Mobilizing Your Transformation and Modernization Strategies

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Topics: A Transformative Journey with Intel

1 Market Reality and the State of Digital Transformation

2 Top Global Business Priorities

3 How to Get It Done

4 Partner Relationships

5 Deployment and Change Management

6 Skilling and Training

7 Operationalizing – Continued Momentum and Assessment

8 Next Steps, Resources

Market Reality and the State of Digital Transformation

The State of Digital Transformation

Enterprises are mobilizing at a staggering pace to accomplish digital-first strategies for business survival

Skill / Training gap

> 75% of CIOs in process of reaching the "new normal"

Changing climate / environment regulations

Navigating market / economic conditions

Security and identity threats

Increase in business scrutiny, measurable metrics

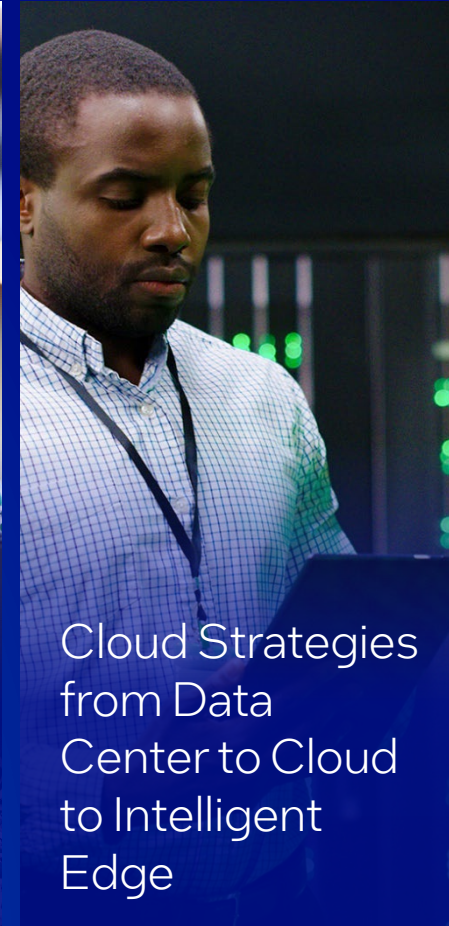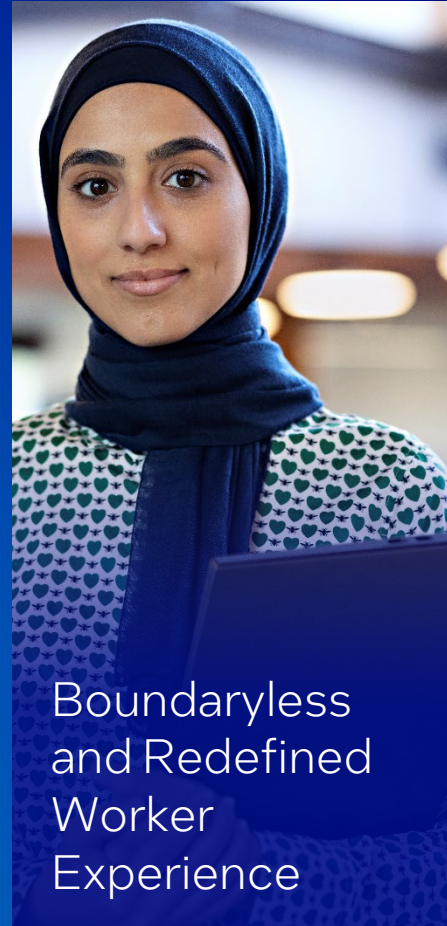Key word among CEOs is "technology" (IDC's 2022 CEO Tech Agenda Survey)

95% of CEOs pursuing digital-first strategies

Compete requirement intensity

Enterprise Leaders Are Mobilizing on These Top Transformation Priorities to Succeed

Security

Data Analytics and Artificial Intelligence

Boundaryless and Redefined Worker Experience

Cloud Strategies from Data Center to Cloud to Intelligent Edge

Sustainability, Environment | Social | Governance (ESG)

The Imperative Means Digital-First Momentum

> Business leaders are increasingly focused on technology to thrive, so much so that "technology" is the word of the year for CEOs in 2022.
>
> IDC

> Digital transformation is enabling a lot of opportunities to be explored ….where the intention is to come up with new services and new offerings that will help to better understand the customer and be a little closer to the customer.
>
> Suresh Kumar Tulluri
> HCL

> The first step is to understanding the business objectives, the business imperatives, and in a lot of cases, helping customers actually visualize where we're trying to take their business or think differently about the way they engage their consumers, their constituents, their partners.
>
> Brian Ortballs,
> WWT

> We are at the precipice of a digital renaissance. The challenges we face are so complex, entwined and reliant on leading-edge tech that we need new ways to collaborate and partner.
>
> Pat Gelsinger, CEO
> Intel Corporation

Top Global Business Priorities Enterprise Leaders Are Addressing

Intel Is Pushing the Frontier Forward

Top Enterprise leadership priorities for business success

Achieve rigorous security, identity and compliance management, and contribute to your zero-trust security strategy

Advance insights through adoption of data analytics and AI driving critical business outcomes

Activate mature and agile cloud strategies across hybrid, multi-cloud or the intelligent edge

Embrace redefined, interactive worker experiences

Exemplify a culture of environment | social | governance (ESG) fostering equitable outcomes

Enterprise Leadership Digital Transformation / Modernization
Five (5) top business priorities of the Enterprise – and most common capabilities desired in each:

- Trust; Breaking thru the clutter
- Use zero trust to contribute to holistic cybersecurity protection
- Get identity and access management estate in order

- Lead in what's right in sustainability, ESG
- Use technology to reduce environmental impact
- Use technology to create inclusiveness, furnish skills/training, establish well-being

Achieve rigorous security, identity and compliance management, and contribute to your zero-trust security strategy

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- Data literacy, management and access by all, to drive business results
- Data visualization
- Governance, ethical framework, trust and transparency

- Agile cloud and edge optimization strategies and understanding
- Help ensure regulatory and compliant cloud management
- IT and application modernization (apps, data center, operating processes, etc.)

- Use technology to provide a hybrid, Total Experience (TX) for distributed workers
- Liberate workers through AI augmentation
- Provide personalized and productive engagement through process automation

How To Get
It Done

Let's walk briefly
through each priority...

Achieve rigorous security, identity and compliance management, and contribute to your zero-trust security strategy

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Leaders need to achieve rigorous security, identity, compliance management, and contribute to their zero-trust security strategy

Identity is the new perimeter, and access is the new security.

Nearly **50%** of cyberattacks in 2021 were caused by malicious actors (notably machine identities) using stolen credentials.

Attack surface expansion is leaving organizations vulnerable to attacks.

Cloud computing, home office networks, endpoints, mobile apps, and legacy on-premise systems have exacerbated this issue.

88% of organizations lack the confidence to prevent sensitive data loss.

63% of organizations were breached in last 12 months.

Enterprises are spending a median of 37 days and a mean of **$2.4M-3M** to find and recover from a breach.

The vast majority of security leaders are adopting zero trust frameworks that are strongly recommended, and even mandated, by industry analysts and government agencies.

Achieve rigorous security, identity, compliance management, and contribute to your zero-trust security strategy

Get identity and access management (IAM) estate in order

Identity and access management (IAM), is the security discipline enabling the right entities (people or things) to use the right resources (applications or data) when they need to, without interference, using the devices they want to use.

Use zero trust to contribute to holistic cybersecurity protection

The ultimate outcome for having a zero-trust security strategy is enabling continuous security protection across all attack surfaces. This means the totality of all physical, software, network, human exposure, including endpoints. Holistic security involves consideration of how any security system's constituent parts interrelate and work within the context of larger systems.

Trust; Breaking through clutter

Vendors considered to be leaders are the providers that demonstrate a clear understanding of the market needs and address these with technology roadmaps that also serve to future-proof investments.

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How You Can Strengthen Security and Contribute to Your Zero-Trust Strategy

Example Desired Business Capabilities

- Keep my customer data private and secure, meeting compliance and regulatory requirements
- Strengthen my zero-trust strategy, protect my data, information and business models in the cloud from new attack vectors
- Help secure my supply chain vulnerabilities
- Achieve security visibility across my platforms

* Include links for find a partner, and deployment resource(s) / documentation , training

Hero Technologies

- Intel Trust as a Service
- Intel® Software Guard Extensions (Intel® SGX)
- Intel® Trusted Execution Technology (Intel® TXT)
- Intel® Threat Detection Technology (Intel® TDT)
- Intel® QuickAssist Technology (Intel® QAT)
- Intel vPro Enterprise for Windows (client)
- Intel vPro Enterprise for Chrome (client)

Example Partners

- Microsoft Azure SQL Enabled QAT
- Microsoft Azure and Intel SGX
- Fortanix and SGX
- VMware Crypto Accel and SGX (without attestation) vSphere)
- Graphene and SGX (secure native app hosting)

Distinction

- Intel's Security First pledge is an ongoing commitment to product assurance and security.
- Intel has multifaceted approach to prevent, assure, lead and innovate across all our products, beginning with Intel's security development lifecycle (SDL), where security is engineered into products from the outset.

The partners listed are featured examples only. For a complete list of partners in your area, please go Intel® Solutions Marketplace

Confidential AI Computing with Intel + Fortanix

Turnkey, enterprise-level, high-performance security solution for AI models and data
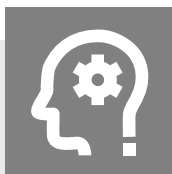
Fortanix®

Business Challenge:

Keeping sensitive data or proprietary ML algorithms safe with hundreds of VMs or containers running on a single server

Solution

Intel® Security Solution for Fortanix Confidential AI: An enterprise-level high-performance, security enabled solution that encrypts data while in use by isolating data and code in Intel® Software Guard Extension (Intel® SGX) enclaves, without changing underlying software applications.

Result

Implementing a multiple-instance configuration provides significant throughput gains. Organizations can simultaneously increase security and performance.

Deep Learning Workload Performance Overhead Using Intel® SGX

Throughput Overhead Percent Compared to Not Using Intel® SGX — Lower is better

- TensorFlow ResNet50 v1.5: 6% (Single Instance Bare Metal), 8% (Microsoft Azure Confidential Compute)
- OpenVINO™ Bert-Large: 22% (Single Instance Bare Metal), 8% (Microsoft Azure Confidential Compute)

Firewall / Network security
Data center security controls
Server security controls
Intel® SGX + Fortanix

Intel® SGX protects against thousands of known and unknown threats, many of which still do not otherwise have mitigations.[1]

1 Intel® SGX is not vulnerable to most OS layer threats, and there are over 140,000 threats in the database today: https://cve.mitre.org.
2 Benchmarks were run with Intel SGX disabled versus Intel SGX enabled and at both FP32 and INT8 precision.
Configurations
For more: https://www.intel.com/content/www/us/en/architecture-and-technology/sgx-product-offerings/fortanix-confidential-ai.html

Advance insights through adoption of data analytics and AI driving critical business outcomes

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Leaders Need to Advance their Adoption of Data Analytics and Artificial Intelligence (AI)

68% of enterprise data currently goes unused for analytics.

Enterprise leaders realize it is a matter of survival to close this gap and have to advance their proficiency with data (data literacy).

By 2025, **80%** of data analytics initiatives will be focused on business outcomes and considered an essential business capability.

84% of business executives believe they need to use AI to achieve their growth objectives.

However, **76%** acknowledge they are struggling with how to use / scale AI across their business, with the most common challenge being staff skills (56%).

The increase in data literacy and advancing insights has heightened the significance in use of artificial intelligence (AI).

Leaders need to advance their data literacy, adoption of data analytics and use of artificial intelligence (AI)

Data literacy, management and access by all to drive business results	Data democratization (or access to data by all) is universal access to data to transform companies by unleashing the value of information locked within data stores. Literacy being the people with the "skillset" to query, read and interpret and make actionable.
Data visualization	Representation of data through use of common graphics, such as charts, plots, infographics, and even animations. These visual displays of information communicate complex data relationships and data-driven insights in a way that is easy to understand.
Governance, ethical framework, trust and transparency	The process, and procedure organizations use to manage, utilize, and protect their data. In this context, data can mean either all or a subset of a company's digital and/or hard copy assets. In fact, defining what data means to an organization is one of the data governance best practices. Once you have defined data, you can brainstorm all the ways you could use your data to advance your business.

How You Can Enhance Data Analytics and AI Strategies to Drive Critical Business Outcomes

Example Desired Business Capabilities

- I want to identify and predict program offerings faster to market for my customers

- I want to use data and visualization to quickly spot trends in healthcare effectiveness, reduce clinical errors, or identify workflow enhancement to reduce cost and increase operational efficiency

- Have trusted, accurate data for decision intelligence and prediction to institute new policies or investments

- I want to be proactive in how I as an educator can help student success, or even dept. or campus success.

* Include links for find a partner, and deployment resource(s) / documentation , training

Hero Technologies

- Intel® Advanced Matrix Extensions (Intel® AMX)
- Intel® Server GPU
- OpenVINO™ (AI at the Edge) Toolkit
- Intel® Optane™ Persistent Memory
- Intel® Stratix® – FPGA Acceleration
- Intel® Software Guard Extensions (Intel® SGX)
- Habana® Gaudi® 2 (per CSP)"
- Intel® Deep Learning Boost (Intel® DL Boost)
- Intel® QuickAssist Technology (Intel® QAT) and Intel® Advanced Vector Extensions 512 (Intel® AVX-512)

Example Partners

- Azure SQL | Intel
- Azure SQL Server, MySQL
- Oracle Exadata (InMemory Analytics)
- SAP HANA
- Microsoft SQL Server
- Red Hat
- Cloudera Data Platform
- TensorFlow
- PyTorch
- Vmware
- OpenStack
- Nutanix
- Linux

Distinction

- Intel understands large data sets. This includes unstructured and previously "dark" forms of data and information from the intelligent edge.

- Differentiation is based on focusing on product quality, features, and customer service. The quality of Intel's products and the features they provide are key factors in differentiation.

The partners listed are featured examples only. For a complete list of partners in your area, please go Intel® Solutions Marketplace

UAB Medicine Uses AI to Access New Data
The University of Alabama at Birmingham (UAB)

Medical INFORMATICS

Medicine and Medical Informatics Corp. work to enhance near real-time decision-making and patient care

Business Challenge:

Faster access to more and more detailed patient information to speed decision-making.

Solution

Medical Informatics Corp.'s FDA cleared Sickbay platform powered by Intel® technology, leveraging Cisco network architecture to enable secure, waveform-enabled medical device integration with non-networked devices such as near-infrared spectroscopy (NIRS), ventilators, anesthesia machines, extracorporeal membrane oxygenation (ECMO), electroencephalograms (EEG), and more.

Result

The Sickbay platform allowed UAB Medicine to combine and transform two or more complex signals to create a brand-new, more complete view of the patient's status. This new view can be used to ta ckle two objectives:

1. Identify the optimal blood pressure for each patient during their procedure based on real-time data
2. Provide doctors with a single blood pressure number that is updated every few seconds

"The Sickbay platform allows us to capture and integrate this high-resolution information from every monitoring device we have in a completely vendor-agnostic manner. That forms a profoundly useful basis for discovery and real-time monitoring.."

Dr. Dan Berkowitz, Chair, Department of Anesthesiology and Perioperative Medicine, UAB

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Leaders are Maturing Their Data Centers, Cloud or Edge Strategies

Strategic cloud modernization is instituting best practices and a cloud culture with:

- Vertical focus
- Cloud management
- FinOps roles
- Pay-as-you-go models

Cloud services spending increased **49%** to over **$450 billion** during the pandemic and is expected to grow **another 20%** in 2022.

Maturing cloud strategies delivers visibility into product/service costs and forecasting, speed and innovation, most importantly **operational agility.**

A theme driving current state of software on the edge of the network is the focus on running workloads as close to where they're needed as possible.

There are two models to consider - reviewing where point of origin is and how to extend into other environments:

- Cloud out to Edge
- Edge into Cloud

By 2028, **36.5%** of the global Infrastructure Edge footprint will be for use cases associated with mobile and residential consumers.

Activate mature and agile cloud strategies across hybrid/multi-cloud and the intelligent edge

Agile cloud and edge optimization strategies and understanding	Cloud optimization and strategy are the path to efficiency and ensuring cloud investments provide maximum value and bolster your bottom line. Includes the process of eliminating cloud resource waste by selecting, provisioning, and right-sizing the resources you spend on specific cloud features.
Help ensure regulatory and compliant cloud management	Cloud compliance is the art and science of complying with regulatory standards of cloud usage in accordance with industry guidelines and local, national, and international laws. Common regulatory requirements include the Health Insurance Portability and Accountability Act (HIPAA), Payment Card Industry Data Security Standard (PCI DSS), and Gramm-Leach-Bliley Act (GLBA).
IT and application modernization (apps, data center, operating processes, etc.)	The practice of updating older software for newer computing approaches, including newer languages, frameworks and infrastructure platforms. This practice is also sometimes called legacy modernization or legacy application modernization.

How to Achieve Operational Agility Across Your Data Center, Cloud or Intelligent Edge Strategies

Example Desired Business Capabilities

- I need to offer my healthcare providers and patients access to real-time information and services, securely, while maintaining HIPAA compliance and manage my CapEx.

- I need to launch a new program for my credit card customers that is secure, I can scale with confidence, and is compliant and provides for mobility.

- I want to advance my city with smart technology, securely, gathering and visualizing data to help me create safe pedestrian pathways and easy and transparent engagement with my city.

- As an instructional technologist, I need education continuity with a platform for Educators and students easy to access, to collaborate together – no disruptions. But I also need security and duty of care.

Hero Technologies

- Intel® Xeon® Scalable Processors
- Intel® Workload Optimizer by Granulate
- Intel® Migration Advisor by CloudGenera
- Intel Cloud Optimizer by Densify - analyzes cloud workloads automatically recommending best cloud instance
- Intel® Optane™ Technology – data mobility, portability, storage
- Intel® Optane™ PMem (cost effective memory solution)
- Intel® Software Guard Extensions (Intel® SGX)
- Habana® Gaudi® 2 (per CSP)

Example Partners

- Microsoft Azure / Azure Stack HCI
- Google Cloud / Anthos
- IBM
- AWS / AWS Outposts
- Oracle
- VMware Cloud Foundation, vSAN
- Red Hat OpenStack
- Red Hat Open Shift
- SUSE OpenStack
- Nutanix
- DigitalOcean
- Rackspace
- Equinix
- PhoneixNAP

Distinction

- We're now over three decades into the cloud era, and looking back, it is apparent that Intel has been driving cloud innovation since day one. At a recent exclusive Tech Field Day event, Intel detailed just how integral a part they have played in the growth, advancement, and now dominance of the cloud in today's enterprise IT space.

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The Intel-Powered Bare Metal Solution on Google Cloud Platform (GCP) Accelerated StubHub's Cloud Journey

GCP enabled a seamless transition from on-premise to cloud well ahead of schedule and delivered a higher performance at a lower cost

Business Challenge:

Scaling capacity to meet the demand when tickets first go on sale or as a sporting event nears without overprovisioning on-premise equipment

Solution

Analytics Zoo open-source analytics and AI platform and bfloat16 accelerate AI applications on an Alibaba Cloud ECS instance with 3rd Gen Intel® Xeon® Scalable processors

Result

The scalability and on-the-fly provisioning of hardware delivered a higher performance at a lower cost and enabled StubHub's goal of continuous deployment – getting value to customers faster

"Our goal is continuous deployment, and on GCP it's smoother and easier than before. Checking code and having it flow into production quickly lets StubHub get value to its customers faster. We can add new features or fix bugs instantly—GCP enables that for our entire environment." – Todd Northcutt, senior director of product and technology at StubHub

Embrace redefined, interactive worker experiences

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Leaders are Looking to Redefine the Worker Experience Through Hybrid, Interactive Platforms

52% of workers preferred tools providing team collaboration platforms and apps.

The IoT will enable organizations to make better and more timely decisions, improve efficiencies and help businesses reduce the impact on the environment.

Increased adoption of sensors will allow organizations to bring contactless automation at every level, helping them to maintain social distancing norms and create a safe working environment, and eliminate repetitive tasks.

Total Experience (TX)

The Total Experience goal is to drive more outstanding customer and employee confidence, satisfaction, loyalty, and advocacy in the new, hybrid set-up.

Embrace redefined worker and customer interactive experiences

Use technology to provide a hybrid, Total Experience (TX) for distributed workers	In the new hybrid set-up, where employees and users access technology from diverse locations, organizations will be compelled to focus on innovations that help them deliver an exceptional, interactive and collaborative experience to all stakeholders without compromising the security aspect. (experience platforms, community platforms, etc.)
Liberate workers through AI augmentation	There is continued increase in demand for online collaboration tools/resources due to file sharing needs, seamless data exchange, team communication, better user access controls, reducing repetition, mobile access, all driving efficient problem-solving, greater innovative ability and liberation from burdensome tasks and increased productivity.
Provide personalized and productive engagement through process automation	The shift in remote and hybrid work is forcing business leaders to change their approach in the way they manage teams and productivity through to partners, suppliers and customers. Any way to speed up your processes will improve customer and worker experiences, including customer service, website visitor questions, applicant tracking systems, and semantic software robots, to name a few.

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How to Establish a Total Experience (TX) Platform, Providing a Hybrid, Interactive and Personalized Capabilities

Example Desired Business Capabilities

- I need to automate repeatable tasks that are consuming the time of my workers.

- I require a collaborative platform that brings the resources / tools to my workers quickly, securely and accessibly anytime, anywhere, on any device.

- I would like to enable my clinicians and medical staff to have mobile healthcare data securely at their fingertips to increase safety and quality of care.

- I want my customers to get answers to most commonly asked questions fast, and let my workers focus on areas where human intervention is required.

Hero Technologies

- Intel® Xeon® Scalable Processors
- Intel® Optane™ Persistent Memory
- Intel® Server GPUs
- Intel® Workload Optimizer by Granulate
- Aurora (economic, industrial research)
- FPGAs
- Intel vPro® Enterprise for Windows (client)
- Intel vPro® Enterprise for Chrome (client)
- 12th Gen Intel® Core™ HX Processors (mobile workstations)

Example Partners

- VDI SW: VMware Horizon, Citrix Virtual Apps & Desktops, Azure Virtual Desktops
- Microsoft365 + _____
- Microsoft Teams, Zoom
- Collaboration apps
- Azure Cloud
- Google +
- Salesforce +
- Cloudera Data Platform (Hadoop)

Distinction

- Intel has a strong technical foundation. Intel's products are diverse and reliable, which is why they are trusted by millions of consumers.
- Have successfully cemented name as the leading PC manufacturer.

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BMW Group: AI on Every Employee PC

BMW Group is counting on Intel® OpenVINO™ toolkit for AI-based anonymization for every employee

Business Challenge:

Democratize AI by enabling data scientists and other employees in manufacturing to use AI workloads on classic desktop PCs.

Solution

The BMW Group, together with Robotron and Intel, created several AI APIs and tools based on Intel OpenVINO toolkit and applied the tools to a project to anonymize faces or components.
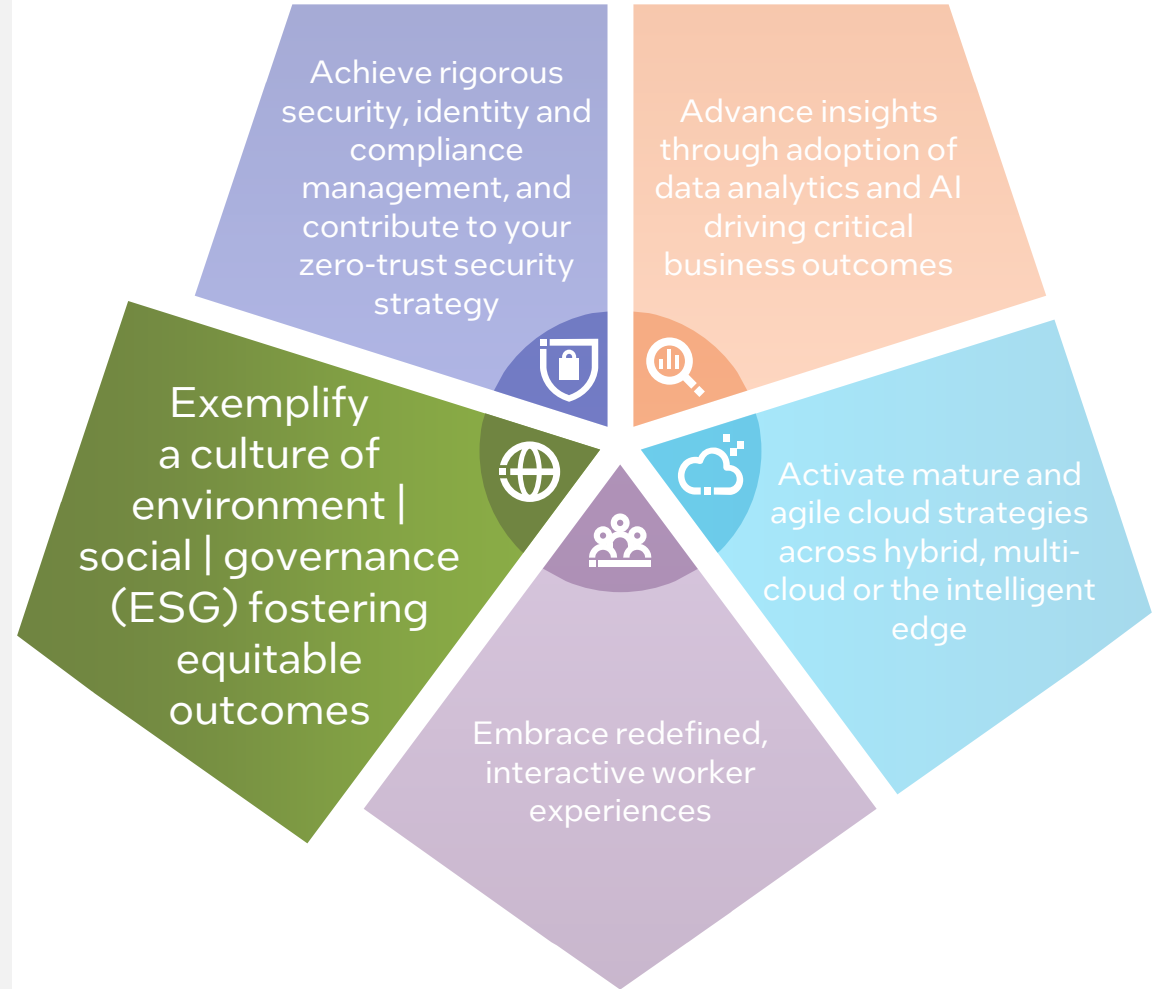
Result

No servers or other special hardware were necessary to run the anonymization models

"With OpenVINO, the inferencing for the anonymization workflow can be carried out directly on standard hardware and optimized perfectly for this purpose. Thanks to our purpose-oriented partnership with Intel, we were very quickly able to achieve good results for the BMW Group in this case. This means that now potentially every employee is able to use AI applications."

Michael Baling, Robotron

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Leaders are being Required to Attain Their Transformation Responsibly Using Environment | Social | Governance (ESG) Strategies

Operating sustainably has become a source of competitive advantage.

Today, ESG considerations drive investment decisions - now totaling **$35.3 trillion** - accounting for roughly a third of all global assets under management.

65% of employees believe organizations should be responsible for leaving their people "net better off" through work.

Sustainable organizations are purpose-led businesses which inspire their people and partners to deliver lasting financial performance, equitable impact and societal value that earns and retains the trust of all stakeholders.

68% of executives say they have developed a "robust" sustainability plan. However, **21%** of workers say their company plans go beyond "superficial."

Exemplify a culture of environment | social | governance (ESG) fostering equitable outcomes

Lead in what's right in sustainability, ESG

Recognized as being the right thing to do, and is increasingly acknowledged as sound commercial sense, with investor pressures and trends towards ESG disclosures and risk scores setting the agenda. In line with an increasingly ESG-focused business landscape.

Use technology to reduce environmental impact

Companies should adopt technology to get started on their ESG journey and improve performance. Technology has the potential to revolutionize the traditional sustainability management through the automation of existing processes, intelligence and data-driven insights, and communication between a company and its various stakeholders.

Use technology to create inclusiveness, furnish skills/training, establish well-being

Holistic ESG strategies contain key elements including environmental, social and corporate governance – such as social responsibility with workers, training, policies regarding diversity, inclusion, with increasing measurement / accountability to investors.

How to Exemplify a Culture of Environment | Social | Governance (ESG) Fostering Equitable Outcomes

Example Desired Business Capabilities

- I need to develop a secure, hybrid work model for my workers / constituents that is inclusive, encourages collaboration, in turn supports well-being.

- I need to establish an understanding and roadmap for how technology can help me reduce environmental impact and report on it.

- I need to create sustainability (TCE and ESG) goals and monitor progress and report.

- I need to launch a secure learning platform enabling my [industry] workers to continue their professional and personal education and certifications.

Hero Technologies

- All Intel® technologies are in the domain of Intel's ESG strategy

Example Partners

- Intel is focusing on improving its suppliers' environmental management.

- Intel says it has increased renewable energy from 71% to 82% throughout its own operations and across its supply chain, and conserved 7.1 billion gallons of water.

- Intel handles sustainability across its 9,000+ tier 1 suppliers in 89 countries.

Distinction

- Intel started engaging with investors around ESG issues nearly 20 years ago. Through so-called "outreach roadshows," company representatives met with investment firms to share Intel's ESG metrics and gather feedback about the data points of greatest interest to investors.

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Électricité de France Deploys Cronos Supercomputer

The second-largest electric utility in the world manages current power facilities while predicting future needs and engineering resources to help be CO2 neutral

Business Challenge:

Validate the safety of nuclear facilities, design new power-generating resources, and leverage the power that artificial intelligence (AI) and machine learning (ML) can bring to scientific insight, business efficiency, and leadership.

Solution

Cronos was built for traditional simulation and modeling of various scientific codes plus to support emerging machine learning use cases. The BullSequana X supercomputer was built by Atos using Intel® Xeon® Platinum 8260 processors with 24 cores, 326 TB of memory, and InfiniBand HDR fabric.

Result

More memory channels and higher memory bandwidth compared to previous Intel Xeon Scalable processors. Intel Xeon Platinum 8260 gives EDF the needed resources for new insights and continuing operations for several years to come.

"When it comes to our facilities, our number one concern is safety. Many things are difficult or complex to measure within a nuclear power facility, so we simulate the evolution of various components using computation. The higher the resolution of these simulations, the more detail we understand about the components' condition, operational efficiency, and reliability."
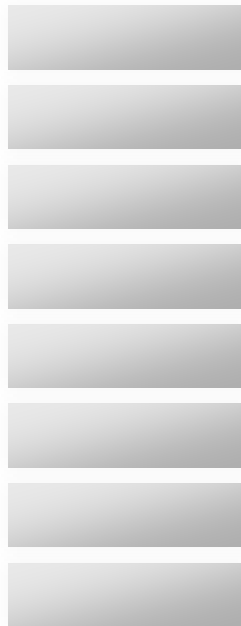
Alain Martin, Head of Scientific Information Systems, EDF

Start Making Impact: Prioritize Your Objectives to Mapped Technologies and Short- and Mid-Term Transformation

Your Digital Transformation Vision Top Leadership Priorities

Achieve rigorous security, identity and compliance management, and contribute to your zero-trust security strategy

Advance adoption of Data Analytics/AI driving critical business outcomes

Exemplify a culture of environment | social | governance (ESG) fostering equitable outcomes

Activate mature and agile cloud strategies across hybrid, multi-cloud or the intelligent edge

Embrace redefined worker interactions and total experiences – employee, partner, supplier, customer

Identify Desired Capabilities and Prioritize Objectives

Map Technologies to Your Desired Capabilities – Short & Longer-Term Horizon Plans

Transformative

Advanced

Emerging

Entry
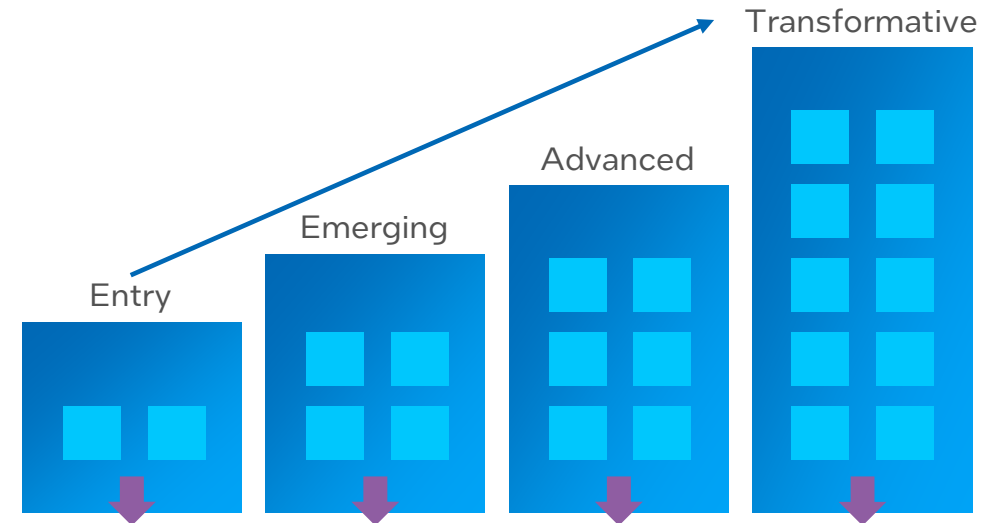
1. Focus on strategy, desired objectives first
2. Map technologies / solutions to objectives
3. Understand benefits gained with increased maturity

Industry Modernization

Learn about industries seeing the benefits
of Intel® technologies and solutions.

Broadcasting	Hospitality & Restaurants
Education	Industrial
Energy & Utilities	Manufacturing
Financial Services	Retail
Government & Public Sector	Smart Cities
Health & Life Sciences	Transportation

Industry Solutions (intel.com)

Intel technologies are helping modernize and transform across industries.
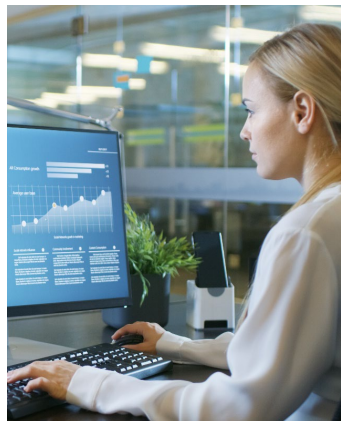
Holistic Solutions: Hardware, Software, Services Enabling an End-to-End Infrastructure

Move **Faster**

Intel® Ethernet 800 Series

Intel Silicon Photonics

Intel® Tofino™

Store **More**

new intel OPTANE™ PERSISTENT MEMORY
200 Series Modules

new intel OPTANE™ SSD
P5800X

Process **Everything**

new intel XEON GOLD
intel XEON PLATINUM
intel XEON SILVER

3rd Gen Intel® Xeon® Scalable Processors

new intel STRATIX 10
Intel® Platform Firmware Resilience

new X^e
Intel® Server GPU

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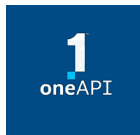
1 oneAPI   Software & System Level **Optimized**   intel SELECT SOLUTIONS **new**

Partner Relationships

Superior Partner Experts Across the Ecosystem to Address Short-Term and Longer-Term Business Strategies
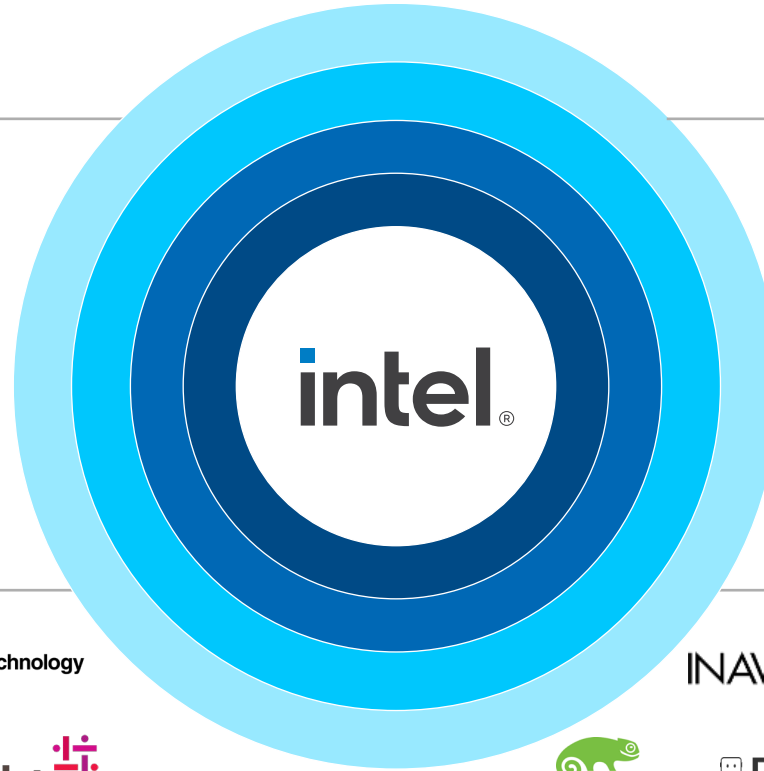
Deployment and Change Management

Deployment and Change Management

As organizations are modernizing to achieve critical business priorities, it is essential to ensure deployment and change management plans are in place:

- ✓ Faster deployment and adoption
- ✓ Workers embrace change
- ✓ Your investments pay off
- ✓ Cultural adaptation for individual and enterprise change is achieved
- ✓ Organization is equipped to face future changes

WITHOUT CHANGE MANAGEMENT	WITH CHANGE MANAGEMENT
Employees feel surprised and besieged by change	Employees feel prepared, equipped and supported
Failed project results	6x MORE — Likely to meet project objectives
Extended project timelines	5x MORE — Likely to stay on schedule
Additional project costs	2x MORE — Likely to stay on budget
Low adoption and usage	People-dependent ROI achieved

Intel is here to be your trusted advisor and collaborate with Partners on Hardware, Software, Service, Deployment and Change Management. Resources include:
- Intel® Product Support
- Technology Tips and Tricks (intel.com)
- Partner Showcase – Intel
- Intel® Solutions Marketplace

Environment, Social, Governance (ESG)

Digital Transformation – [Sustainability Video](#)

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Rethinking How We Build Data Centers
Liquid immersion cooling and recapturing heat

Benefits

Up to
50%[1]
Reduction in CAPEX build costs

Up to
95%[1]
Reduction in cooling OPEX

Up to
10x[1]
Increase in computing density

Cooling towers   Servers

Heat capture advantage

99%[1]
heat captured in the form of water.
No water consumed.

Use Case

Hospital

Data Center
Unprecedented **energy reuse** if DCs are built close to communities or industry. New DC revenue streams

1 Source: Submer

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Inclusiveness / Training-Learning

Building the necessary skill base in their organizations to enable successful transformation is highly-regarded by CEOs.

Leaders can build necessary skill base to remain competitive by:
- Realigning employee skills with emerging business needs
- Providing workers with opportunities for personal growth
- Using internal / external secure learning management systems and platforms – inclusive, community, accessible

Impact:
- Increase in employee satisfaction and well-being
- 3X ROI for talent-focused organizations

Intel helps achieve building inclusive communities and well-being through intelligent and personalized use of technology solutions.

Intel collaborates with Partners to address this top business priority of Enterprise leaders:

Intel® Solutions Marketplace

Partner examples training/certification sources:
- AWS Online Courses: Upskill or reskill and advance your career (amazon.com)
- Microsoft Learn | Microsoft Docs
- Welcome to Microsoft Teams –
- Microsoft Teams | Microsoft Docs
- Microsoft Certifications | Microsoft Docs
- LinkedIn Learning: Online Courses for Microsoft

Operationalizing

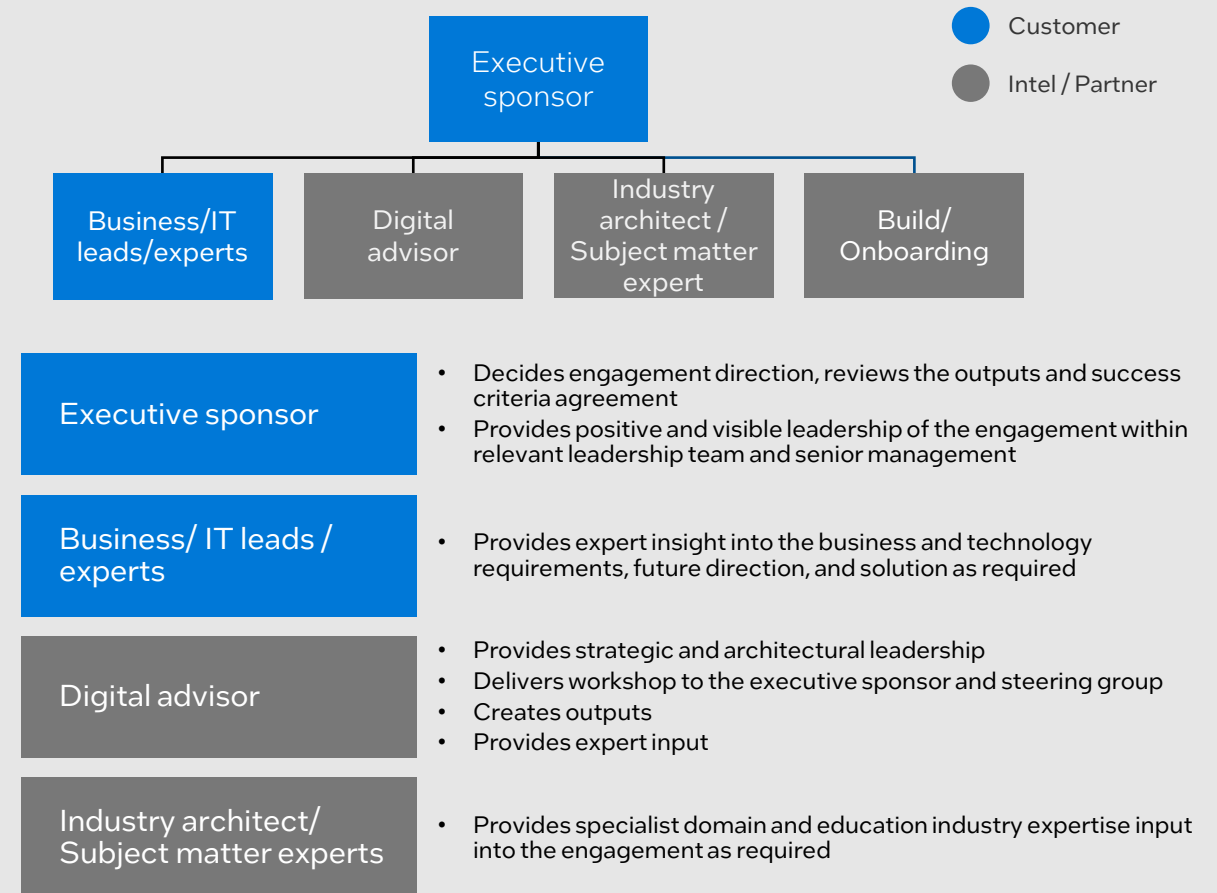# Cross-Functional Approach (The Dream Team)

Assumptions

- Executive sponsorship and commitment

- Dedicated points of contact from each business area, and identified personnel provided to the engagement

- Access to relevant stakeholders, business and technology strategy, in addition to, KPIs, IT spend, investment ratios, business capability, organizational and technical information

Team approach

- Encourages innovation and creativity

- Reinforces strong business alignment and partnership

- Action-oriented and delivery-focused

- Prioritizes the areas that matter most

- Focuses inputs on high value areas

- Provides an open and collaborative working environment

- Utilizes plain language that anyone can understand, not just those with technical backgrounds

Team members and responsibilities

```
                    Executive
                    sponsor                      ● Customer
                                                 ● Intel / Partner

Business/IT    Digital      Industry       Build/
leads/experts  advisor      architect /    Onboarding
                            Subject matter
                            expert
```

Executive sponsor	• Decides engagement direction, reviews the outputs and success criteria agreement • Provides positive and visible leadership of the engagement within relevant leadership team and senior management
Business/ IT leads / experts	• Provides expert insight into the business and technology requirements, future direction, and solution as required
Digital advisor	• Provides strategic and architectural leadership • Delivers workshop to the executive sponsor and steering group • Creates outputs • Provides expert input
Industry architect/ Subject matter experts	• Provides specialist domain and education industry expertise input into the engagement as required

Next Steps

Next Steps for Now, and Future Planning

1
- Develop a cross-org team and include Intel, Partner
- Review desired business outcomes using top 5 business priorities as launch pad
- Audit security and infrastructure
- Audit your data estate

2
- Use Intel and Partner solution assessment tools to map out short/longer term plans or roadmap, IaaS, PaaS, SaaS, or services
- Create a Project Plan; Assign the project management lead

3
- Partner experts will help with turn-key solutions or develop what is needed
- Deploy with confidence – have the right foundation, skilling, change management

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A Few Resources

- [Intel's Vision for the Future of Technology](#)

- [Digital Transformation Strategy Resources and Solutions - Intel](#)

- [Intel Cloud Tools - Performance Optimization and Management](#)

- [Hardware-Enabled Security Powered by Intel® Technology | Intel](#)

- [ESG : Intel Corporation (INTC)](#)

- [Newsroom Home (intel.com)](#)

Get started with an Intel trusted advisor and one of our great partners.
Visit [Intel® Solutions Marketplace](#)

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Performance varies by use, configuration and other factors. Learn more at www.Intel.com/PerformanceIndex.

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure.

Your costs and results may vary.

Intel technologies may require enabled hardware, software or service activation.

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Appendix

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We Are Proud. Makers of Wonderful.
Global 2000 – The World's Best Regarded Companies

- Trustworthiness

- Social conduct

- Strength of products and services

- How we fare as employer

Intel #170th

Statista surveyed 15,000 respondents from more than 50 countries.

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"We are focused on four areas to deliver leadership products and digital innovations in the years ahead: one, be the leader in every category in which we compete; two, execute flawlessly to our commitments; three, passionately innovate with boldness and speed; and four, reignite our culture to attract and motivate the best engineers and technologists on the planet."

– Pat Gelsinger, CEO
Intel Corporation

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In Summary …

Intel is developing technologies –
hardware, software, services –
enabling us to transform through
these challenges over time

| Business model | Deployment model-as-a-service | Physical boundaries are erased |

We ask: Is this all we can do?
We are working at a TORRID pace.

We are the makers of wonderful.
Today's renaissance leads us to tomorrow.

Thank you.

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Intel's Customer Pledge:

Provide the best technology foundation to accelerate your digital transformation

Alibaba Cloud Accelerates AI applications

Analytics Zoo and bfloat 16 improve the performance of AI applications on seventh-generation Alibaba Cloud ECS instances

Business Challenge:

Inference and training performance for AI tasks like natural language processing (NLP) and image classification.

Solution

Analytics Zoo open-source analytics and AI platform and bfloat16 accelerate AI applications on an Alibaba Cloud ECS instance with 3rd Gen Intel® Xeon® Scalable processors

Result

Up to 1.775X

more performance on ResNet-50 with Analytics Zoo using bfloat16 vs. FP32.[1]

1. Based on Alibaba Cloud testing. Source: Alibaba Cloud. "Detailed explanation of the performance parameters of the seventh-generation high-frequency instance of Alibaba Cloud Server ECS." June 2020. https://developer.aliyun.com/article/765901.