The webinar will begin momentarily

Dr. Angelo Corsaro ***[angelo.corsaro@prismtech.com]***

OpenSplice DDS Product Marketing Manager, PrismTech

Angelo co-chairs the OMG Data Distribution Service (DDS) Special Interest Group and the Real-Time Embedded and Specialized Services (RTESS) Task Force. He is a well known figure in the distributed real-time and embedded systems middleware community and has a wealth of experience in hard real-time embedded systems, large-scale and very large-scale distributed systems, such as defense, aerospace, homeland security and transportation systems. Prior to joining PrismTech, he worked for the SELEX-SI CTO Directorate, a FINMECCANICA company, where his responsibilities included mapping business requirements to technology capabilities, strategic standardization and technology innovation.

Laurent Seraphin ***[laurent.Seraphin@prismtech.com]***

Senior Business Development Manager, PrismTech

Laurent has more than 13 years experience in the IT industry with particular expertise in the middleware. He has hands-on software architecture and development experience and has provided business and mission critical solutions to a variety of industries including Telecommunications. His work involved him with new design of innovative solutions with TEMs for network equipments and Telco ISVs for OSS and BSS products.

PRISMTECH
Productivity Tools & Middleware

OpenSplice DDS in Telecommunication

The Right Data to the Right Place at the Right Time
– All the Time –

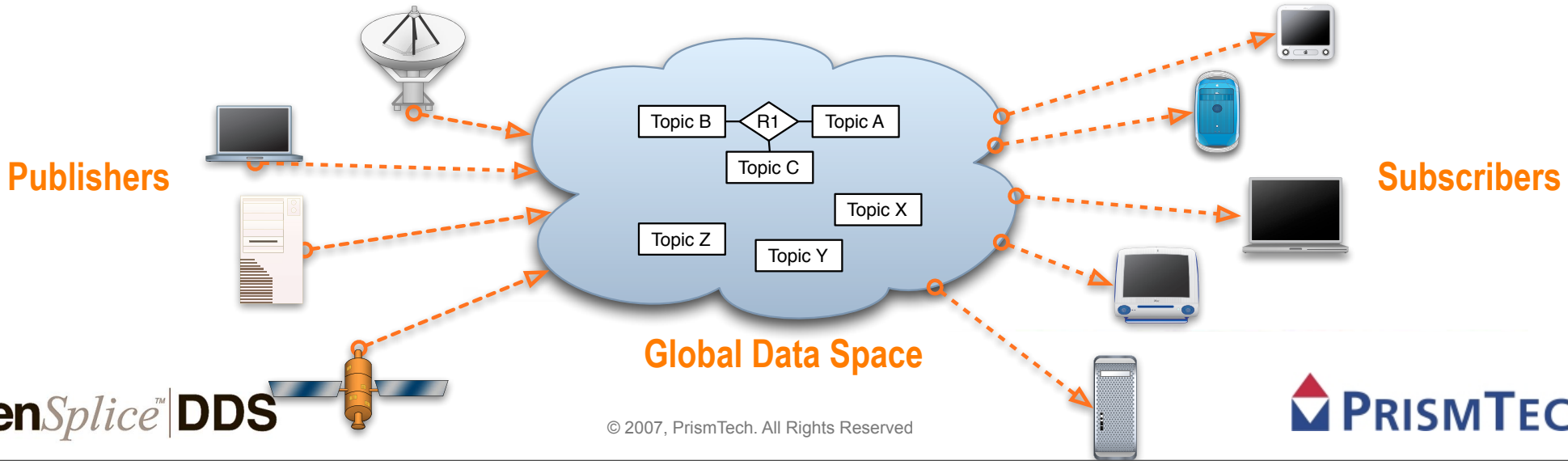
Agenda

- OpenSplice DDS Overview
- Telco Applications' Integration Landscape
- OpenSplice DDS in NE/EMS
- OpenSplice DDS in NM/OSS
- OpenSplice DDS in BSS
- Combining CORBA and DDS Strengths
- Concluding Remarks

Dr. Angelo Corsaro

OpenSplice DDS

- **An High Performance Real-Time Data-Centric Publish/Subscribe Middleware**
  - *The right data, at the right place, at the right time -- all the time!*
  - *Fully distributed, high performance, highly scalable, and high availability architecture*
- **Perfect Blend of *Data-Centric* and *Real-Time Publish/Subscribe* Technologies**
  - *Content based subscriptions, queries, and filters*
  - *Fine grained tuning of resource usage and data delivery and availability QoS*
  - *Optimal networking and computing resources usage*
- **Loosely coupled**
  - *Plug and Play Architecture with Dynamic Discovery*
  - *Time and Space Decoupling*
- **Open Standard**
  - *Complies with the full profile of the OMG DDS v1.2*



OpenSplice DDS

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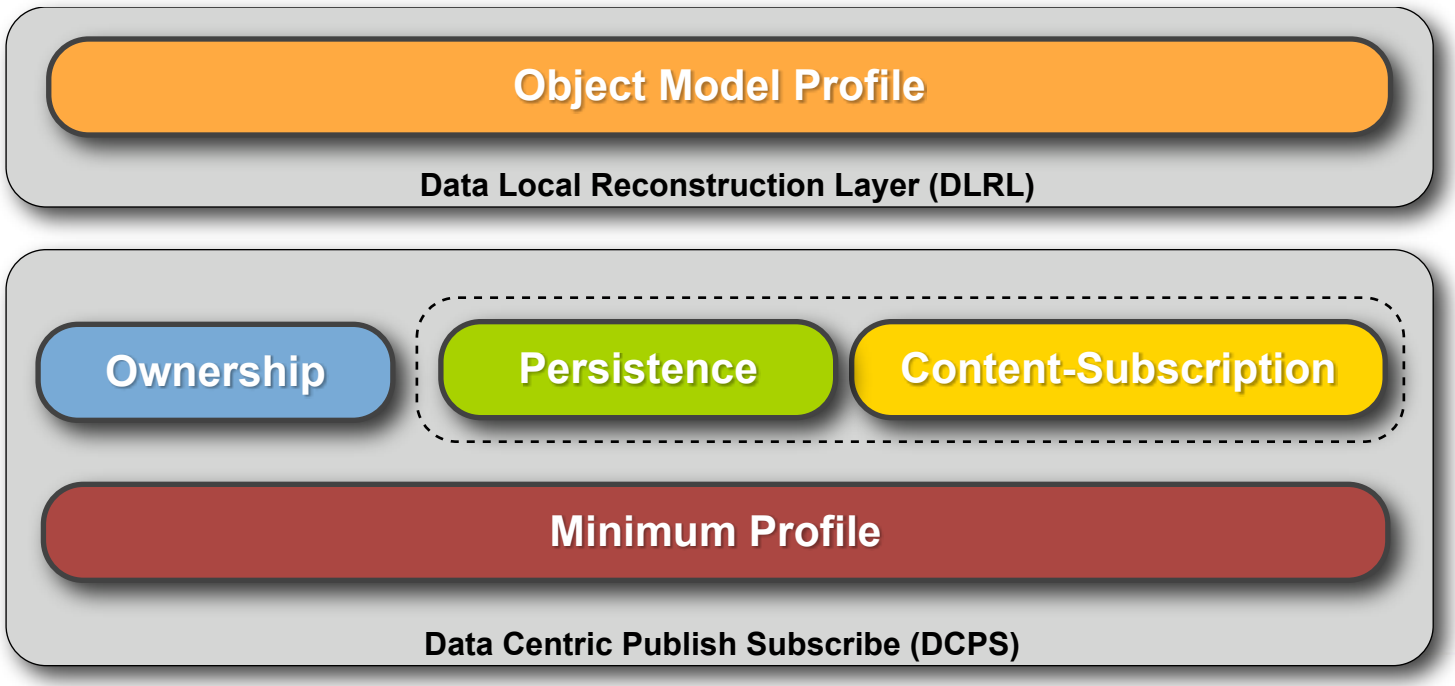
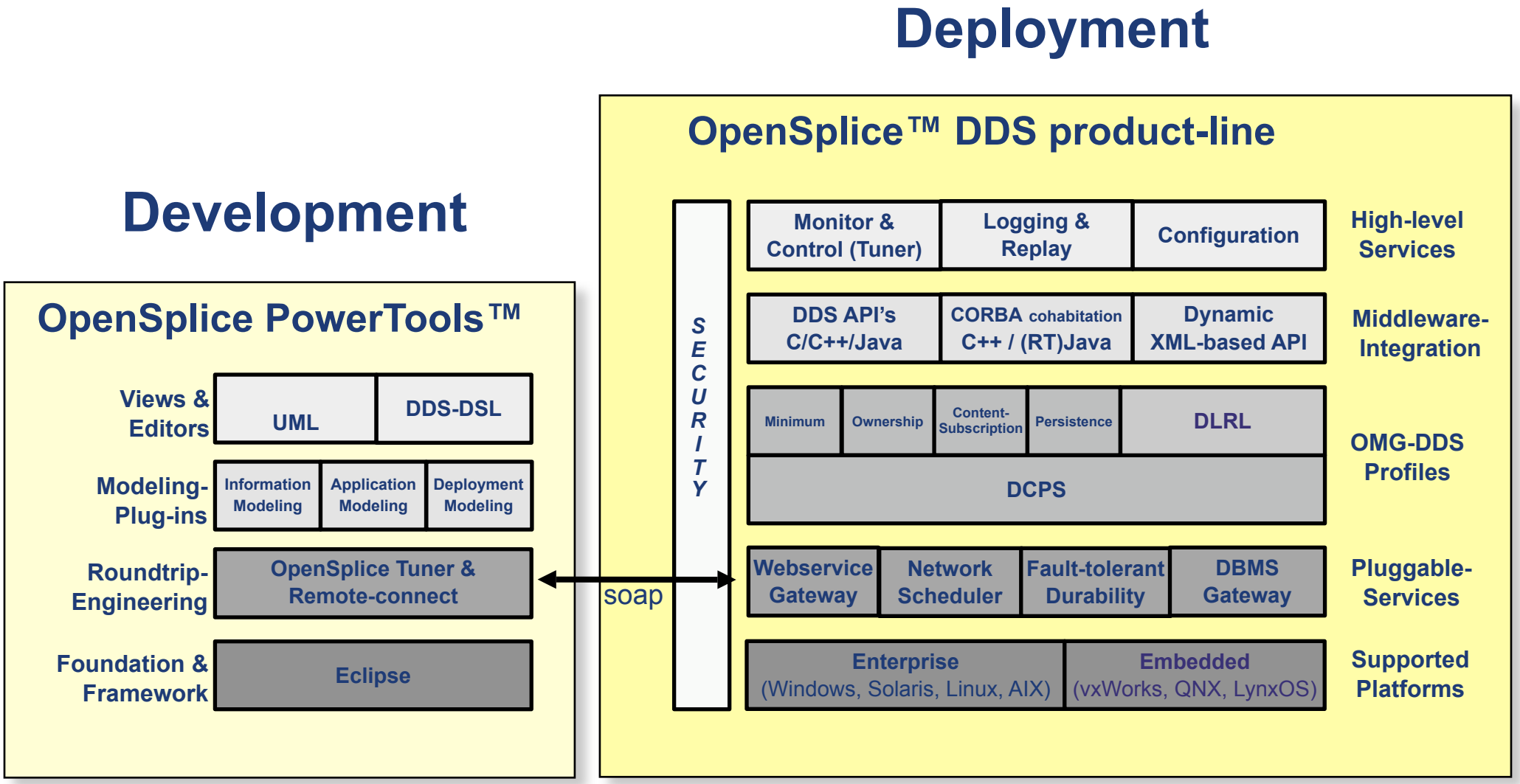
Standard Compliance

- OpenSplice DDS **complies with the full profile** (DCPS + DLRL) specified in the OMG DDS Specification v1.2
- Standard wire protocol for interoperability between DDS implementation from different vendors



OpenSplice™ DDS Overview



OpenSplice™ DDS

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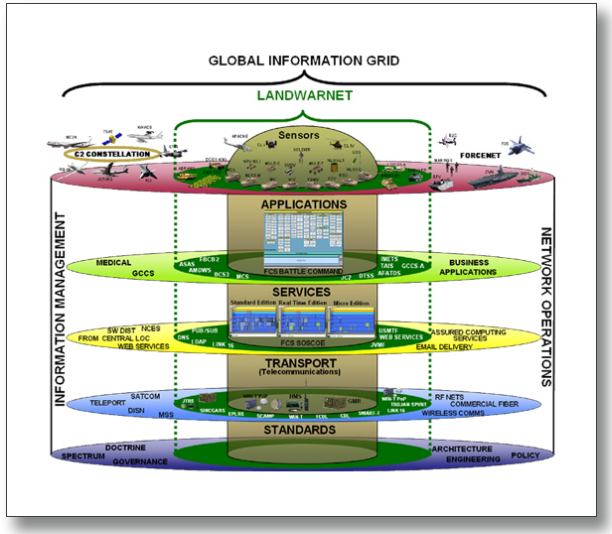
Who is using OpenSplice DDS

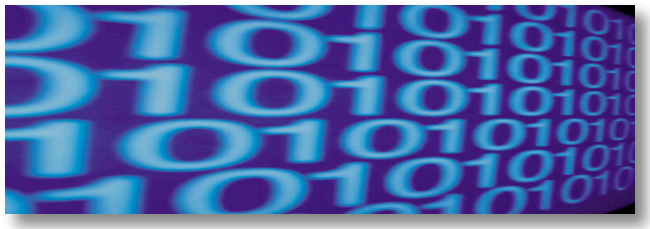
Defense

- **TACTICOS-CMS:** THALES Naval Netherlands' CMS, 26 ships classes, >100 ships
  - > 2.000 deployed runtimes (running on Solaris-servers, Linux-consoles, and vxWorks embedded subsystems)
  - 15 Navies worldwide (Netherlands, Germany, Turkey, Greece, Oman, Qatar, Portugal, South Korea, Japan, Poland,…)
- **USA programs**: LCS/GD, ENFMC/NG, LHA-LHD/DRS
- **Brazilian Navy**
- **Australia: DSTO**, ADI (Australia)
- THALES Naval NL's Flycatcher system
  - 4 army's, >400 deployments
- **NSWC**: Open Architecture Test Facility (OA-TF)



Tactical networks

- **Ultra Electronics** (US, UK): OpenSplice DDS selected over competition for superior scalability and fault-tolerance



OpenSplice™ DDS

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Who is using OpenSplice DDS

Transportation

- **Amsterdam Metro**
- **CoFlight:** Flight-plan management system upgrades for France, Italy, Switzerland

Aerospace

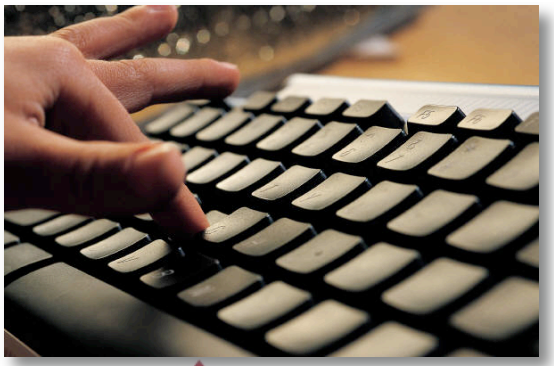
- **NASA Kennedy Space Center**: Constellation Program for next generation ARES Rocket Launch System

SCADA

- **Chemtech/Siemens** in Brazil: since 2006

Homeland Security

- **IDA**: 'Cybercrime Defense' in WAN environment



OpenSplice™ DDS v3 - In Summary

OpenSplice™ DDS

Functionality

- Full OMG-DDS specification coverage *(DCPS and DLRL)*
- Provision of a true 'fault-tolerant information backbone' *(content-aware and FT-durability)*
- Wide Cohabitation and Connectivity with other Technologies *(Corba, RT-Java, DBMS, SOAP, XML)*
- Availability of (remote) deployment tools *(Tuner™ offering total & remote control)*
- Support for Information/application/deployment modeling *(DCPS/DLRL-specific roundtrip development)*

Performance

- **Scalability** w.r.t. number of applications as well as computing nodes and topics
- **Real-time determinism** by urgency (latency-budget) & importance (priority) based network-scheduling
- **Fault-tolerance** by FT-durability and reliable network-service shielding faulty applications from the network

Pedigree

- **Maturity.** Product proven, fielded, In service in 15 Navies world-wide
- **Fractal Architecture.** Large-scale, real-time, fault-tolerant, embedded, all in 1 system!
- **High Standard of Quality Assurance.** Process/procedures, QA-artefacts and regression testing w.r.t. number of applications as well as computing nodes and topics

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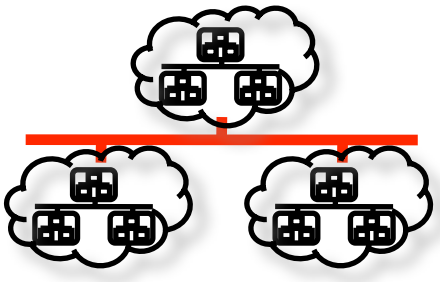
Laurent Seraphin

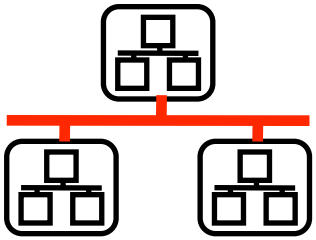
Telco Applications' Integration Landscape

Integration scale and form factor

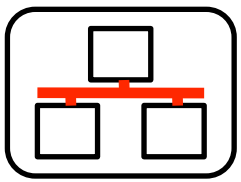
Systems of systems



Systems of platforms



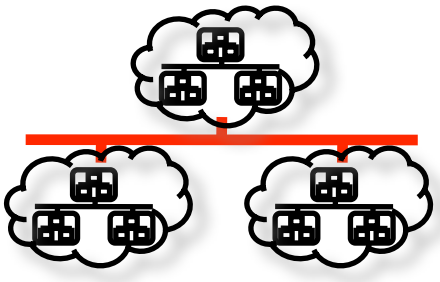
Platforms



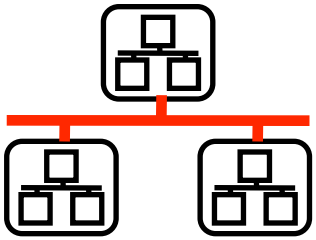
Telco Applications' Integration Landscape

Integration scale and form factor

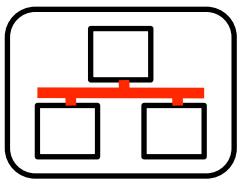
Systems of systems



Systems of platforms



Platforms

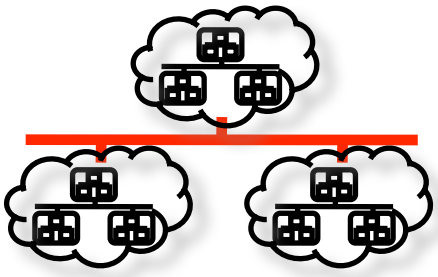


NE

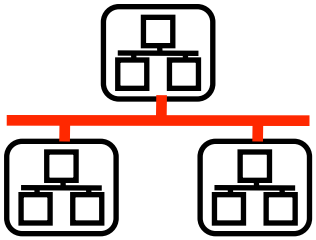
Telco Applications' Integration Landscape

Integration scale and form factor

Systems of systems

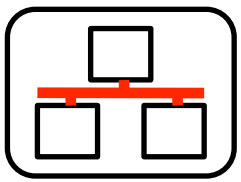


Systems of platforms



EM

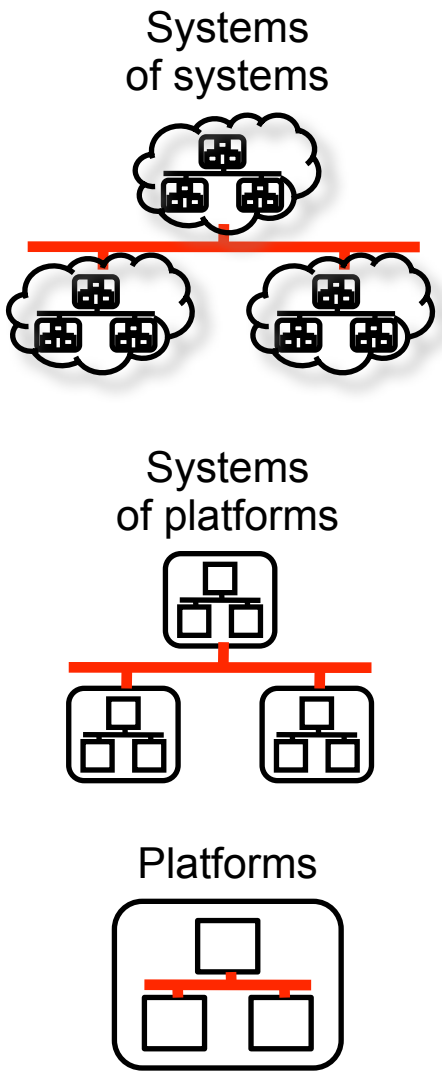
Platforms



NE

Telco Applications' Integration Landscape

Integration scale and form factor



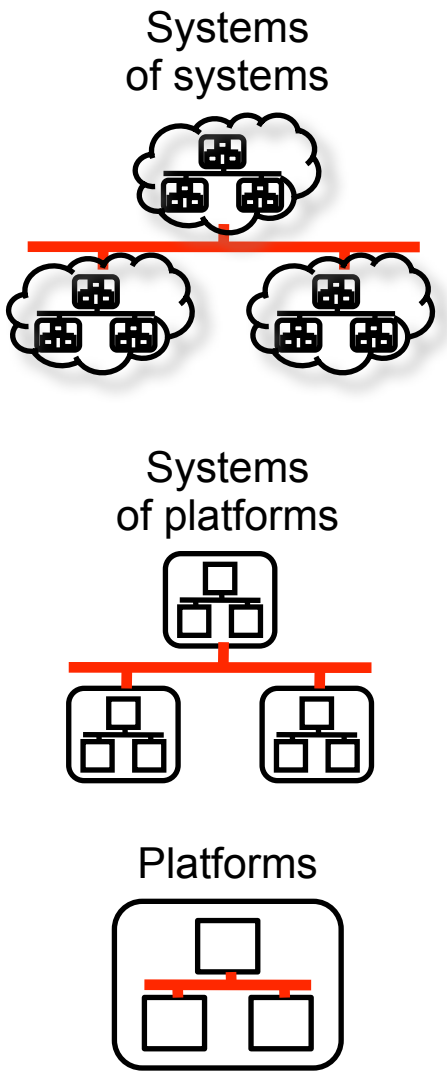
NM

EM

NE

Telco Applications' Integration Landscape

Integration scale and form factor



OSS

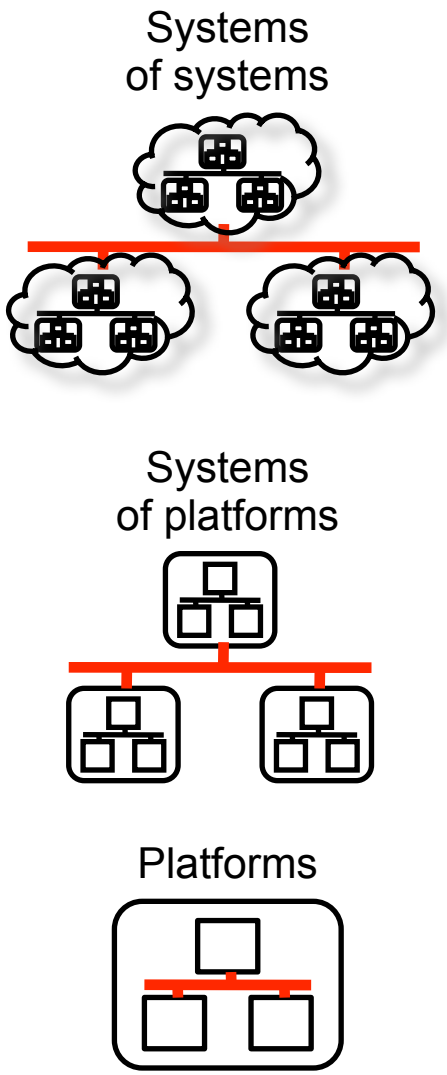
NM

EM

NE

Telco Applications' Integration Landscape

Integration scale and form factor



BSS

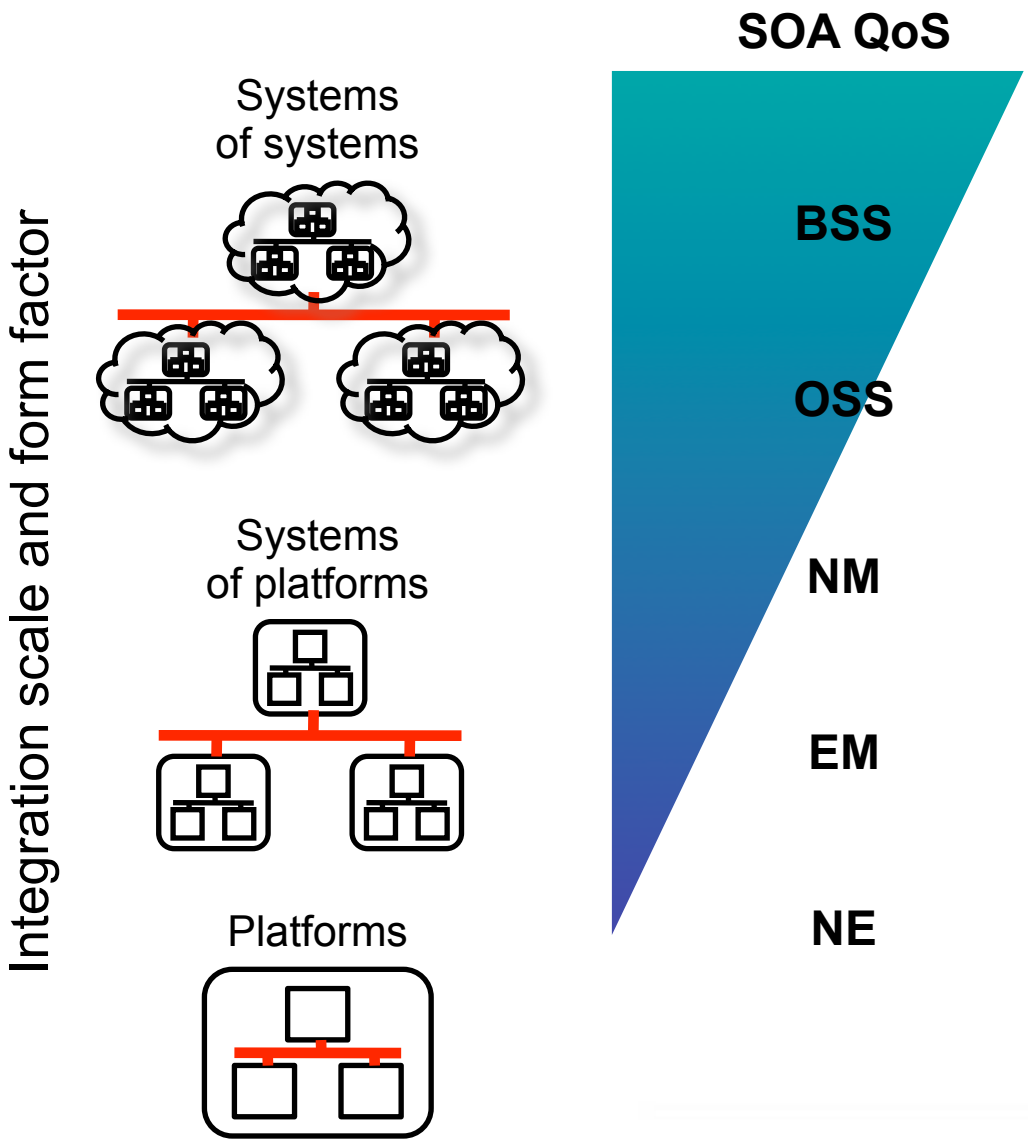
OSS

NM

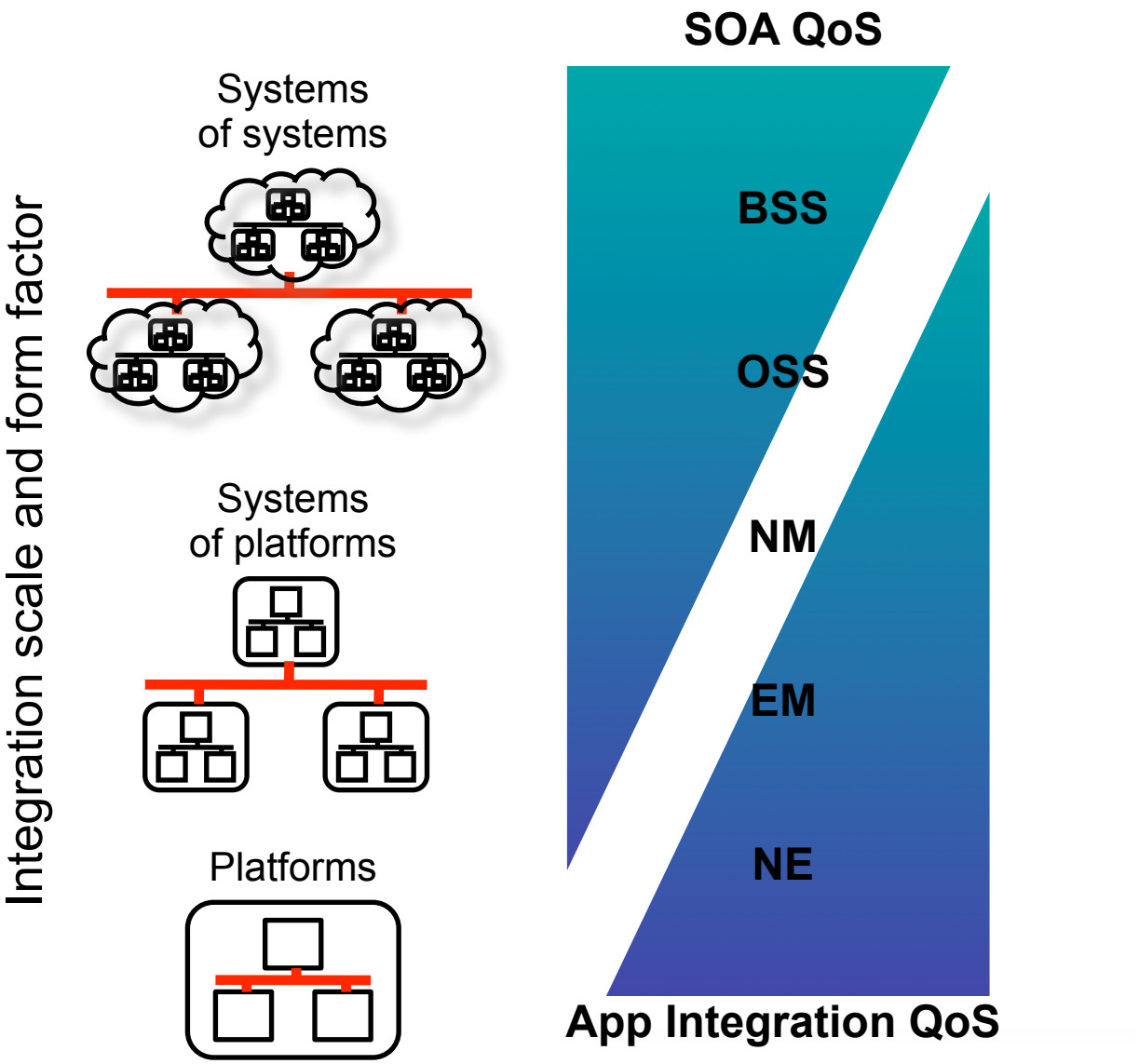
EM

NE

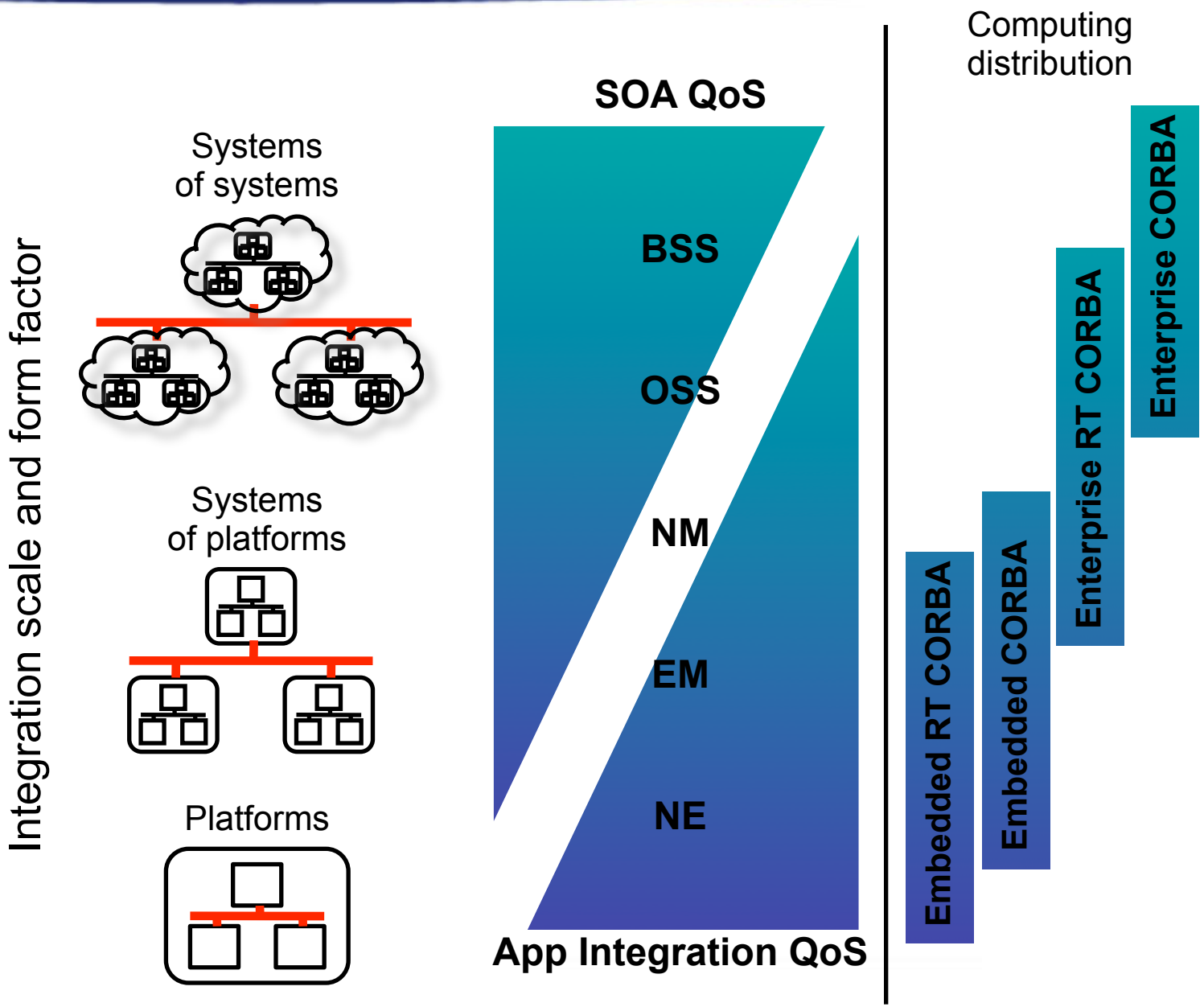
Telco Applications' Integration Landscape



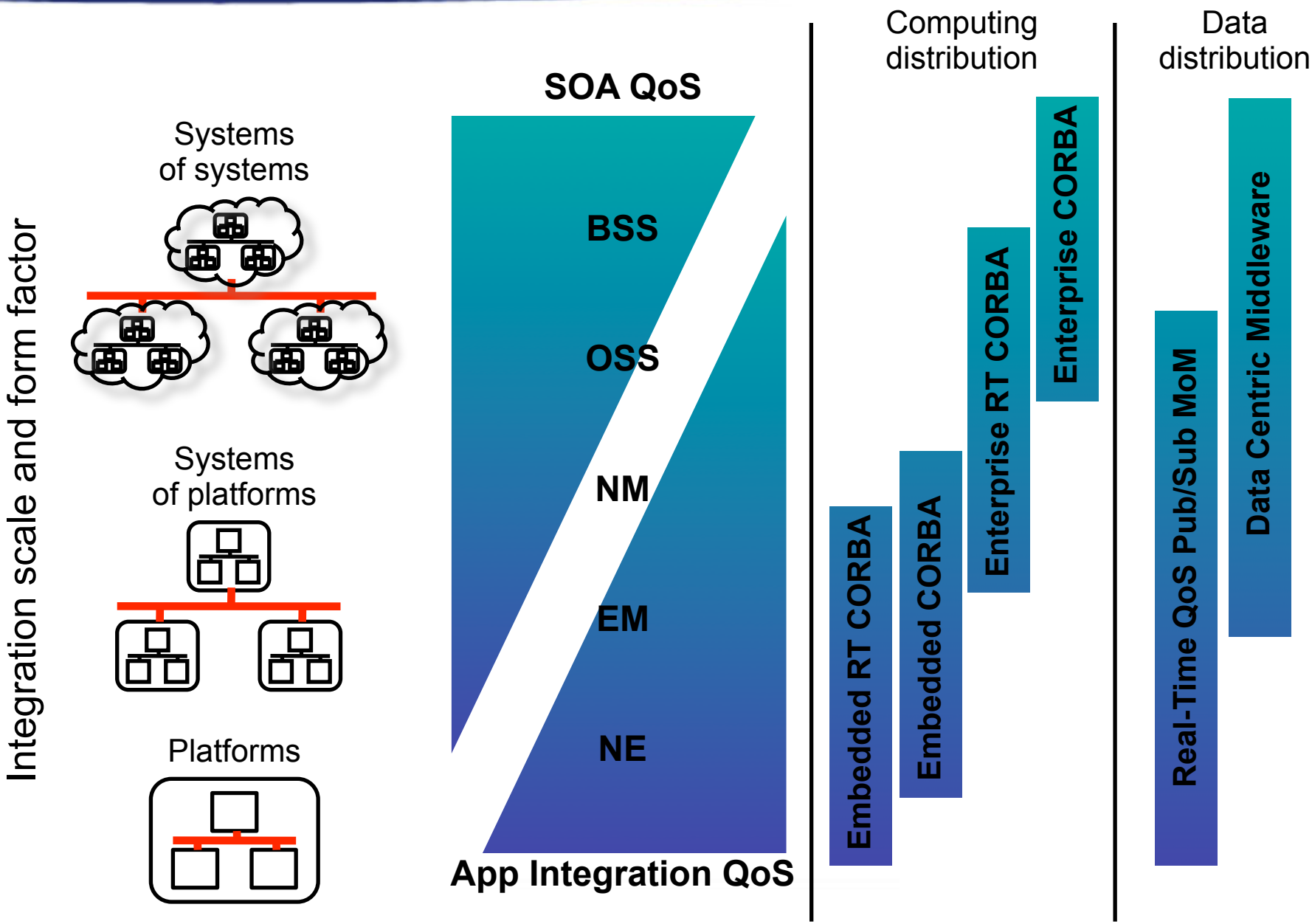
Telco Applications' Integration Landscape



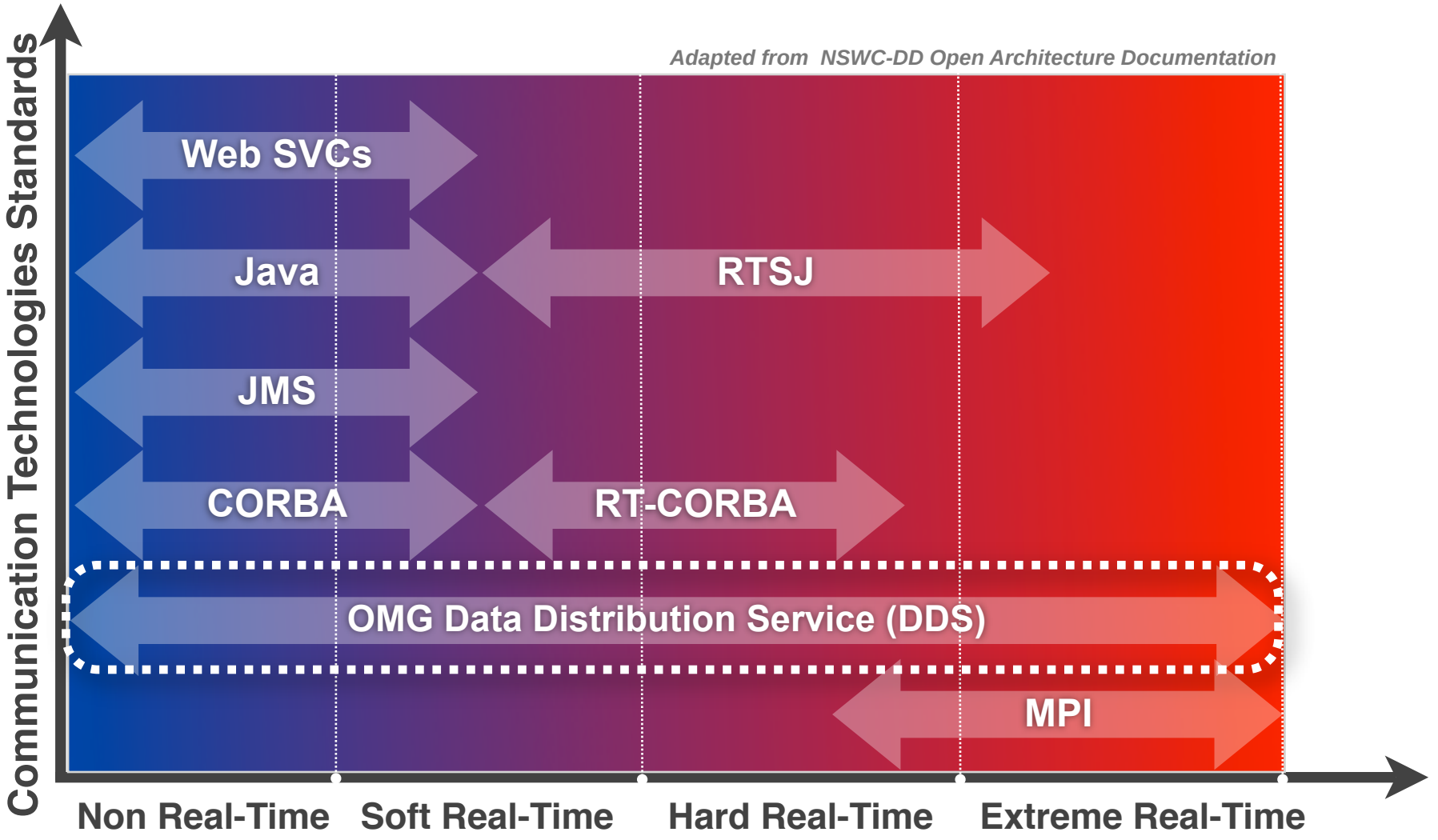
Telco Applications' Integration Landscape



Telco Applications' Integration Landscape



OpenSplice DDS Applicability



The DDS is the only technology that spans across the board -- It guarantees exceptional real-time behavior, while providing unparalleled level of throughput !

Telco Applications' Data Distribution Landscape

- Increasing complexity and variety of heterogeneous equipments, networking and services types
- Increasing amount of information required / available to effectively and consistently operate and manage end-to-end telco systems
- Continued drive for TEMs and Telco ISVs to focus on Telco value vs. underlying plumbing, yet increasing reliability requirements

- Localised data management/data availability
- Event-driven notification based systems
- Minimize bandwidth overload with system management information
- Middleware specialisation
  - Remote execution
  - Data distribution

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- Concluding Remarks

OpenSplice DDS in NE / EMS

- Inter Process Communication in blade environment
- Hot standby persistence state configuration
- Dynamic cluster fail-over and re-configuration

- Pervasive data with an NE cluster
- Latency measured in microsecond with very low jitter hence highly predictable
- Throughput of millions of messages per second

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OpenSplice DDS in NM / OSS

- Passive information: performance management data collection
- Reactive information: alarm notification, filtering and correlations systems
- Network information systems: network configuration and dynamic reconfiguration
- User information systems: subscriber profile datasets

- Real-time deterministic data distribution
- High availability through effortless data distribution to avoid single point of failure
- Enable application level fault-tolerance through pervasive data access

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OpenSplice DDS in BSS

- Enterprise level pub/sub
- Data distribution and replication where performance is key
  - Minimizing impact on bandwidth e.g. vs. XML
  - Minimizing impact on processing capacity e.g. vs. JMS
- Localized data management where client-server not enough
- Coexistence and complement JMS with additional capabilities:
  - data filtering and transformation
  - discovery and routing
  - fault-tolerance and QoS

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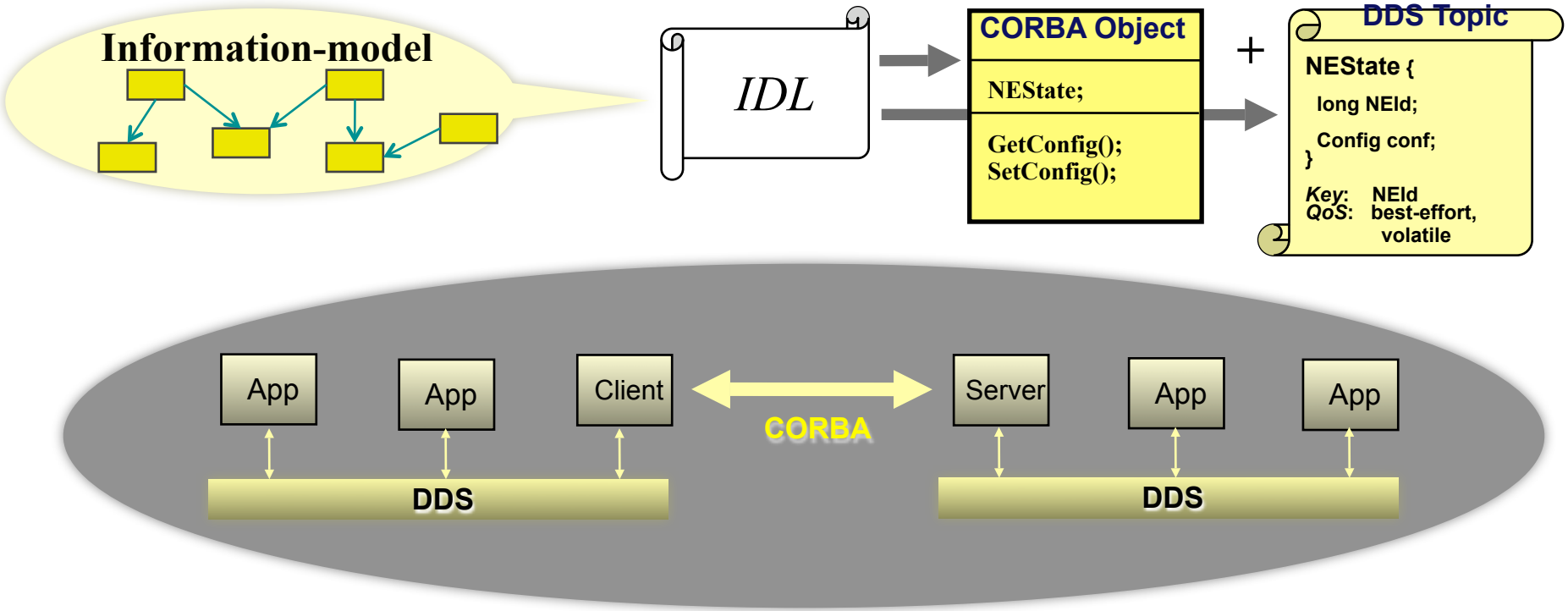
- Concluding Remarks

OpenFusion CORBA and OpenSplice DDS: Combining Strength



Characteristics & Benefits

- **CORBA/DDS Common Definition language: IDL**
  - Type definition for CORBA-interfaces & DDS topics
  - Code generation : Type-generation as well as generated (typed-)interfaces
- **OpenSplice™ Seamless Runtime Cooperation**
  - Shared types allow direct passing-on of RPC-obtained information into DDS-topics
  - Fully autonomous runtime-systems: no dependency, no real-time influence

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Concluding Remarks

Performance

- OpenSplice DDS uniquely combines data centric and real-time publish subscribe features
- Thanks to its architecture, it delivers extremely high performance, and retains predictability even under burst of activities

Open Architecture

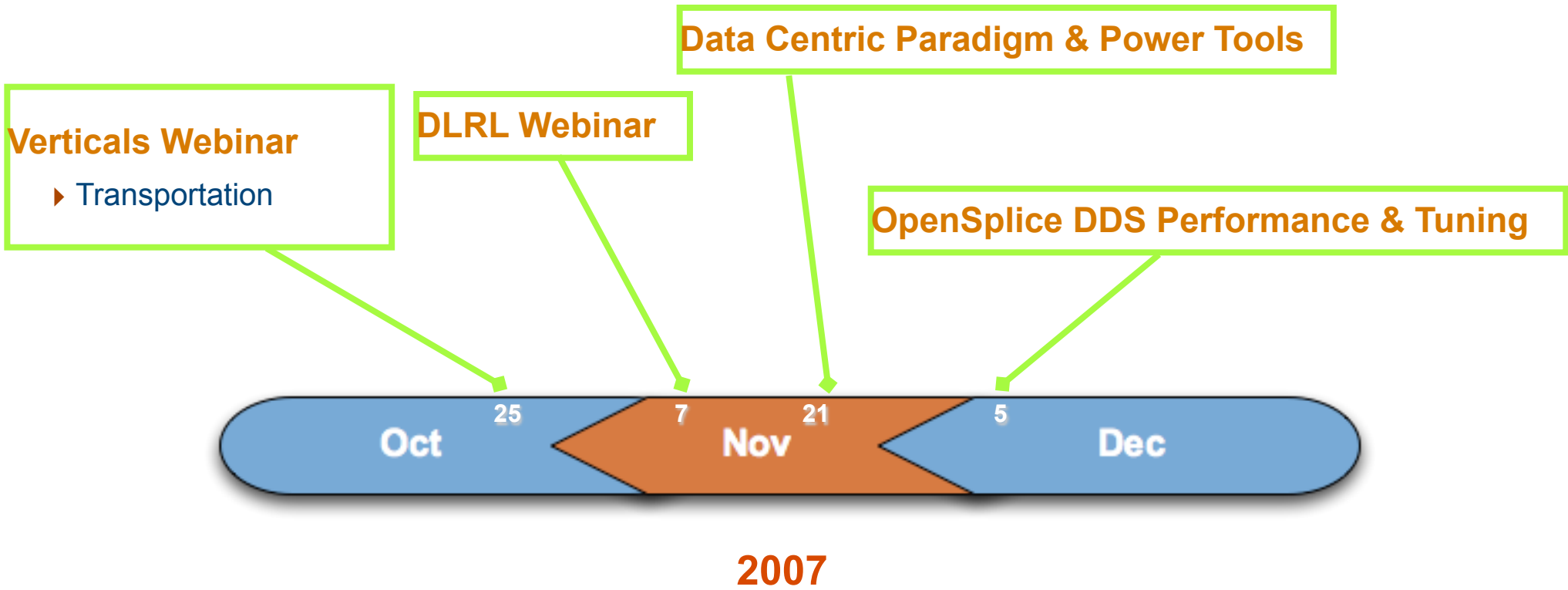
- OpenSplice DDS is the only implementation in the world which fully implements the OMG DDS v1.2 standard

Technology Ecosystem

- Seamless cohabitation with CORBA (Java, C++), MoMs (JMS, …)
- DBMS Integration
- Security Plug-in

OpenSplice DDS is the best solution available on the market for solving your data distribution problems

Upcoming Webinars



Registration: http://www.prismtech.com/section-item.asp?id=731&sid=29&sid2=15&sid3=289

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OpenSplice™ DDS

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  - sales@prismtech.com
- OMG DDS Information
  - http://www.dds-forum.org/
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Thank You!