5G Private Networks

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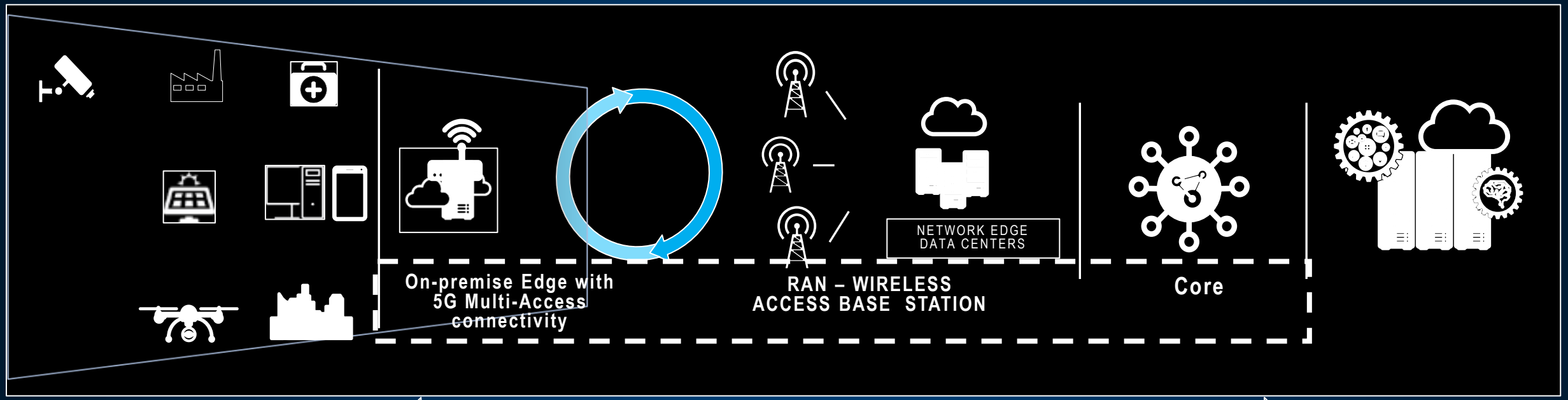
5G Wireless Network - Today

RAN : Radio Access Network,
VRAN : Virtualized Radio Access Network



Virtualization/Cloudification of 5G Network (RAN & Core)

DEVICES/THINGS	ON-PREMISE EDGE	NETWORK EDGE	CORE NETWORK	CLOUD DATA CENTER

What Is A Private 5G Network?

A wireless network set up specifically for dedicated use to drive better coverage & control

Comparing public and private networks

Private

- Spectrum owned by enterprise or CoSP
- Network management flexibility
- Targeted coverage, for example, campuses, arenas, retail
- Versatile deployment options for vertical use cases
- Inclusive of Multi-Access (Cellular, Wi-Fi, Wireline)

Hybrid

Uses public and private aspects Network slicing to reduce complexity/ add flexibility

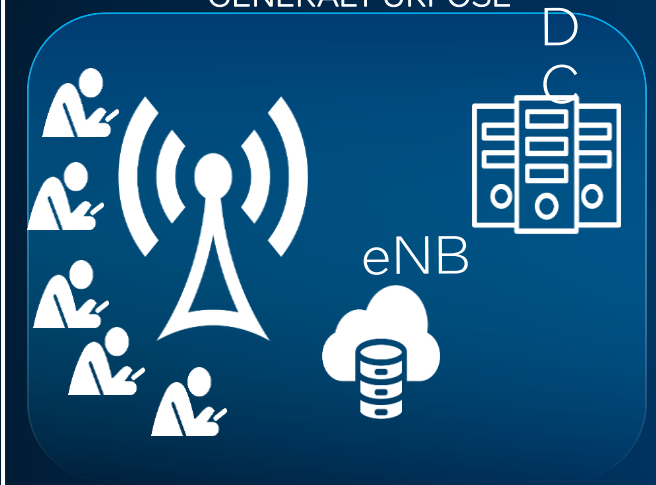
Public

- Communication service provider-owned spectrum
- Provider manages network and scalable services
- Broad coverage across a wide area
- Licensed spectrum, including mmWave

Private 5G Networks + Edge Deployments Solve Enterprise Pain Points

Why Private Networks

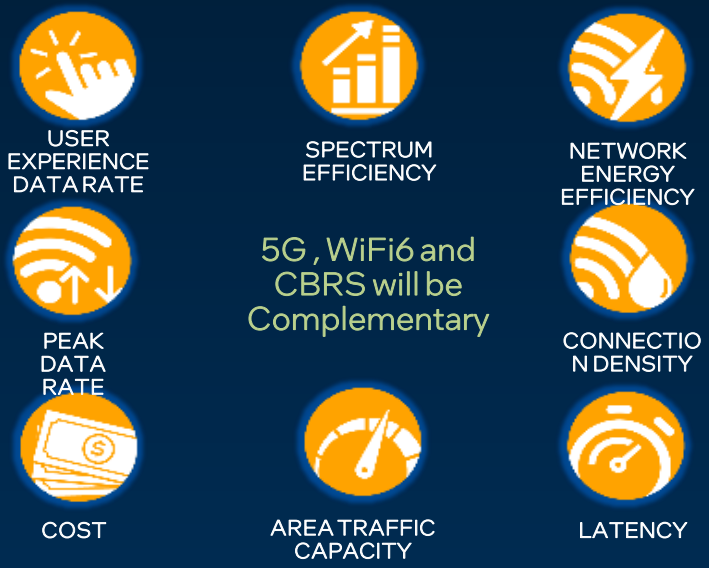
TODAY'S PUBLIC NETWORK
GENERAL PURPOSE

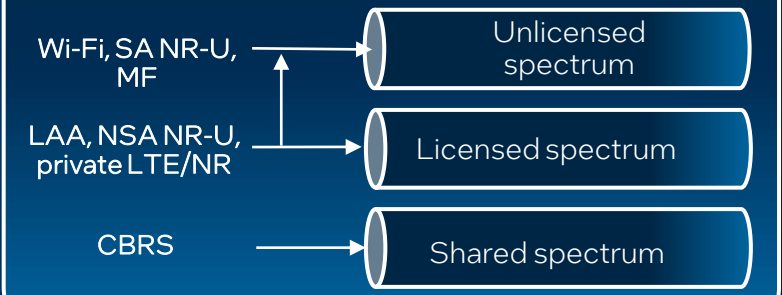


TRENDING PRIVATE NETWORK
CUSTOM PURPOSE

RESPONSE TIME | SECURITY | COST | PRIVACY | CONNECTIVITY | CUSTOMIZATION | CONTROL | SOVEREIGNTY

5G - WiFi6 - CBRS





Enabling the Industry with Solutions and Frameworks: Example

IOT/EDGE

Intel® Market Ready Solutions

- Computer Vision
- Retail Transformation
- Smart Cities
- Education IoT
- Industry 4.0
- Healthcare IoT
- Connected Vehicles

Frameworks

- Smart Edge
- OpenVINO
- AI Toolkit
- Intel® Media SDK
- Intel® System Studio
- oneAPI
- Arduino* Create for Intel® IoT Platforms

NETWORK

Intel® Select Solutions

- Network Function Virtualization Infrastructure (NFVI)
- NFVI Forwarding
- Universal CPE
- Visual Cloud Delivery
- Media Analytics

Frameworks

- Data Plane Development Kit
- Container Experience Kit
- ONAP
- Open Source MANO

Private 5G & Edge: Computing Optimized for Business Value

Compute is distributing throughout the intelligent network—bringing the power of the cloud closer to the end user.

Leverage always-on data access and enhanced security with less data in transit.

Easily deliver new services and target and shift between localized markets.

Support latency-sensitive applications and act on data insights in near-real time.

Prep for agile growth by expanding capacity without opening a new data center.

75%

of enterprise-generated data will be created and processed outside centralized data centers or the cloud by 2025.*

*Gartner, "What Edge Computing Means for Infrastructure and Operations Leaders," 2018.

Private 5G & IoT: Connecting a Data-driven World

5G networks and AI will unleash intelligent IoT to derive exponential value from data created by billions of connected things.

1/2

By 2025, IoT will generate over half of the world's data.*

Enable time-sensitive IoT applications to continuously optimize.

Empower businesses to gather and act on previously untapped data.

Leverage vision-based inference and intelligence, to support safer cities and productive manufacturing.

*IDC, Data Age 2025, 2017.

Private Network Deployments

INDUSTRIAL

- Autonomous Mobile Robots
- Textile Defect Detection
- Virtual Power Protection Relay
- PCB Defect Detection

CITIES & TRANSPORTATION

- Intelligent Traffic Management
- Smart Campus
- Marine Port Truck Access-Gate Automation
- Smart Spaces

EDUCATION

- Remote Education
- Remote Testing
- Recording / re-runs

RETAIL

- Inventory Management
- Personalized Shopping
- Frictionless Stores
- Customer Traffic Monitoring

Ports Indoor /Outdoor Connectivity

Mfg. w/ real-time data collection and analysis

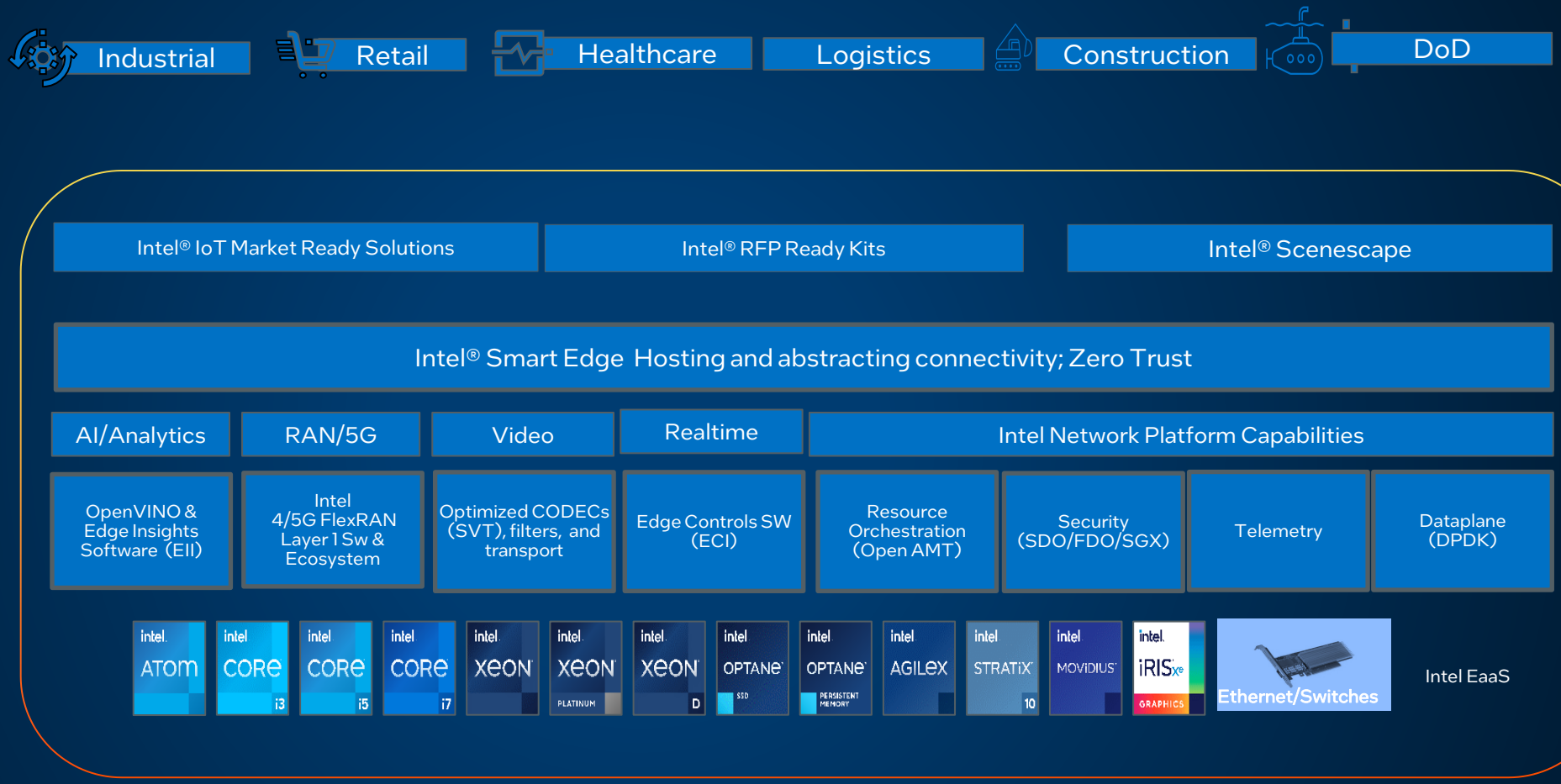
Integrated Wired/ Wireless Motion Control

Protecting / transmitting video surveillance data

Remote Facility monitoring

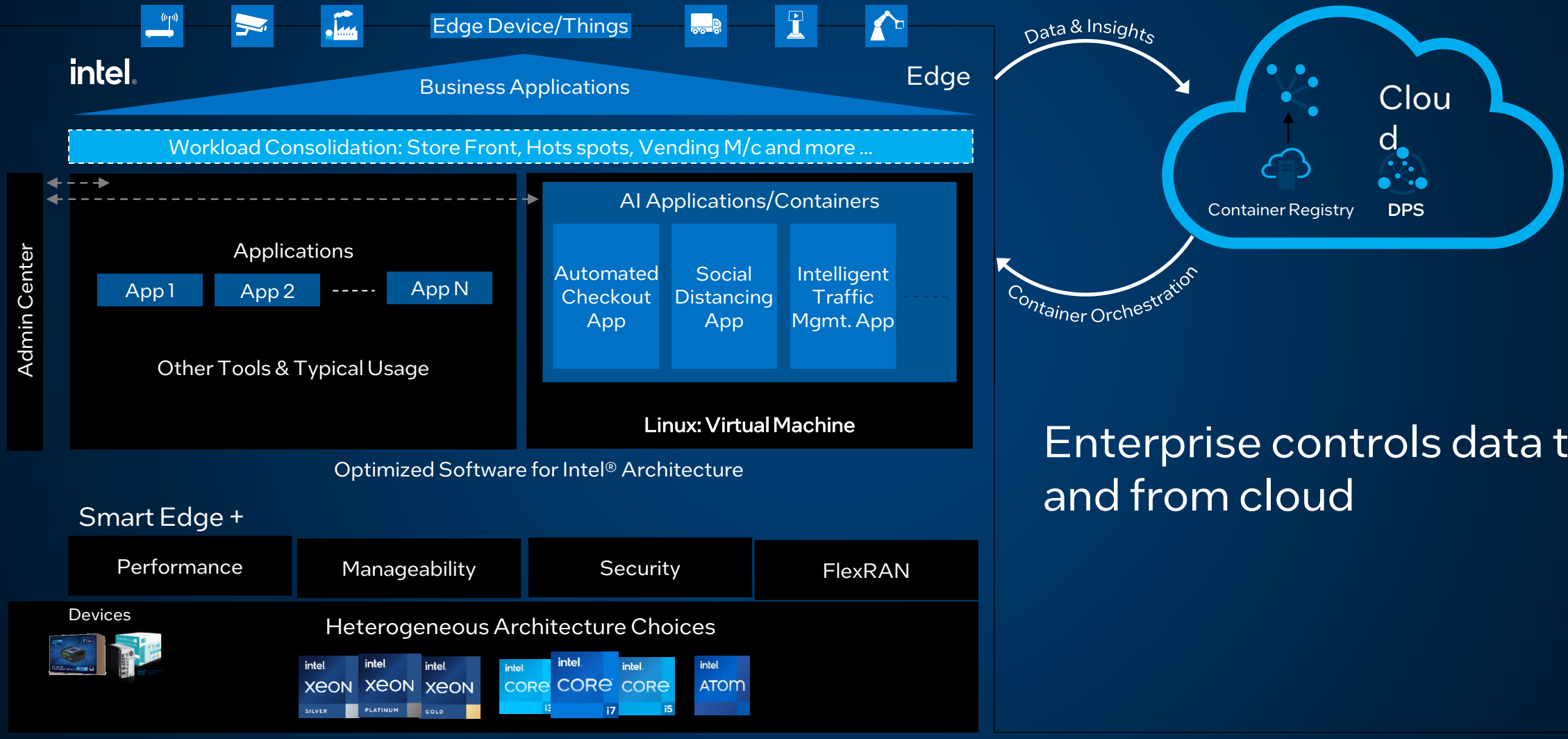
Manufacturing Facility Reconfiguration

Intel in 5G Private Networks and Edge



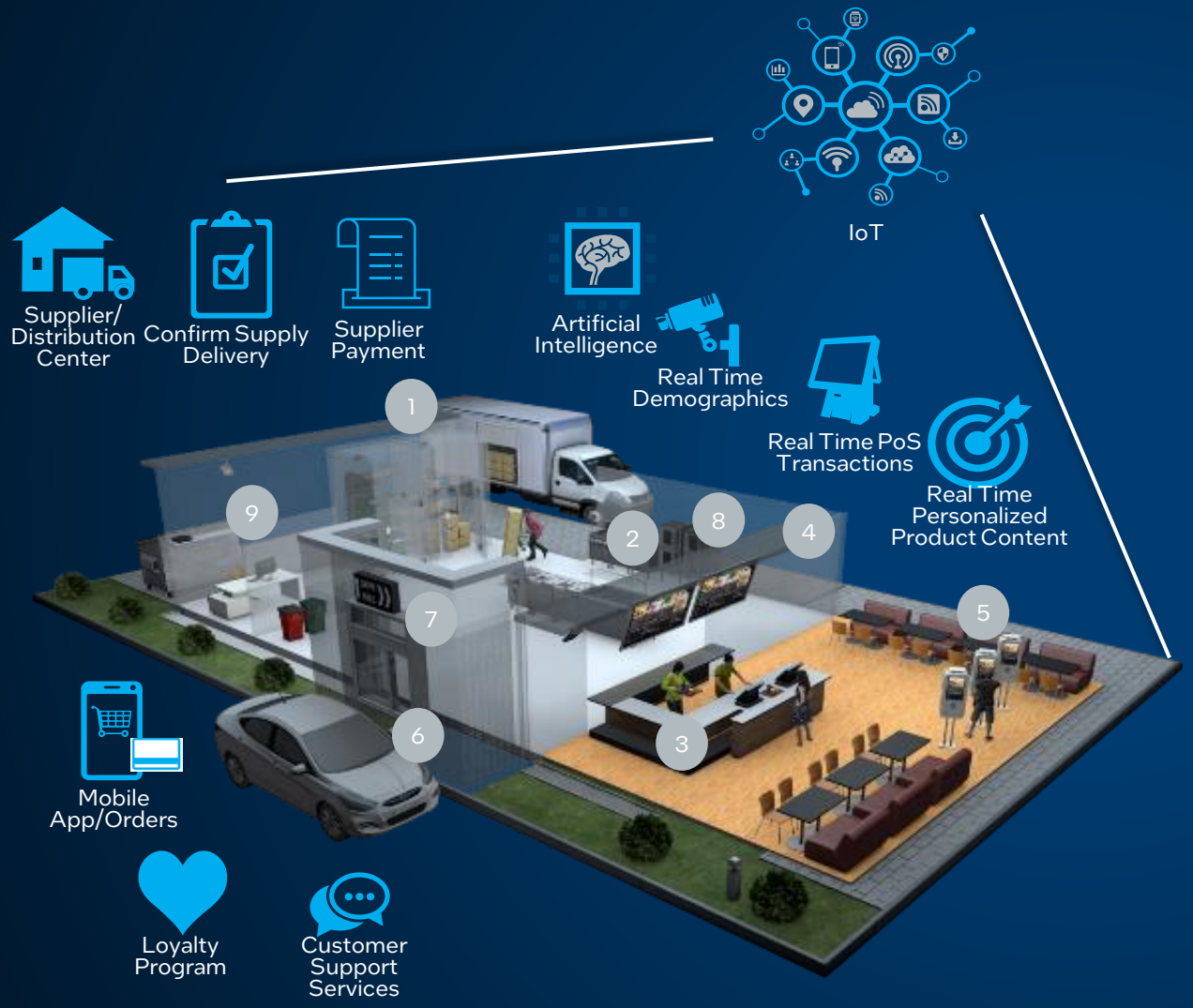
Intel Horizontal Platform Solutions Address Pain Points Across Different Vertical Industries

Example: Workload Consolidation



Enterprise controls data to and from cloud

Edge Quick Service Retail (QSR) Infographic



QSR Edge Automation Use Cases

1. Supply/Inventory Management
2. Kitchen Ops Optimization
3. Associate Service Activation
4. Personalized Product Content
5. Interactive Kiosks
6. Mobile Checkout
7. Predictive Traffic Analysis (Queue, Weather, Events, Time)
8. Loss Prevention
9. Workforce Management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