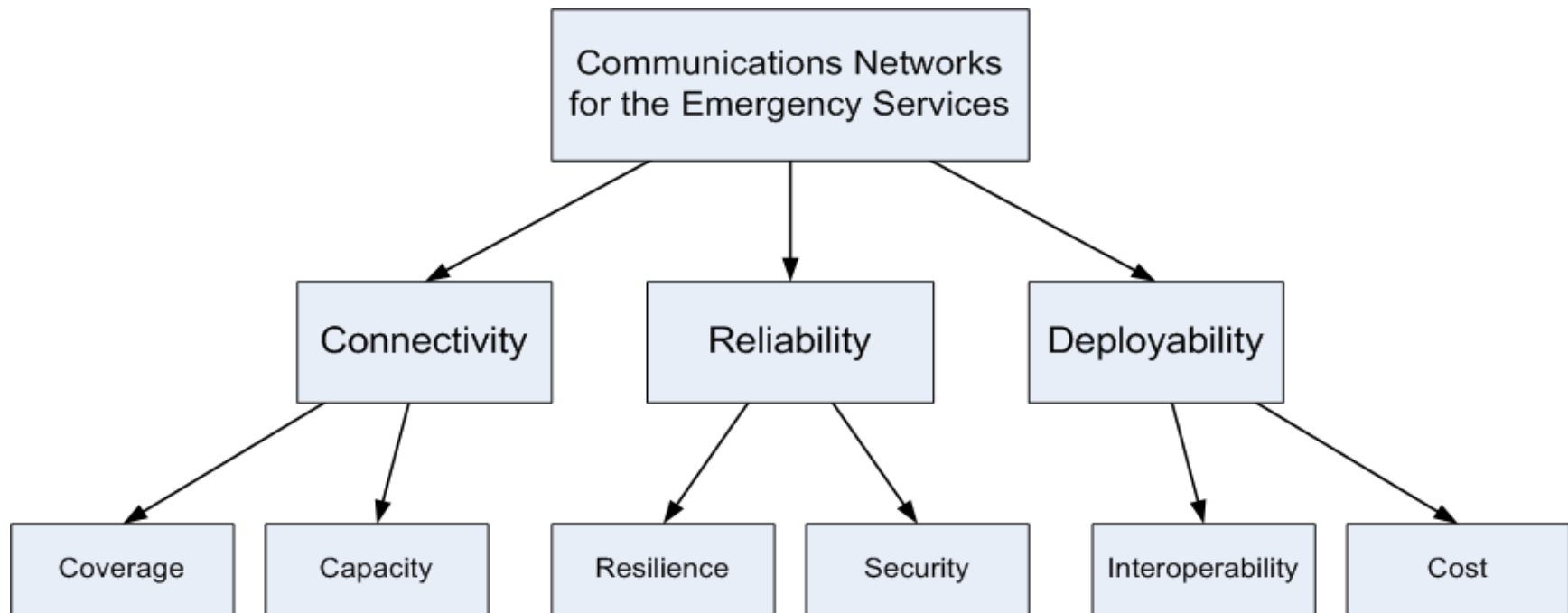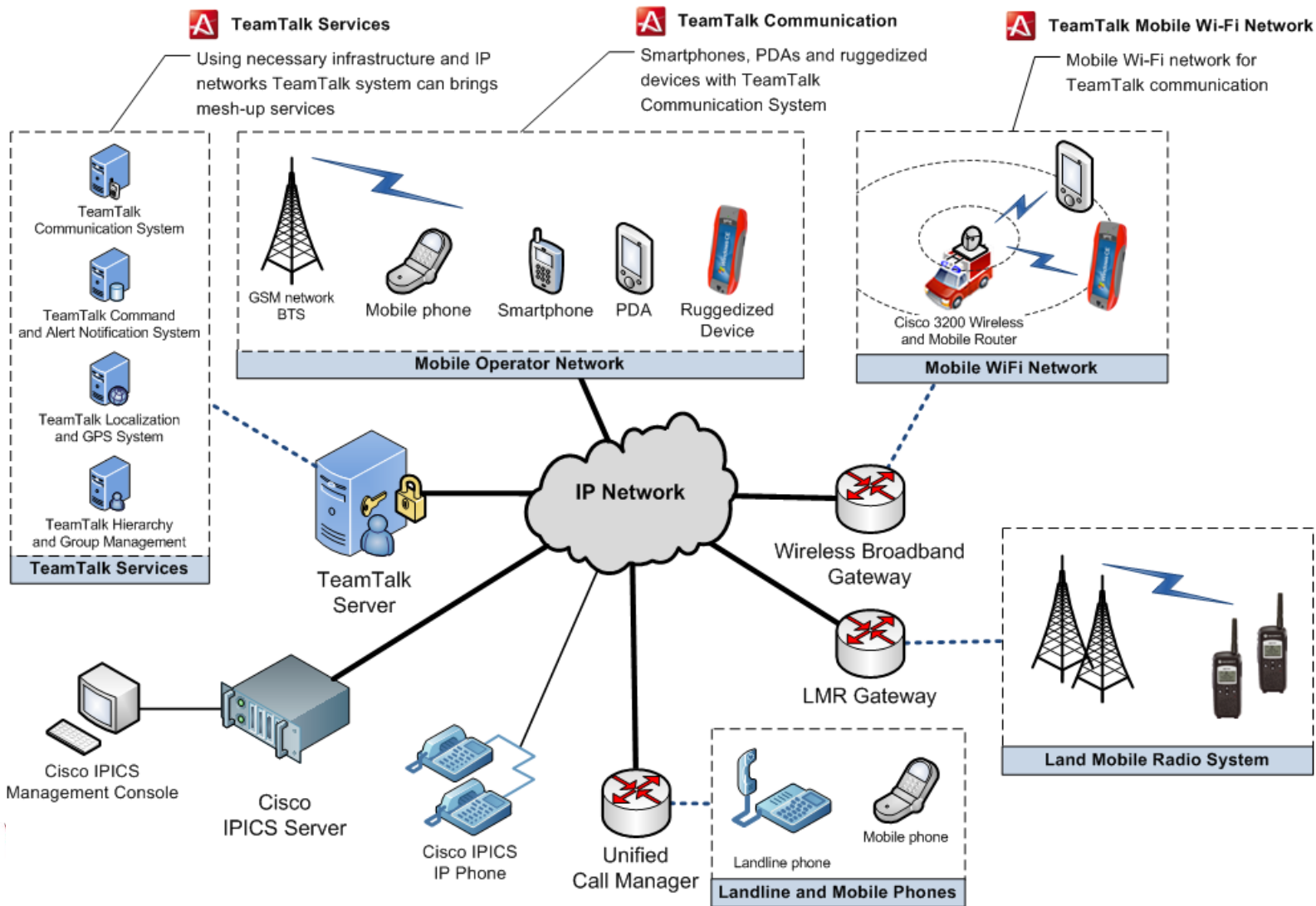
Application Level Resilience
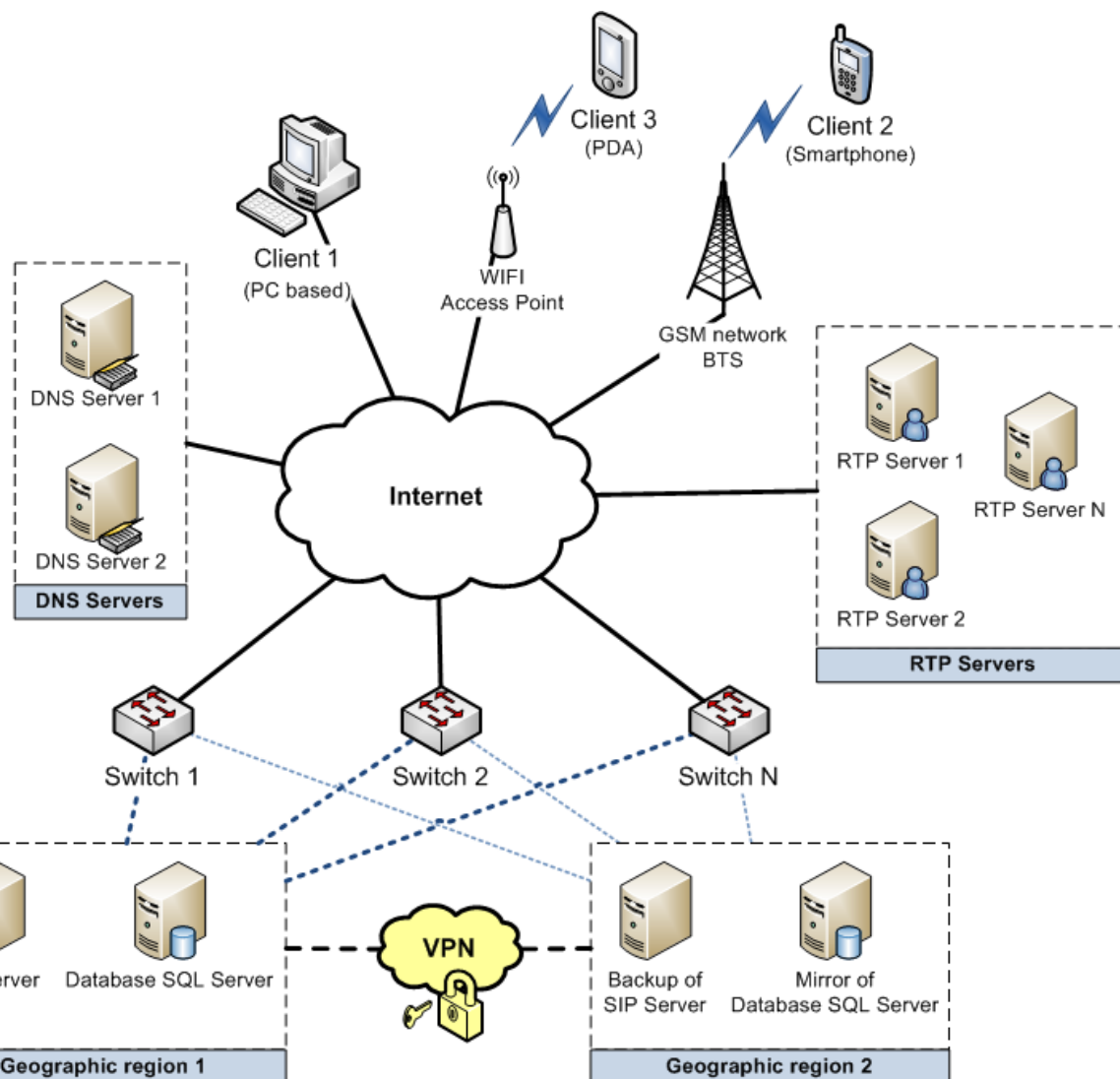
Push-to-talk load distribution

- Client devices
    - Login – using DNS Server

- DNS Servers
    - Select switch with lowest load or first available switch

- Switch
    - Select first available SIP Server

- SIP Server
    - Create session on RTP Server with lowest load balance

- RTP Servers
    - Distribute communication for session participants

System Convergence

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TeamTalk Services
Using necessary infrastructure and IP networks TeamTalk system can brings mesh-up services

TeamTalk Communication
Smartphones, PDAs and ruggedized devices with TeamTalk Communication System

TeamTalk Mobile Wi-Fi Network
Mobile Wi-Fi network for TeamTalk communication

TeamTalk Communication System
TeamTalk Command and Alert Notification System
TeamTalk Localization and GPS System
TeamTalk Hierarchy and Group Management
TeamTalk Services

GSM network BTS | Mobile phone | Smartphone | PDA | Ruggedized Device
Mobile Operator Network

Cisco 3200 Wireless and Mobile Router
Mobile WiFi Network

IP Network

TeamTalk Server

Wireless Broadband Gateway

LMR Gateway

Cisco IPICS Management Console

Cisco IPICS Server

Cisco IPICS IP Phone

Unified Call Manager

Landline phone | Mobile phone
Landline and Mobile Phones

Land Mobile Radio System

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I am looking forward to discuss the project with you!

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