

Igor Freitas

# Intel Technology Designed for SAP

## AI Cases

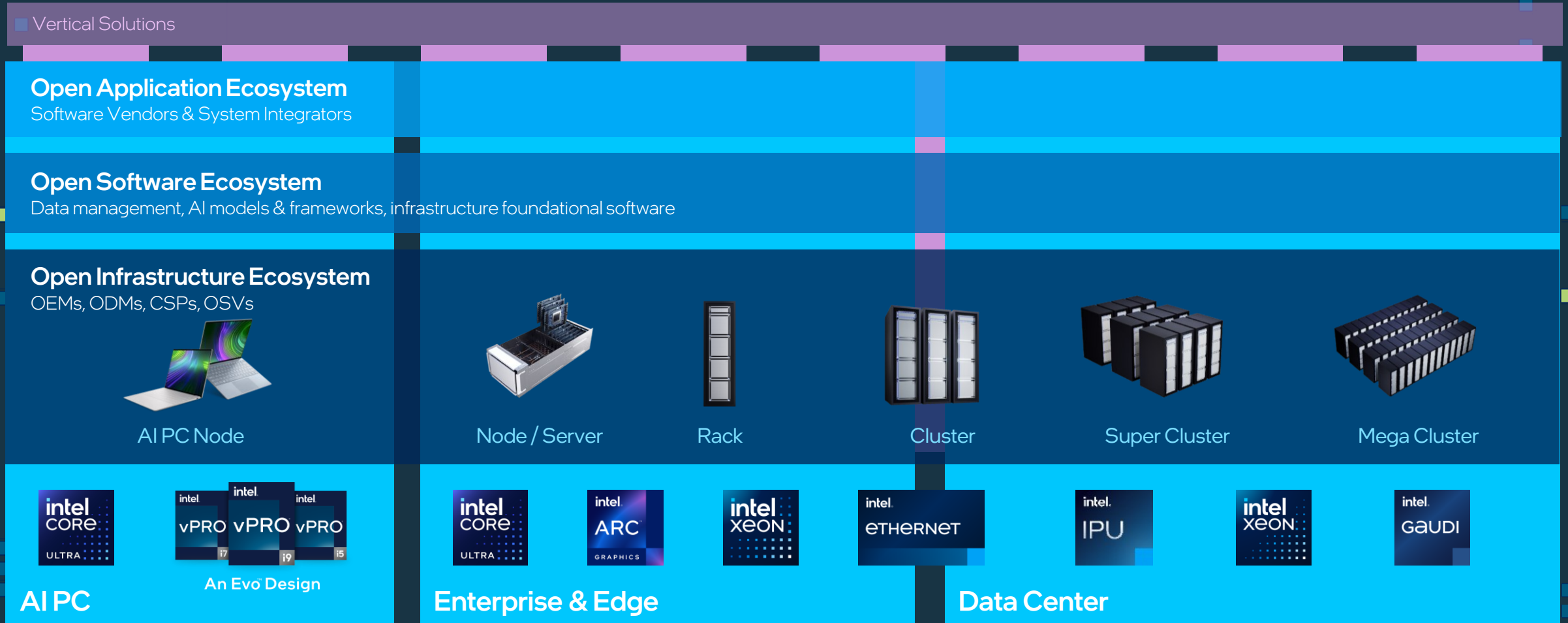
intel®



# AI on Intel

# Bringing AI Everywhere

with an open systems-based approach



# Intel® Core™ Ultra Processors

## Client AI



CPU

### Fast Response

Ideal for lightweight, single-inference, low-latency AI tasks

GPU

### Performance Parallelism & Throughput

Ideal for AI infused in Media/3D/Render pipeline

NPU

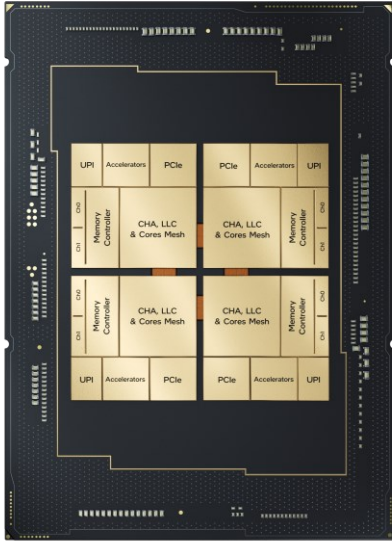
### Dedicated Low Power AI Engine

Ideal for sustained AI and AI offload

The right balance of power and performance for AI

# Intel® Xeon® 6 Processors

## Unlocking Value of Accelerators with Software



### Intel® Advanced Matrix Extensions (Intel® AMX)

- TensorFlow
- PyTorch
- ONNX Runtime
- OpenVINO
- oneDNN (Intel oneAPI)



### Intel® Advanced Vector Extensions (Intel® AVX) for vRAN

- FlexRAN
- Data Plane dev Kit (DPDK)\*



### Intel® In-memory Analytics Accelerator (Intel® IAA)

- Intel Query Processing Library



### Intel® Data Streaming Accelerator (Intel® DSA)

- Storage Perf Dev Kit (SPDK)\*
- Data Plane Dev Kit (DPDK)\*



### Intel® QuickAssist Technology (Intel® QAT)

- QATzip\* (Intel lib)
- OpenSSL\*\*
- Boring SSL



### Intel® Dynamic Load Balancer (Intel® DLB)

- VPP IPsec
- Data Plane Dev Kit (DPDK)\*

[Click here for more resources on accelerator enablement](#)

\*Intel open-source library (not part of stock SW).

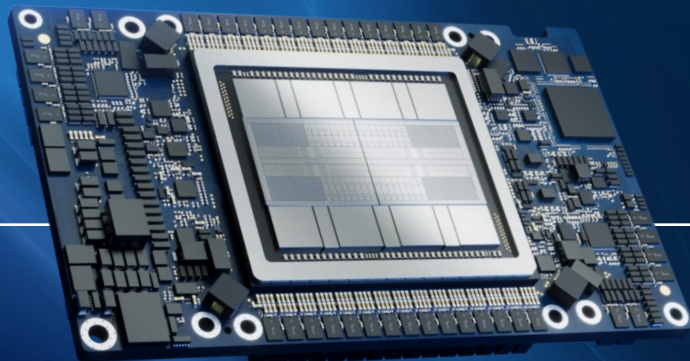
\*\*Difference between Intel version and stock version.

\*\*\*Intel® QPL and \*Intel® DML in open-source beta, v1.0.0 coming shortly.

intel GAUDI

# 1.5x faster time-to-train

Average projection for Intel Gaudi 3 accelerator vs. Nvidia H100, running common Large Language Models\*



\* NV H100 comparison based on : <https://nvidia.github.io/TensorRT-LLM/performance/perf-overview.html>, May 28th 2024 → "Large Language Model" tab  
Vs Intel Gaudi 3 projections for LLAMA2-7B, LLAMA2-13B & GPT3-175B as of 3/28/2024. Gaudi 3 performance was projected using static batch assumptions. Results may vary.

# SAP Landscapes – New Opportunities

2022

2023

2024

2025

2026

One Platform for SAP Landscapes – with 3 optimized CPU products

P-core

Intel P-Cores  
Optimized for Performance

E-core

Intel P-Cores  
Optimized for Performance

Intel E-Cores  
Optimized for Cost & Power



4<sup>th</sup> and 5<sup>th</sup> Gen  
Intel® Xeon®  
processors  
Data Center



Intel® Xeon® 6  
processors with  
P-cores  
Data Center



Intel® Xeon® 6  
processors with  
E-cores  
Data Center



Clearwater  
Forest with  
E-cores  
Data Center





# Intel Embarks on SAP RISE



# Intel and SAP Embark on Strategic Collaboration

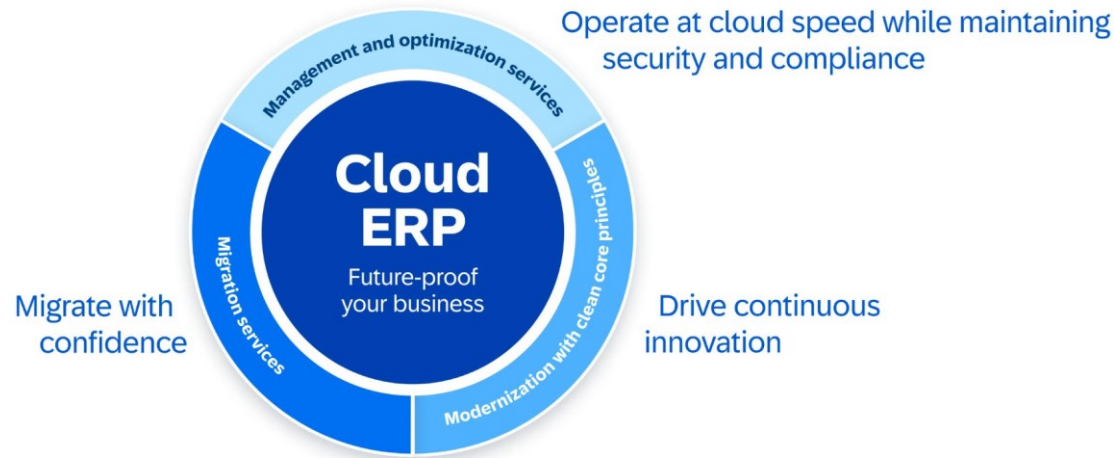
## Intel & SAP RISE

May 17, 2023 –

Intel and SAP SE announced a strategic collaboration to deliver a **more powerful and sustainable SAP®** software landscapes in the cloud. Designed to help customers derive greater scalability, agility and consolidation of existing SAP software landscapes, the collaboration deepens Intel's focus on delivering **extremely powerful and secure instances for SAP**, powered by Intel® Xeon® Scalable processors.

Intel embarks to the SAP RISE Journey in the coming years with the migration to S/4HANA.





## Future-proof and elevate your business processes

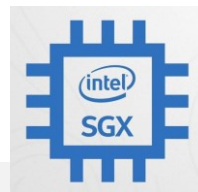
- **Improve productivity** by using a modern cloud ERP that automates processes and supports users with a digital assistant based on generative AI
- **Make better and faster decisions** with insights from real-time analytics based on a single source of truth
- **Build applications** for automation, integration, data and analytics, and leading-edge AI
- **Gain visibility** into the environmental impact of manufacturing and supply chain processes

## Operate at cloud speed while maintaining security and compliance

- **Run your technology operations** in a managed, secure cloud infrastructure with one trusted partner
- **Stay secure** with built-in cybersecurity and data protection based on the latest standards
- **Gain peace of mind** with 24x7 surveillance and security updates
- **Improve risk and compliance transparency** and consistently adhere to local and global regulations

## Migrate with confidence and drive continuous innovation

- **Accelerate your path to the cloud** with the RISE with SAP Migration and Modernization program
- **Unlock the potential of a modern ERP system** while transforming your business processes
- **Access best practice guidance** in RISE with SAP Methodology through a conversational chat-based experience that helps accelerate implementation
- **Tap into a global ecosystem** with SAP and partner data centers supporting 25 industries in more than 100 countries

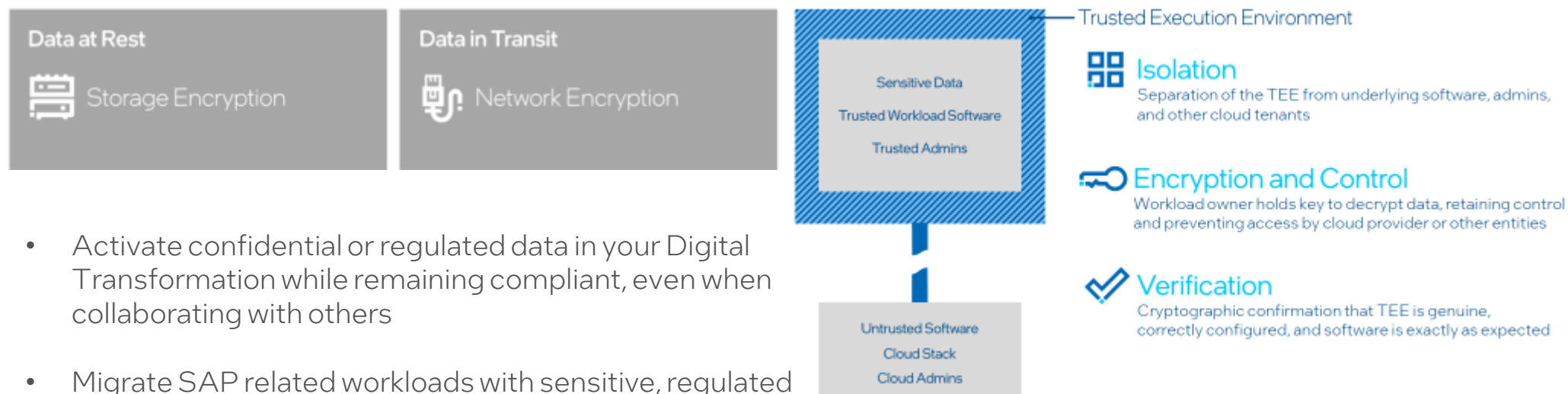




# Confidential Computing powered by Intel Technology

# The Need for Confidential Computing

## Close the major gap in the data protection continuum



- Activate confidential or regulated data in your Digital Transformation while remaining compliant, even when collaborating with others
- Migrate SAP related workloads with sensitive, regulated data to Hyperscalers with confidence
- Add technological controls and safeguards to SAP Applications and Non-SAP Data, sovereignty and governance programs
- Strengthen application and data security generally



# Confidential AI

# Confidential AI Indicators

Is the data Business Confidential, Regulated, or otherwise Sensitive?

Do the training set, model, or results represent valuable business IP?

Will the model be deployed where there are concerns about its security or sovereignty?

Do regulations require an elevated standard of care or audit record?

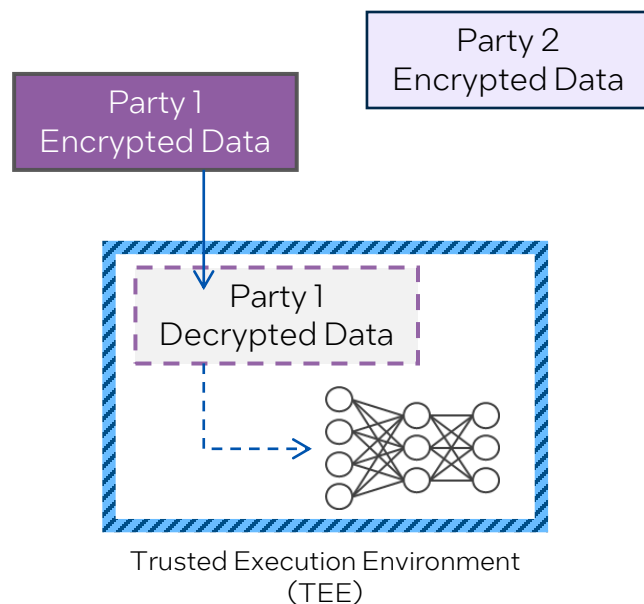
**YES?**

**Confidential AI**

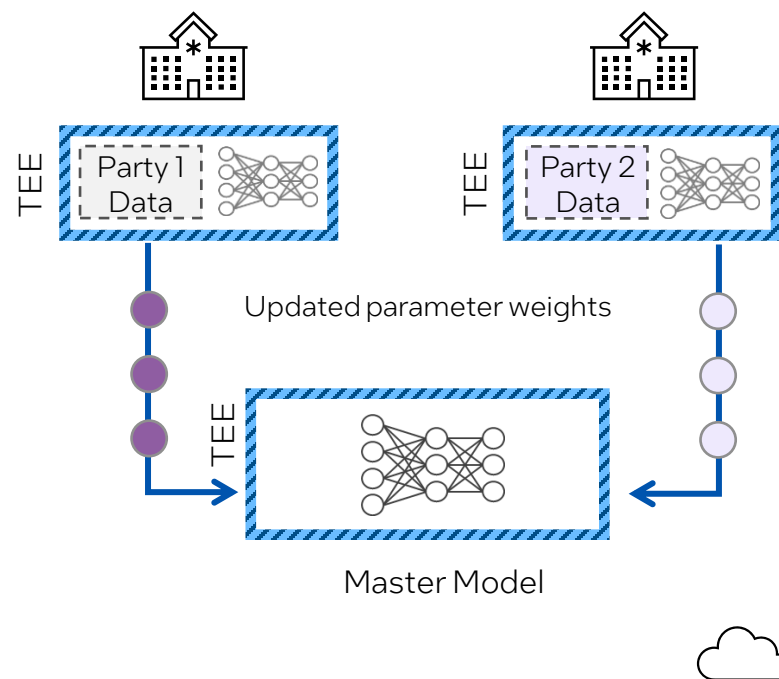
# Example Confidential AI Use Cases

## 1 Confidential Model Training & Tuning

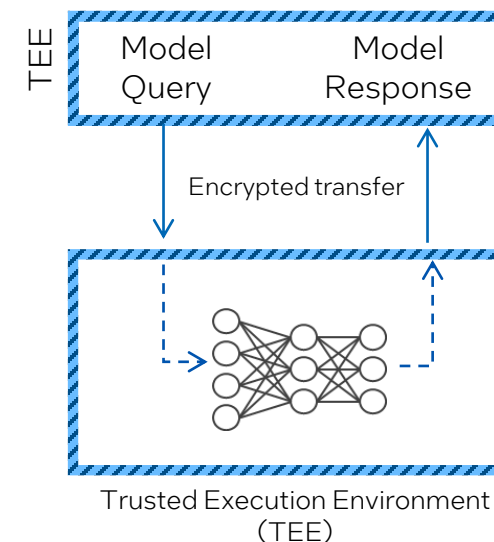
(May be single or multi-party)



## 2 Federated Learning



## 3 Confidential Inference & Query





# Edge Platform-as-a-Service (PaaS) from SAP and Intel Enabled by SAP RISE & SAP BTP



## Casos de IA

# Introducing Edge Platform-as-a-Service from SAP and Intel



Build



Deploy



Run



Manage



# SAP/Alert Enterprise Solution – Edge PaaS



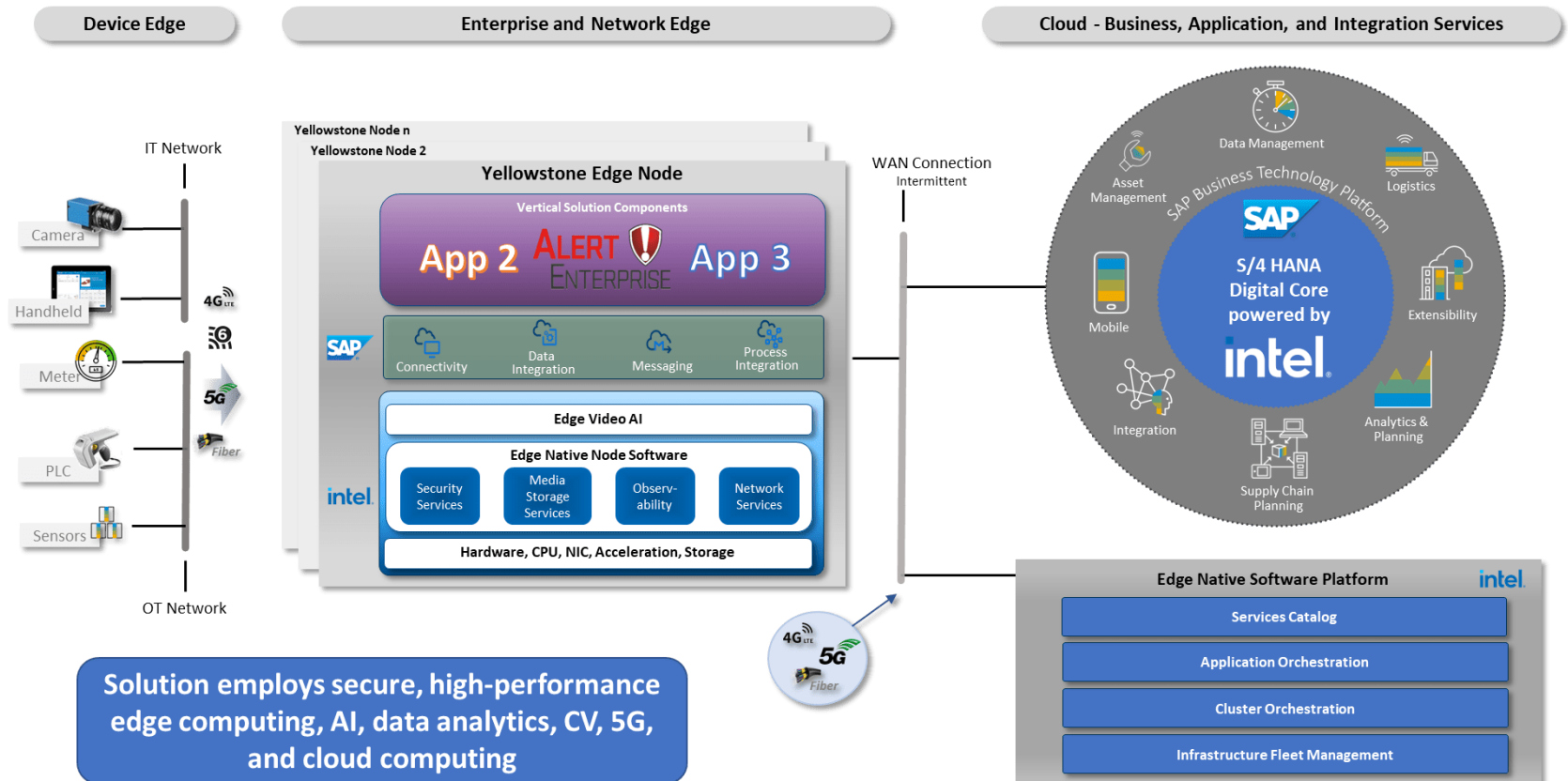
## Solution Overview

Cyber-Physical Security Governance Risk and Compliance –  
“Cyber Physical GRC” for Utilities

Based on Intel Xeon, Core, Edge Platform

Alert Enterprise Prevents, Detects & Mitigates Electrical Substation Threats

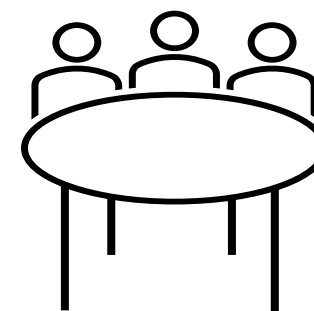
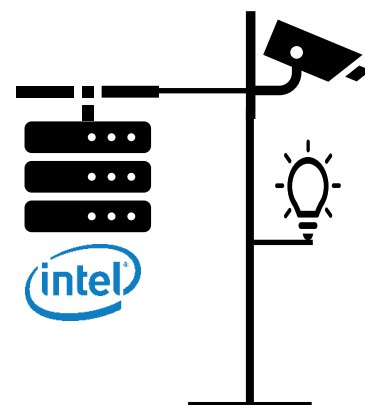
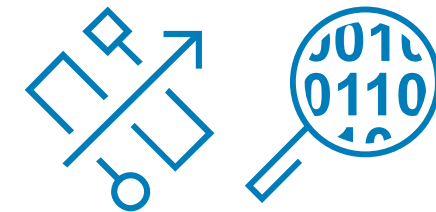
SAP S/4 Hana Delivers Enterprise to Edge Vertical Solutions



# Company – Meat & Food

## Solution

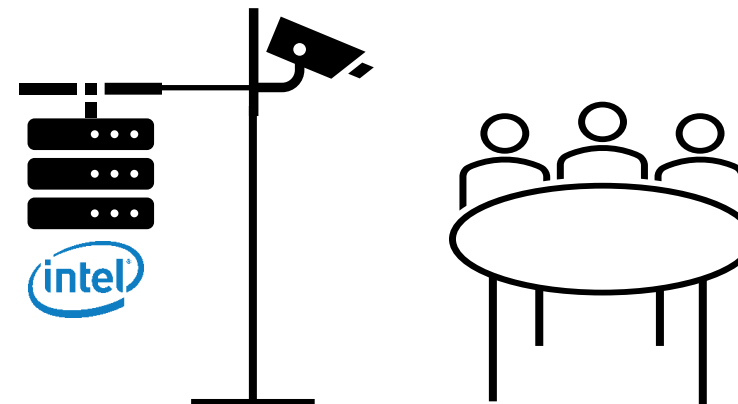
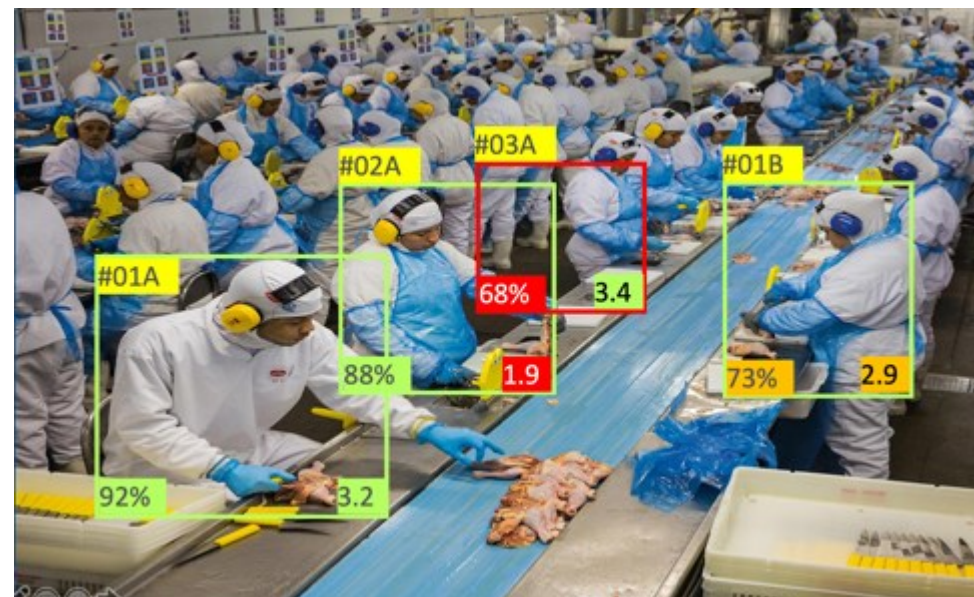
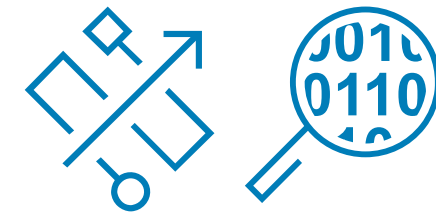
- **Problema:** Processo manual, moroso e sucessível a erros.
- **Solução:** Uso de Visão Computacional para medir a tripa através das imagens da câmera. Envia dados de produtividade para o ERP
- **Results:** Medir a espessura da tripa de porco com exatidão, classificar de acordo com a medida garantindo padrão, aumento da qualidade e redução de perdas.
- .



# Company – Meat & Food

## Solution

- **Problema:** Falta de métricas precisas sobre produção da fábrica/célula/colaboradores impactam supply chain, e time de qualidade e treinamento.
- **Solução:** Visão Computacional para medir produtividade sem alterar infraestrutura da fábrica.
- **Resultados:** Medição da produtividade individual e da célula colaboram para o forecast da fábrica. Também fornece métricas para o time de qualidade e de treinamento para melhora contínua.





# SAP/QuayChain Solution – Edge PaaS



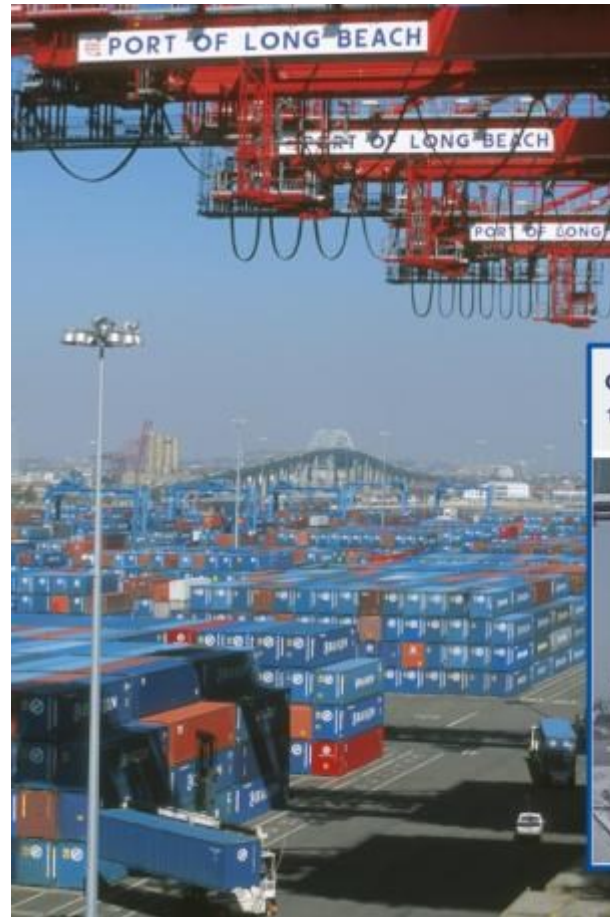
## Solution Overview

Drives Value for Ports, their Supply Chain Stakeholders, Communities and the Environment

Based on Intel Xeon, Core, Edge Platform

QuayChain Edge Devices (QEDs):

- Computer Vision
- Machine Learning/AI
- Local Edge Compute
- Environmental Sensors
- Dynamic Physical Sensors 5G Connectivity
- End to end encryption



### Automate Reporting

For specific location within, or across entire Port automate:

- Air monitoring
- Traffic count, aggregate type, speed
- Weather, wind, seasonality, light etc

Automate reporting to:

- EPA, local and state regulatory authorities

### Adaptable Insights

Easily scale and add new use cases

Granular data to correlate dependencies

Robust machine learning to surface unseen factors on sustainability

Plan infrastructure and sustainability decisions using accurate, not snapshot, data

### Impact Port Community

Real-world, accurate data enables addressing port community concerns:

- Shared baseline data to co-create solutions
- Increased transparency and understanding of decisions and ongoing impact
- Real-time data to reroute traffic, reduce noise, improve air quality
- Communicate traffic count type eg supply chain vs. construction

### Computer Vision:

100% Recognition on all Equipment

### Container

Number: FOU 952007  
Size/Type: 40ft General  
Hazard Plaque: Yes  
Shipline: Florens  
Owner: Florens  
Container History: 7x/last 30 days at this location

### Location

Current location: QuickPick, 1021 E 233rd St, Carson, CA 90745  
Direction: Inbound  
Time and Date: Sept 12, 2021, 1:43pm PST  
Greenhouse (GHG): 22 CO2e MT/last 30 days

### Truck

Truck Owner: ABC Trucks  
SCAC: ABCT  
License Plate: T600306  
State: TN  
Make, Model and Year: Freightliner, Cascadia Evolution New Cascadia, 2014

### Chassis

Number: FLTZ 419682  
SEP: Chassis Management Services, Southern California  
SCAC: FWAZ  
License plate: T600306  
State: TN  
Stage: 400,000 MI

Container	Location	Direction	Time and Date	Greenhouse (GHG)
FOU 952007	QuickPick, 1021 E 233rd St, Carson, CA 90745	Inbound	Sept 12, 2021, 1:43pm PST	22 CO2e MT/last 30 days
FOU 952007	QuickPick, 1021 E 233rd St, Carson, CA 90745	Inbound	Sept 12, 2021, 1:43pm PST	22 CO2e MT/last 30 days
FOU 952007	QuickPick, 1021 E 233rd St, Carson, CA 90745	Inbound	Sept 12, 2021, 1:43pm PST	22 CO2e MT/last 30 days
FOU 952007	QuickPick, 1021 E 233rd St, Carson, CA 90745	Inbound	Sept 12, 2021, 1:43pm PST	22 CO2e MT/last 30 days
FOU 952007	QuickPick, 1021 E 233rd St, Carson, CA 90745	Inbound	Sept 12, 2021, 1:43pm PST	22 CO2e MT/last 30 days
FOU 952007	QuickPick, 1021 E 233rd St, Carson, CA 90745	Inbound	Sept 12, 2021, 1:43pm PST	22 CO2e MT/last 30 days
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Obrigado!

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