Railway Operational Communications Industry Group

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3rd world Conference on Rail Transport Telecoms

Inter-domain convergence of digital communication

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17th/18th of May 2017

Ensuring an interoperable transition

A typical control room … of which domain?

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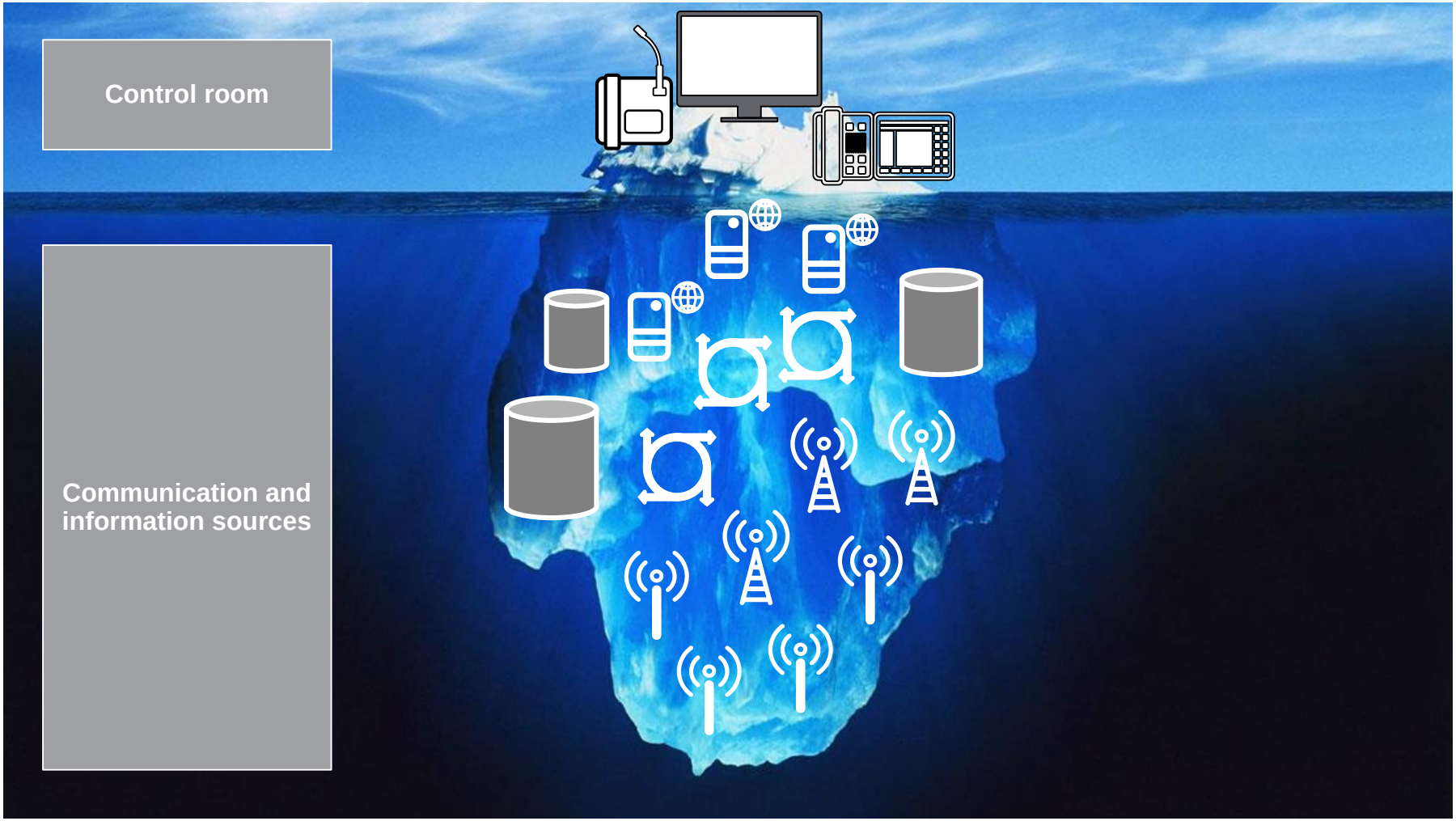
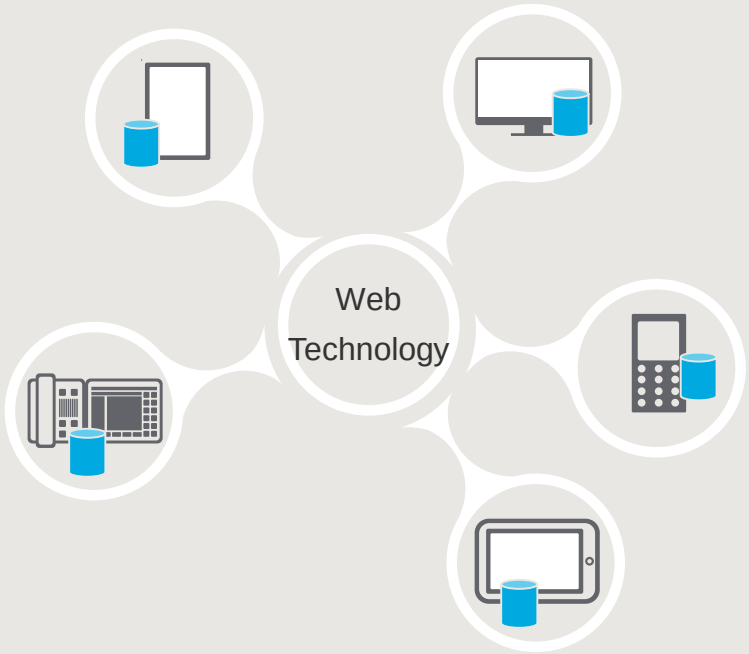
The iceberg dogma at a control room



Convergent client/server terminal architecture

Frontend: mobile and fixed



Terminals / Clients

IP I/F
(HTTP,
JSON/XML,
HTML5)

3GPP compl. I/F
(HTTP-1,
SIP-1)

Backend - fixed

Web-based communication and information services

Persistent central user data

Data hub for operational data

Servers

COTS hardware platforms

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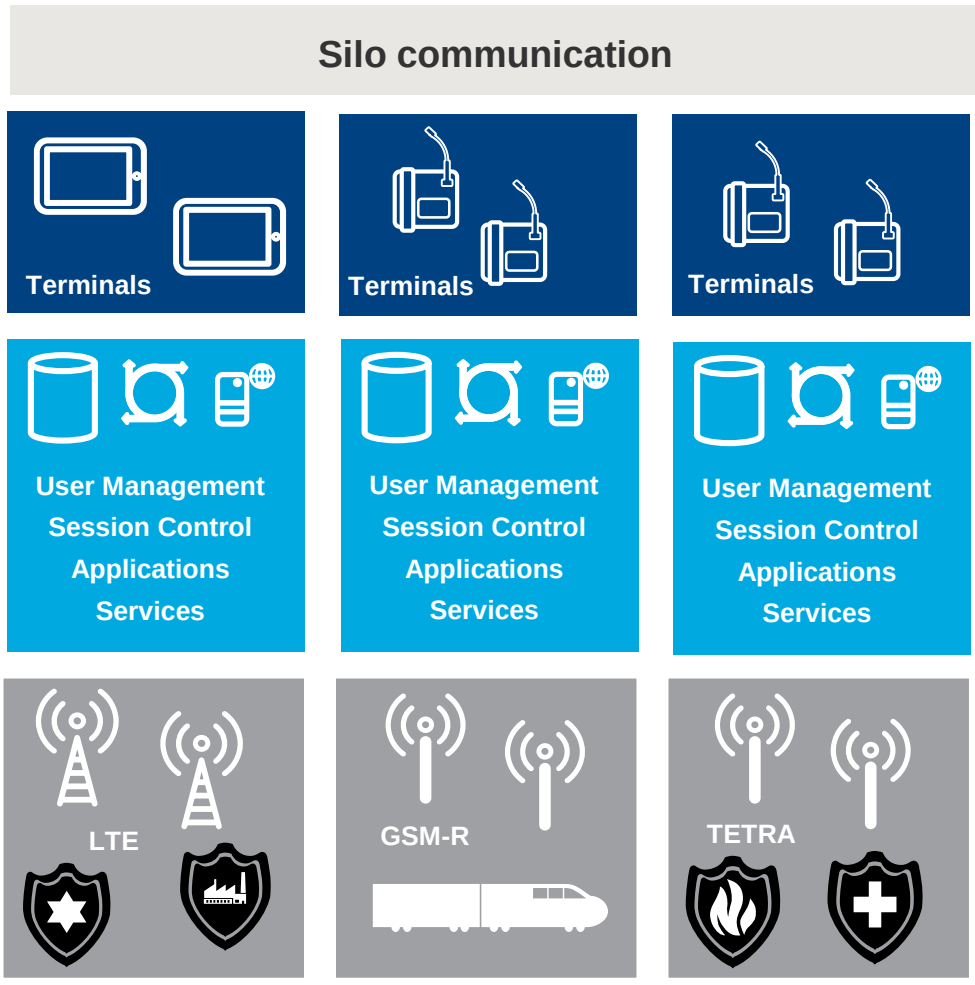
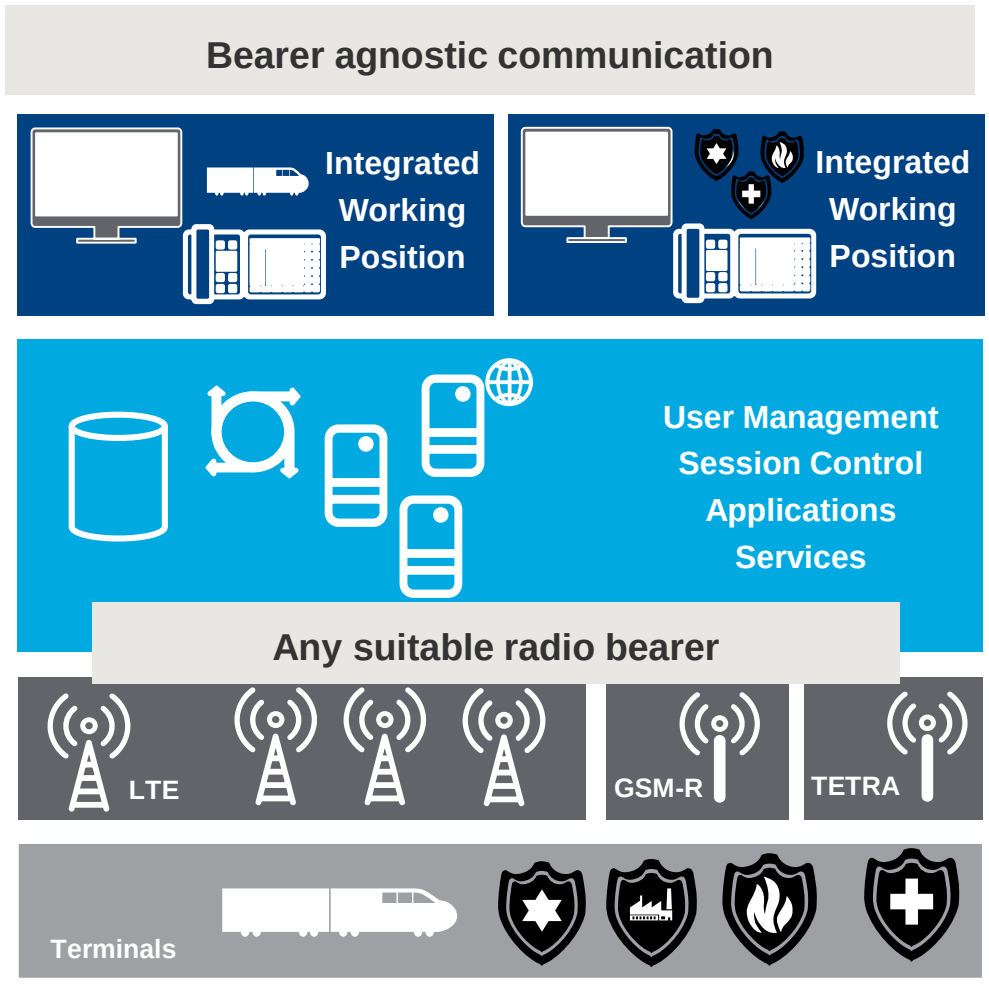
Converged bearer agnostic network architecture





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Convergent applications & services

Convergence

Mission Critical Services
for ALL users

IP for all

Analogue Radio

Open Channel
Broadcast / General Call

Talkgroups

Group Calls
Broadcast Calls

Dedicated Circuit Switched

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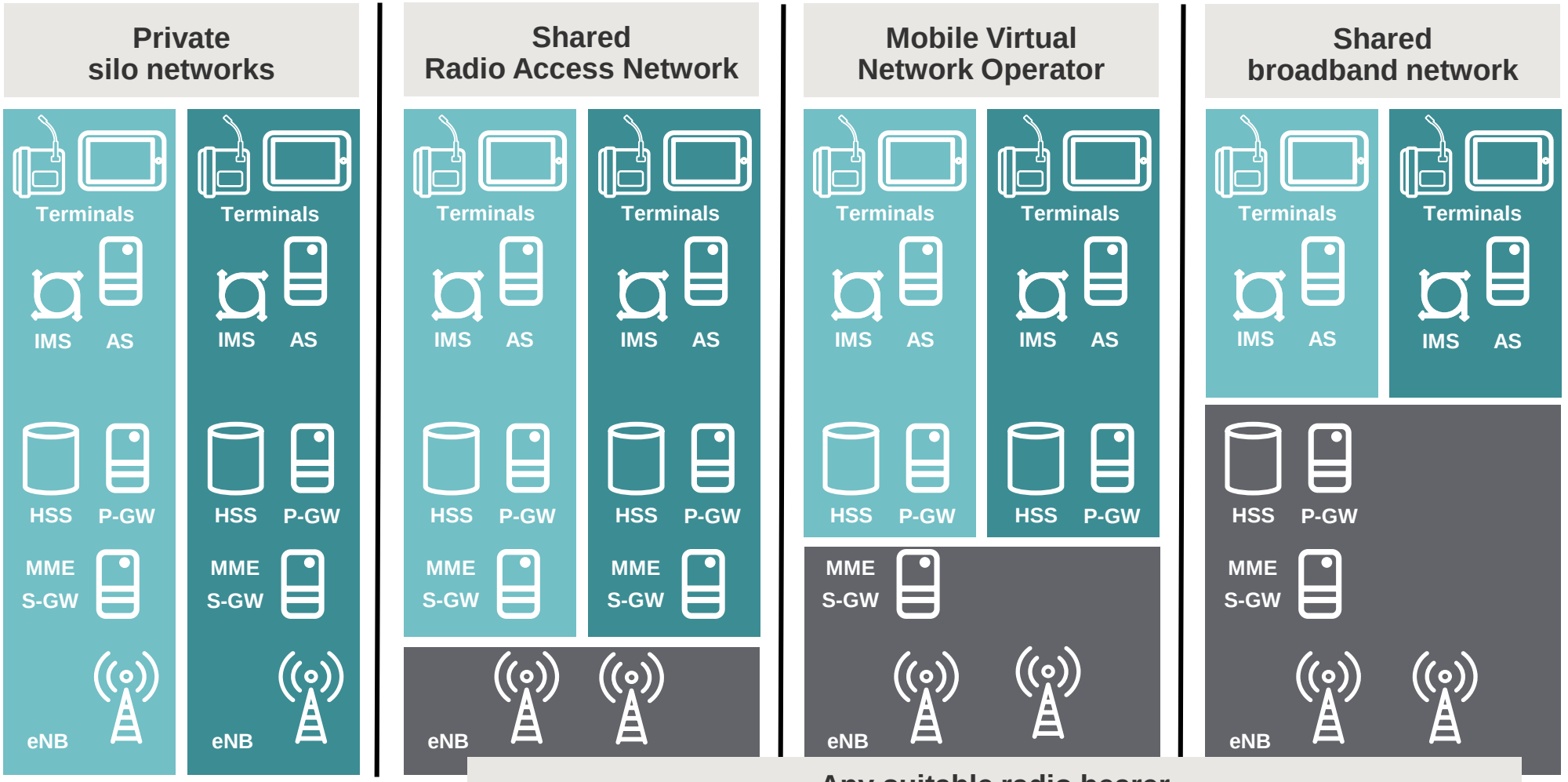
Sharing principles – network deployment models

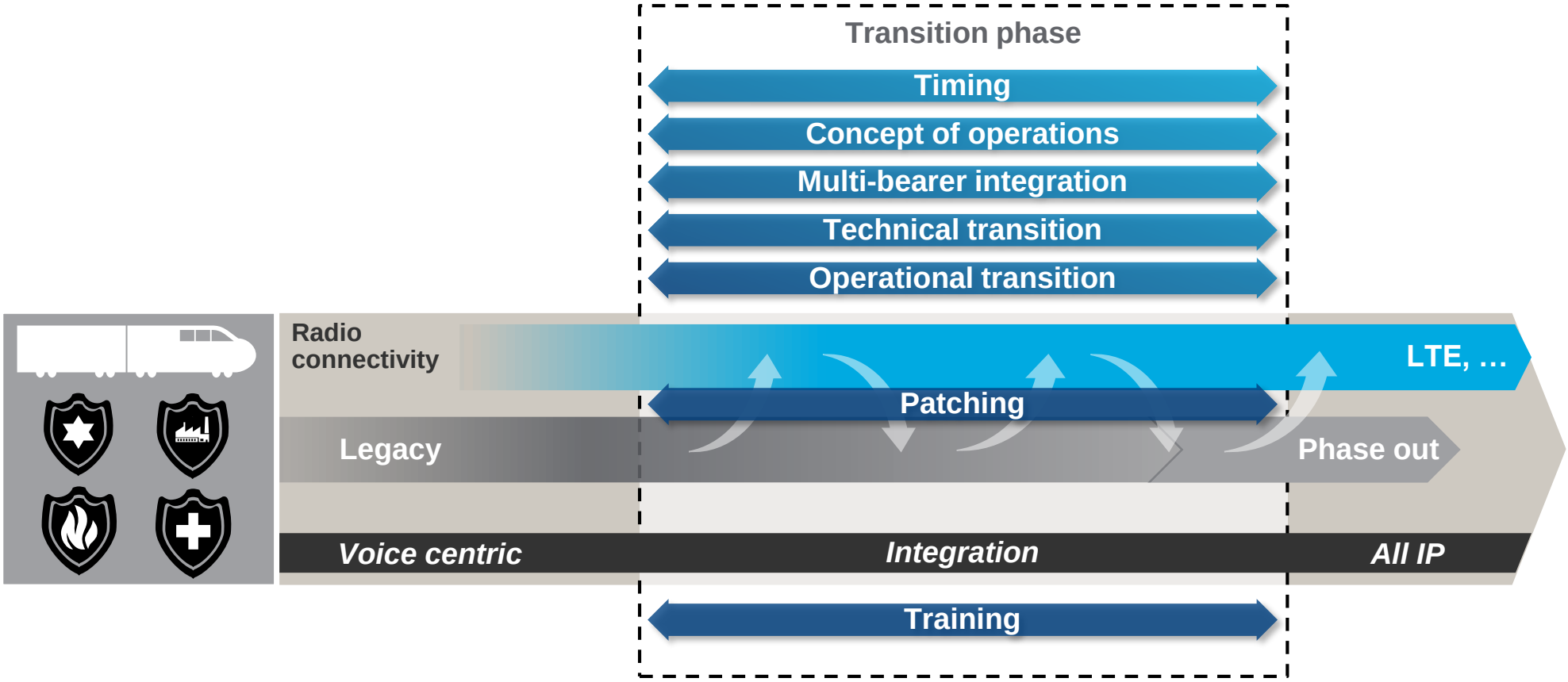


Benefits & challenges of inter-domain convergence

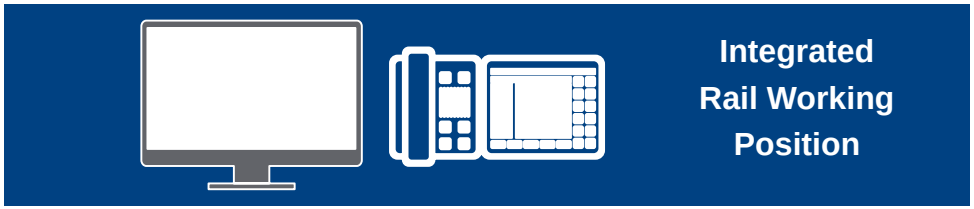
- Benefits
  - Optimised, yet lower, CAPEX and OPEX
    - Shared infrastructure
    - Shared technology
    - Shared spectrum
  - More efficient use of bearer capacity
  - Easier change of network parts to follow technological evolution

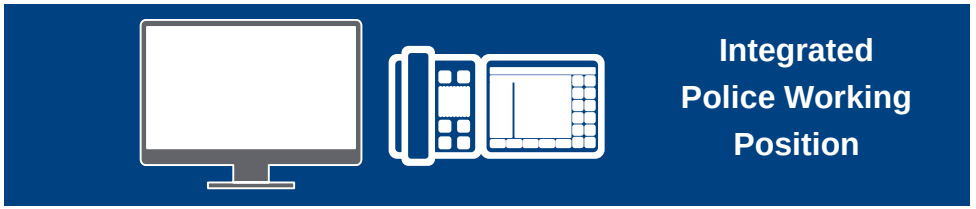
- Challenges
  - User separation
  - Security
  - Quality-of-Service

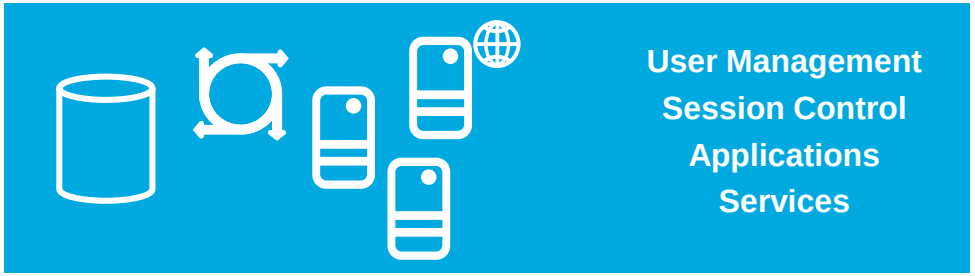
Transition required in all domains

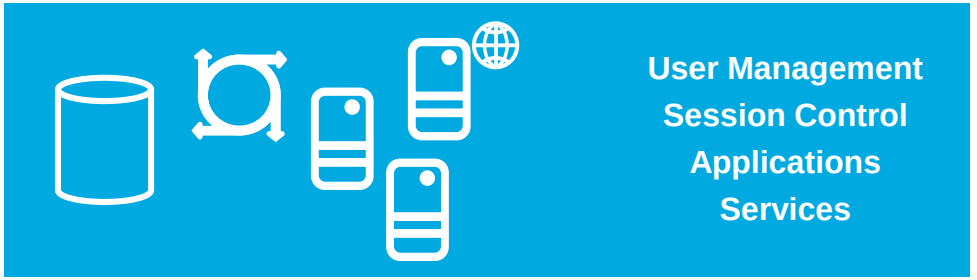


Outlook on implementation scenario … discussing









Conclusion

- Transition from legacy to next generation is a common topic in all vertical markets

  … accept it.

- Convergence happens in multiple domains on multiple levels

  … consider it.

- Any suitable radio bearer can provide access

  … think about it.

- Inter-domain experience with focus on convergence and transition is there

  … use it.

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On track!

Thank you

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