

INB Developer Summit 2022

# The Future is Software Driven. And it Happens with Intel.

Muneyb Minhazuddin

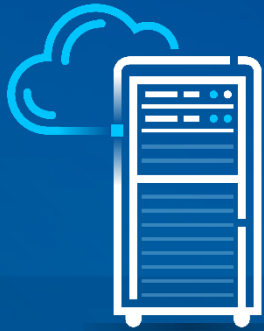
CMO Network & Edge Group (NEX)

The Intel logo, consisting of the word "intel" in a lowercase, sans-serif font, is positioned within a white square. This square is part of a decorative graphic in the bottom-left corner of the slide, which includes several overlapping squares in various shades of blue.

# Digital transformation is real. It is pushing the world to distributed computing at the edge



**Mainframe**  
Centralized  
1960-1970



**Client server**  
Decentralized  
1980-2000



**Public cloud**  
Hyperscale  
2005-2020



**Edge-native intelligence**  
Distributed  
2020+

# Societal Shifts are already driving Enterprises Towards an Edge-Native SW + AI Strategy



Labor Shortages and  
Supply Chain Bottlenecks



Rising Privacy Concerns  
& Patchwork Regulations



Rapid Evolution of  
Remote and Hybrid Work

Digitization & Automation of  
Physical Infrastructure with  
Edge Native SW & AI

Cost effective, Privacy  
Preserving Data Processing &  
Storage at the Edge

Distributed Access, Security  
& Networking at the Edge For  
Low Latency Worker Access

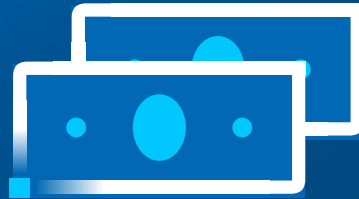
# Why Edge-Native SW + AI?

## Law of Physics



Too slow or unreliable to send  
back to the cloud  
(latency, QoS)

## Law of Economics



Too expensive to send  
back to the cloud  
(incl. energy costs, transit costs)

## Law of the Land



Policy, regulatory, privacy  
requirements  
(data sovereignty)

...Dictate the Need for Edge-native Software, AI and Hardware Platforms

# Shift of Data to the Edge

>50%

Enterprise-generated data outside of central data centers by 2025<sup>1</sup>

75%

of data created will come from edge infra and endpoints by 2025<sup>2</sup>

The viability of a business is now based on a borderless digital strategy

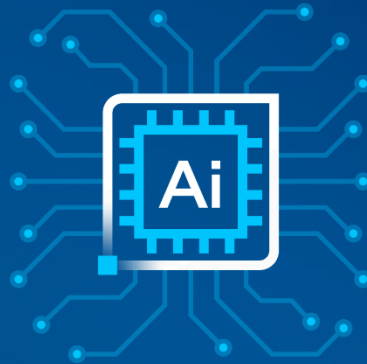
1. Gartner, Predicts 2022: The Distributed Enterprise Drives Computing to the Edge, Thomas Bittman, Bob Gill, Tim Zimmerman, Ted Friedman, Neil MacDonald, Karen Brown, 20 Oct 2021

2. IDC, July 2021, Computing Architecture Technology Trends for Edge Infrastructure and IoT Endpoints in the Global DataSphere

# A business without borders requires three essential ingredients



Software-defined transformation to achieve **agility**



Automation and AI to achieve **efficiency**

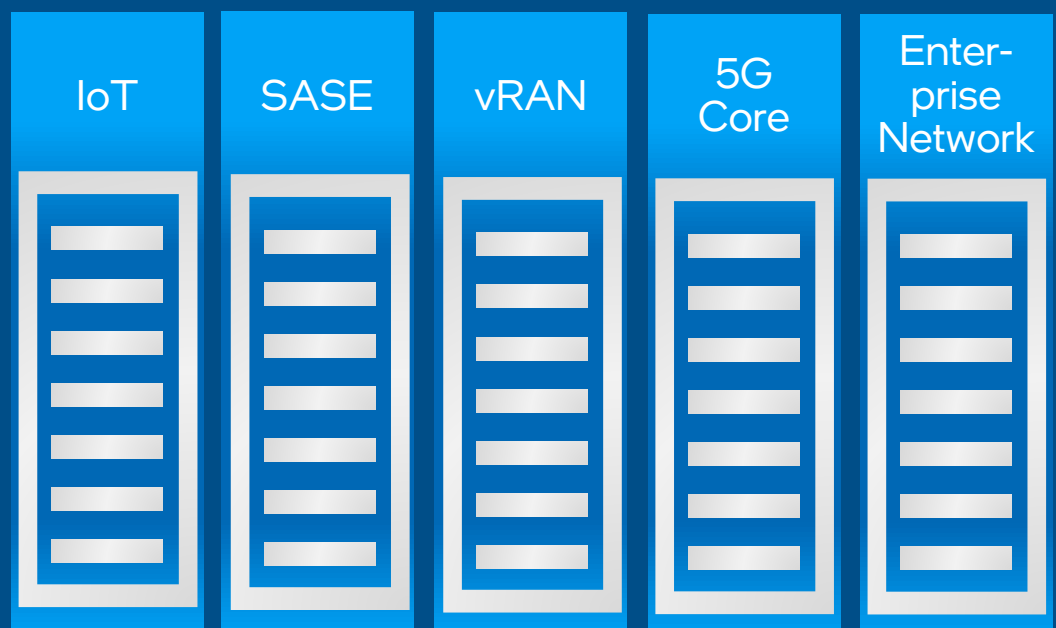


... while maintaining **confidentiality**, **data sovereignty** and **security**

# Software definition is Transforming the Edge

## Current Model

Vertically-integrated SW stacks from partners on Intel silicon



IoT  
Vertical  
SIs/ISVs

Cloud  
Security  
Providers

Telecom Equipment  
Manufacturers

Enterprise  
Cloud /  
IT SIs/ISVs

## Modern Edge Cloud / Software-as-a-Service Model

K8S based platform on heterogenous SOC's with  
HW acceleration for edge native app building blocks, delivered as a service

### Cloud-Delivered Distributed Orchestration & Management



### Distributed Edge PaaS

### Distributed Edge Compute Platform



Public  
Cloud

Colo  
Edge

Telco  
Edge

On Prem  
Edge

# NEX Was Created to Deliver a Fully Programmable Cloud to Edge Infrastructure

Cloud Data Center



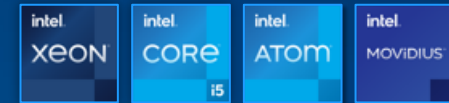
Intel® Intelligent Fabric

Core Network



Cloud-Native Network

Network Edge



Edge Inference

Devices & Things



FlexRAN™

intel  
SMART  
EDGE

OpenVINO™

Open Standards and Developer Tools

# Open, Distributed HW + SW Platforms to Power Edge Native Transformation

Intel® Dev Cloud, Intel® Developer Catalog, Software Marketplace

Platform Solutions

Intel® Ethernet  
Fabric Suite

Intel® Smart  
Edge

Intel® FlexRAN™

Open Visual  
Cloud

OpenVINO™

Open Software Frameworks

Kubernetes and Intel Open Extensions

Any OS/Hypervisor



Intel® Intelligent Fabric



Cloud-Native Network



Edge Inference

# NEX Developer focus

Our mission at NEX is to build the platforms that will enable developers to build, deploy, manage and optimize distributed edge infrastructure and applications.

## Infrastructure Developer

Run AI at the Edge on Heterogeneous HW

Deploy, Manage and Secure Distributed Compute Infrastructure

Energy Efficient Performance

Infrastructure Agnostic Abstractions

AI Inference

Edge

Enterprise  
& 5G Network

Cloud Network

## Application Developer

Democratization via low code SW tools

Simplify HW/SW integration

Cloud native without performance tradeoffs  
for 5G, AI, SASE + SD-WAN

Portability with APIs

# What you can expect from Intel

## Embrace the power of open

Make it easier for developers to innovate

## Offer greater choice

More options to design for multi-vendor, multi-cloud solutions

## Act with your best interest in mind

Intel is a trusted partner to provide sustainable, flexible platforms with world-leading security

# What you'll hear today

The Future is Software Driven. And it happens with Intel.

Supporting software-defined network functions on microservices-based architecture with Intel Smart Edge

Confidential computing enabled by Intel Secure Guard Extension (Intel SGX) to harden VPNaaS, SASE and ZTS in service mesh

Learn how to leverage C++ SIMD class libraries to write succinct portable code for workloads like vRAN

...and more

# Announcing the new release of Intel® Smart Edge for Enterprises

Intel® Smart Edge is Edge-Native software that accelerates development and deployment of highly optimized, secure and scalable distributed computing platforms and solutions to unleash services at the Edge



Performance



Advanced  
Resiliency



Ecosystem Portability  
& Interoperability



Zero-Trust  
Security



Simplified  
Manageability



Sustainability

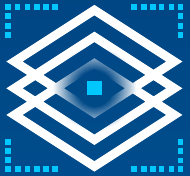
# In Summary



Macro societal shifts are moving compute to the edge



Edge-native transformations are already underway in several verticals, from manufacturing & logistics to retail, healthcare and more



Intel's strategy is to deliver programmable platforms for open, edge-native SW and AI workloads



I invite you to engage in this edge-native transformation – and check out the Smart Edge Enterprise SASE POP demo with Zscaler and Supermicro...and more at Intel ON

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Your costs and results may vary.

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