Will FACE Create Portable Applications?

... a coffee chat with RTI ...

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Corporate Overview

Largest software framework provider for smart machines and real-world systems

– 1,500+ commercial designs

– 600+ research projects

– Dominant DDS market share

– ~$40M+ annual revenue with ARR growth of 25%+

– HQs in Silicon Valley and Spain with worldwide offices

Leader in Connectivity Standards

– Active in 15+ standards efforts across multiple industries

– Authors of the Data Distribution Service (DDS) standard

– Object Management Group (OMG) Board of Directors

– CEO is Vice Chair of Industrial Internet Consortium (IIC) Steering Committee
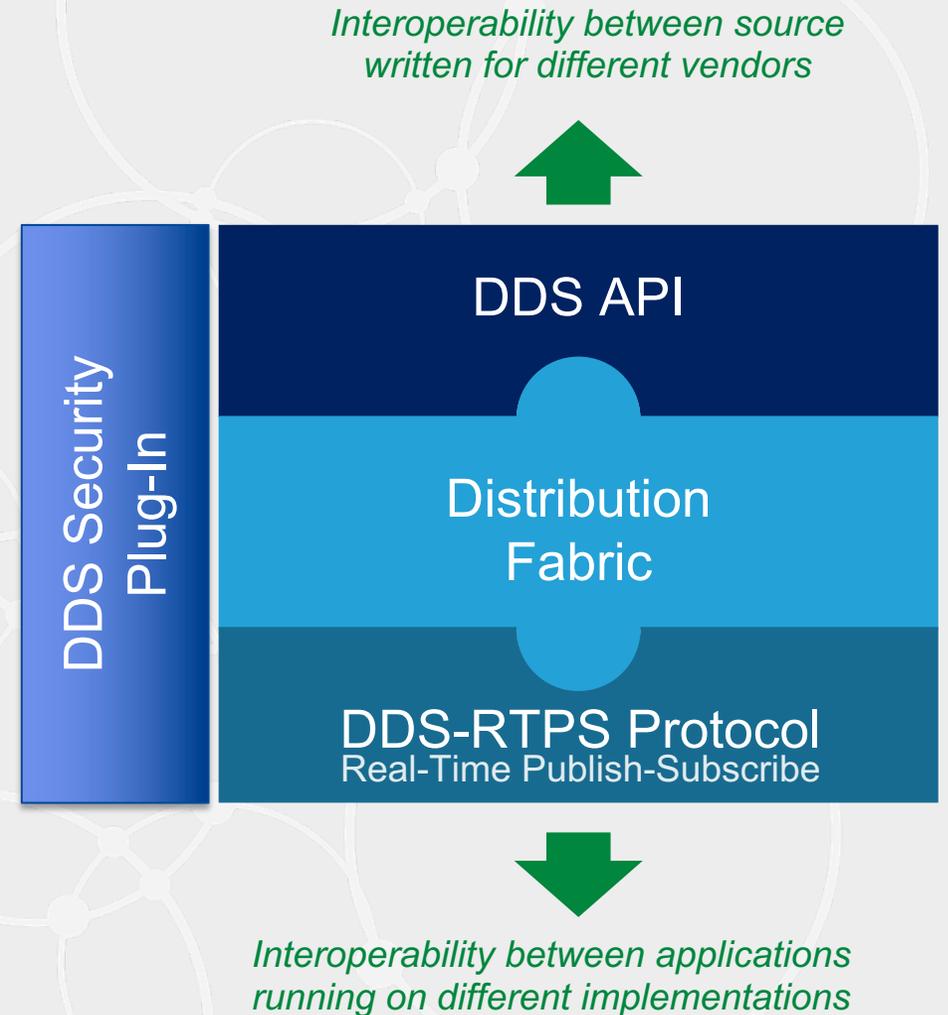
RTI Commitment to Global Standards

- First to market DDS Secure Security Standard

- First COTS offering for RTCA DO-178C DAL A certification evidence

- First certified conformant FACE Transport Services Segment (TSS)
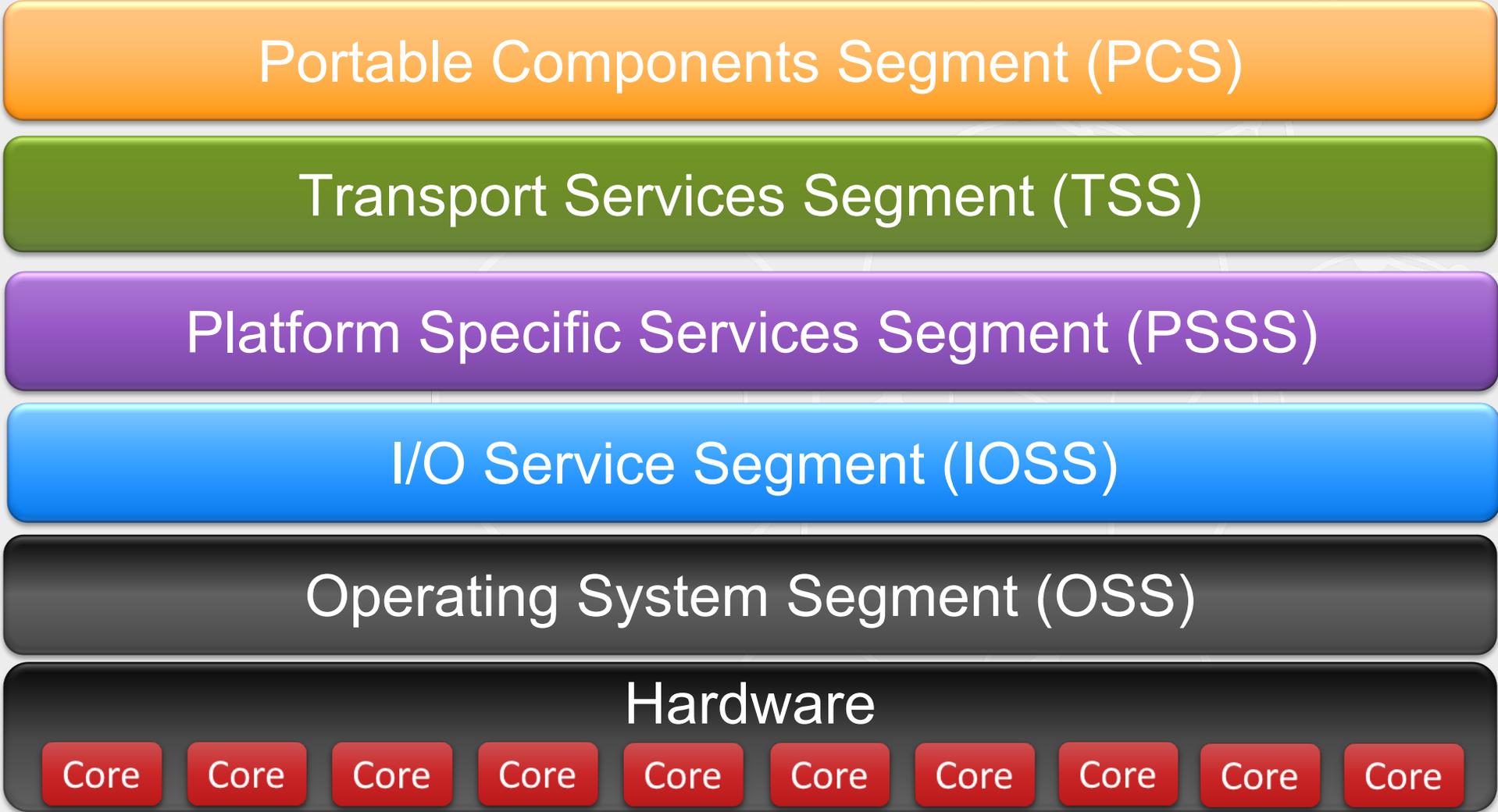
DDS: Open Cross-Industry Standard

- Data Distribution Service (DDS) is an open industry standard for data-centric connectivity

- From OMG, the world's largest systems software standards organization
  - UML, SysML, XMI, CORBA, DDS
  - Industrial Internet Consortium (IIC)

- DDS is open and multi-vendor
  - Open Standard and Open Source
  - 12+ implementations

Interoperability between source written for different vendors

DDS Security Plug-In

DDS API

Distribution Fabric

DDS-RTPS Protocol
Real-Time Publish-Subscribe

Interoperability between applications running on different implementations

Data Distribution Service (DDS)

- Peer-to-Peer, Data-Centric, Publish-Subscribe

- Loosely-Coupled, Discovery

- Real-Time Quality of Service (QoS)

- Inherently Parallel, Enables Massive Scalability

- Standards-Based Security

FACE Solution Stack

Portable Components Segment (PCS)

Transport Services Segment (TSS)

Platform Specific Services Segment (PSSS)

I/O Service Segment (IOSS)

Operating System Segment (OSS)

Hardware

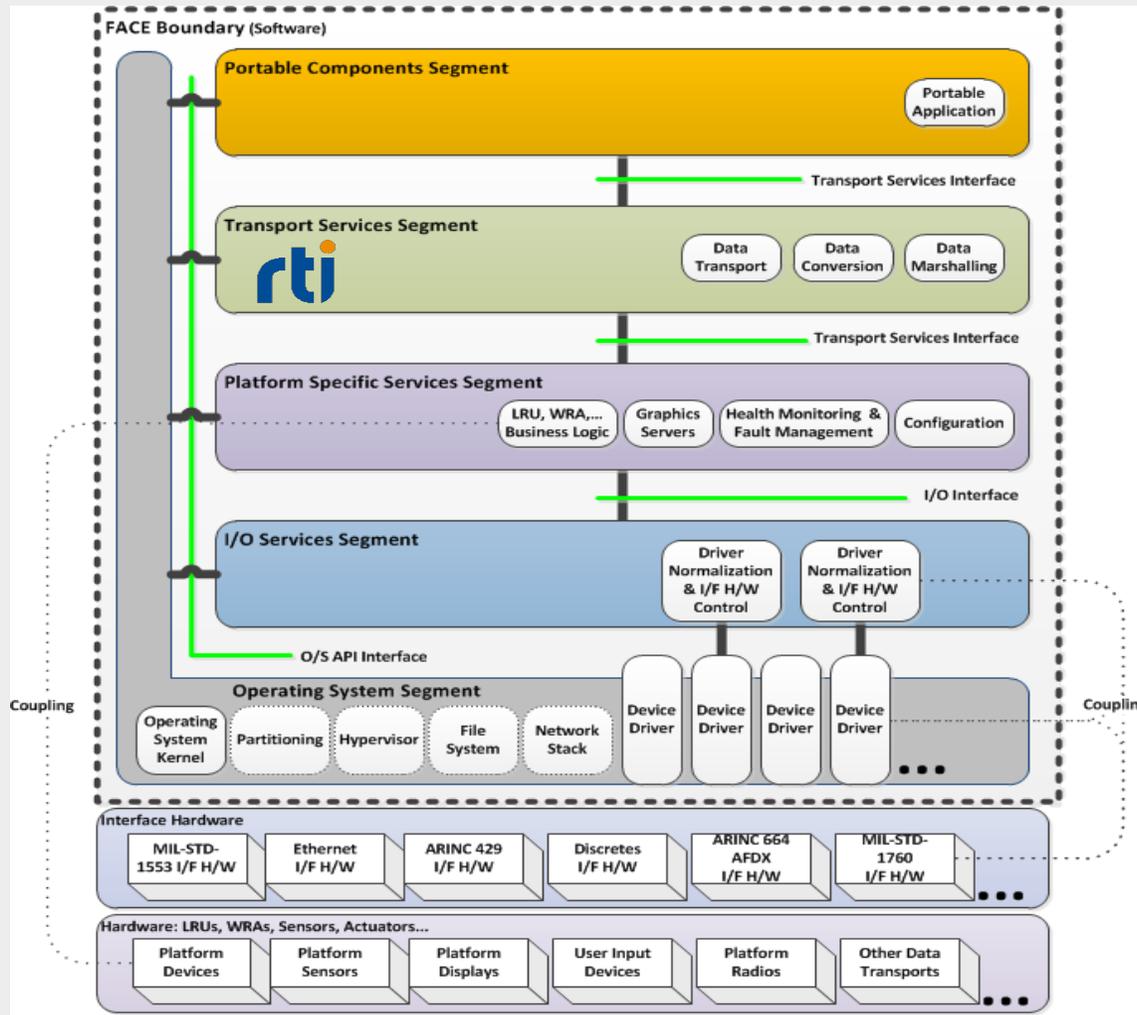Core Core Core Core Core Core Core Core Core Core

RTI FACE Commitment

- Over 10 years of FACE Consortium participation
  - TWG TSS
  - TWG Data Model
  - BWG Outreach
- First Certified Conformant FACE 2.1 Transport Service Segment (TSS) 7 Dec 2018
- FACE 3.x TSS
  - FACE Certification Q4 2020

FACE
Future Airborne Capability Environment

THE OPEN GROUP

Conformance Certificate

Certificate number: **15441947**
Certificate date: **December 7, 2018**

The following UoC has been certified FACE Conformant.

Software Supplier	RTI
UoC Name	RTI Connext TSS
Conformant Variants	n/a
UoC Part Number	Multiple, including 8632-20-23-00
UoC Version	2.1
FACE Segment	Transport Services
FACE Profile	Safety Base Sub-profile
FACE Technical Standard	Edition 2.1
FACE Verification Authority	TES-SAVI

FACE Certification Authority
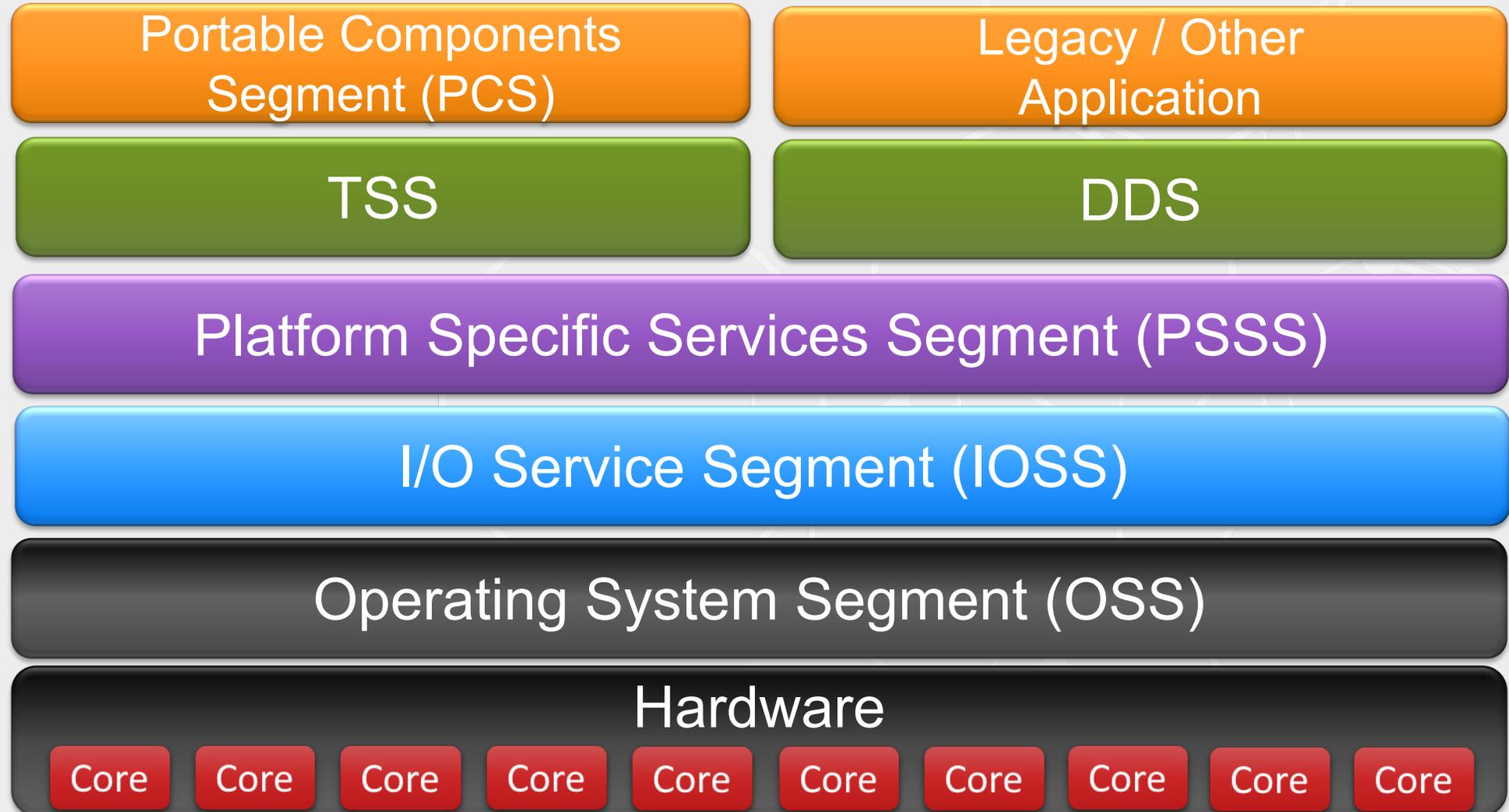
FACE Architectural Segments

- FACE Portable Components Segment

- Transport Services Segment

- Platform Specific Services Segment

  – Platform Device Services

  – Platform Common Services

  – Graphics Services

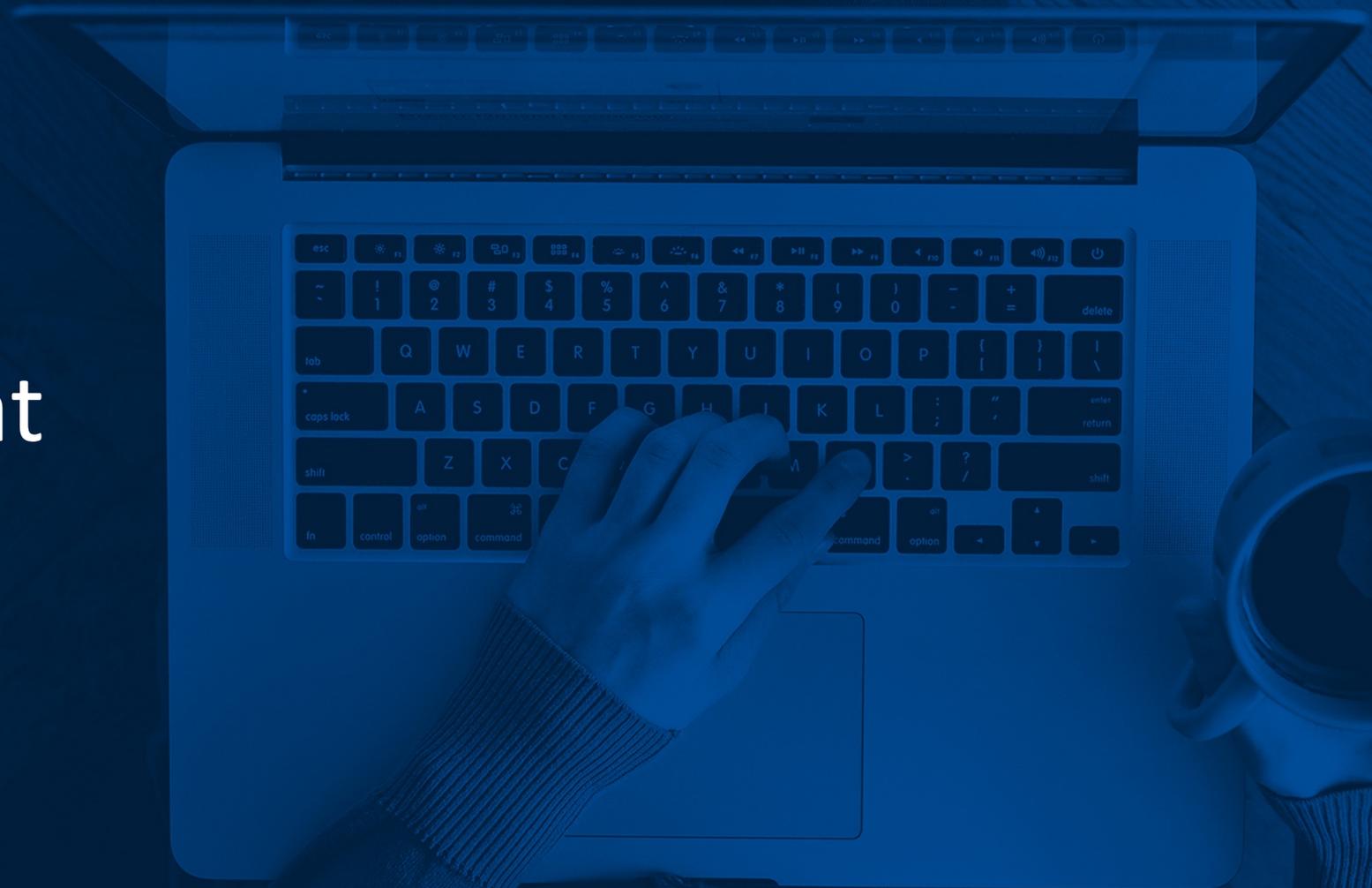- I/O Services Segment

- Drivers

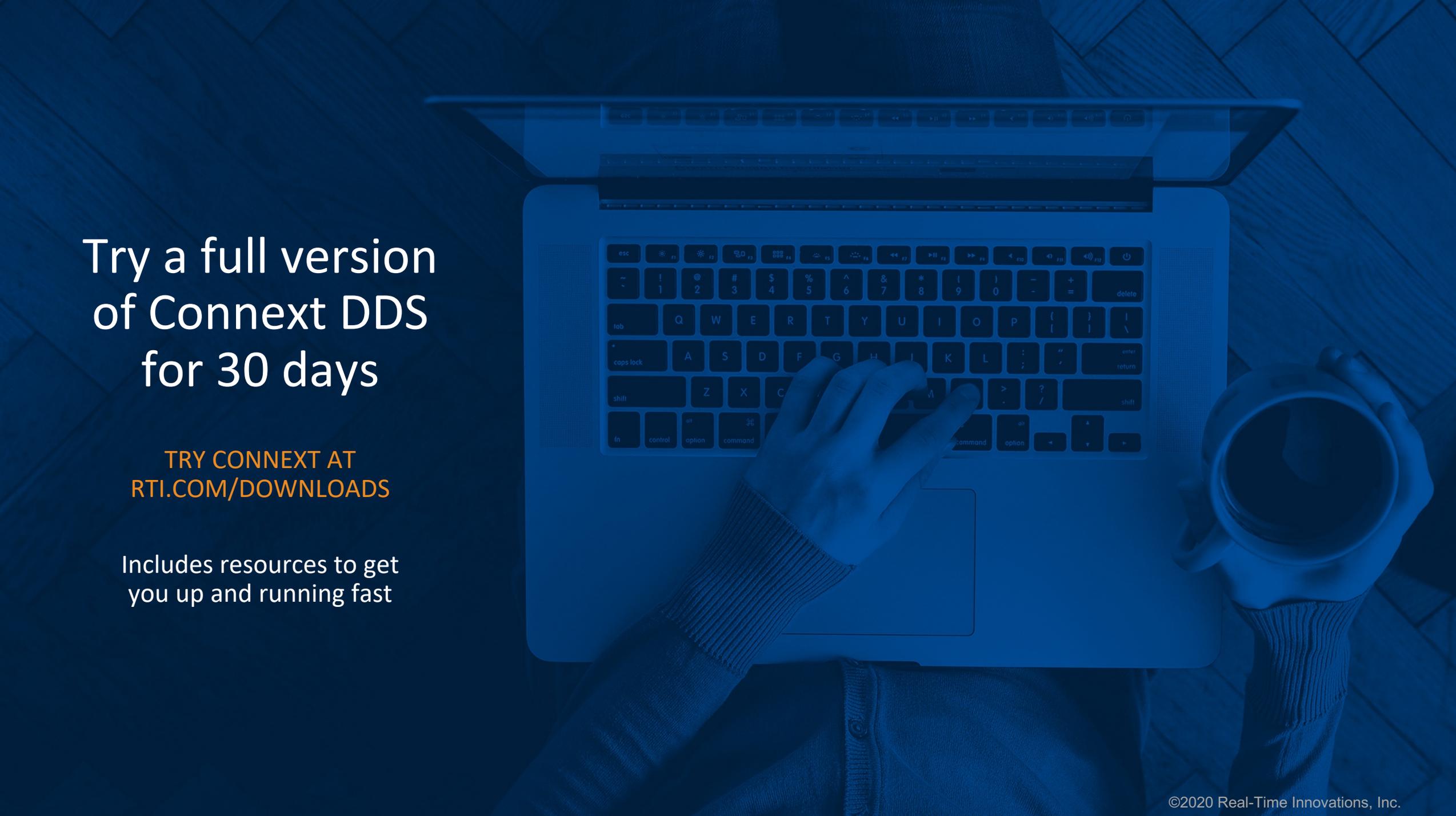- Operating System Segment

FACE Use Cases with Connext TSS

- Mixed FACE Transport Services Segment (TSS) Integration
  - Bridging FACE TSS 1.0, 2.0, 2.1, 3.0, 3.1, and Unknown Futures

- Connecting FACE and Non-FACE Systems

- Upgrading both certified and uncertified systems
  - Using Connext DDS loose coupling, with/without TSS

- Aiding in loose data coupling and robust partitioning for tech insertion in certified systems on multi-core platforms

Mixed FACE Solution Stack

Portable Components Segment (PCS)	Legacy / Other Application
TSS	DDS

Platform Specific Services Segment (PSSS)

I/O Service Segment (IOSS)

Operating System Segment (OSS)

Hardware

Core	Core	Core	Core	Core	Core	Core	Core	Core	Core

Coffee Chat

Try a full version of Connext DDS for 30 days

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Includes resources to get you up and running fast

Search "YouTube Real-Time Innovations" for RTI videos

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