FUJITSU | ◼ NetApp®

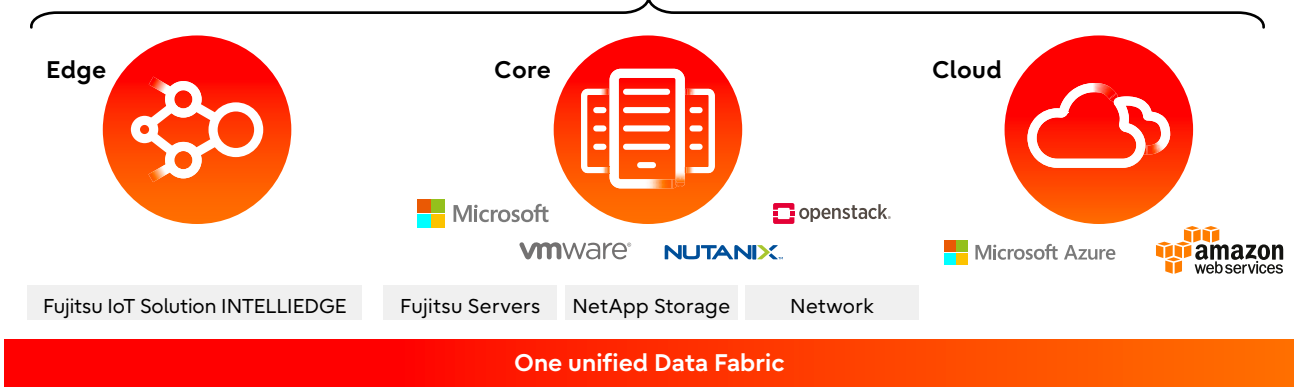# Data Management from Edge to Core to Cloud

Back to the future with distributed IT

Along with data centers and cloud infrastructures, much more is now happening to handle and store business intelligence and transactional data right at the very edge of enterprise networks. As technologies such as IoT and AI gather pace, rising volumes of data are being generated by systems and appliances away from the traditional data center: in factories, warehouses and shipping depots, for instance.

In an Industry 4.0 future where manufacturing is hyperconnected, with more real-time data and visibility for improved efficiency, predictability and innovation, organizations need fresh business models to exploit the opportunities ushered in by the Industrial Internet of Things (IIoT) – and the right infrastructure to underpin the high-speed, automated flow of information, analysis, instructions and transactions between Edge, Core and Cloud.

Learn more about Fujitsu and NetApp:
www.fujitsu.com/netapp

Seamless Data Management from Edge to Core to Cloud

Edge

Core

Microsoft
vmware® | **NUTANIX**
openstack.

Cloud

Microsoft Azure
amazon web services

| Fujitsu IoT Solution INTELLIEDGE | Fujitsu Servers | NetApp Storage | Network |

One unified Data Fabric

Distributed IT: one unified Data Fabric

In distributed IT that extends from edge to core to cloud, data is scattered and used across a multitude of locations. And with businesses increasingly expecting data and information to be more fluid, and for flows to be omni-directional, it is vital to keep the data under control to safeguard against loss, fulfil compliance requirements and be able to use it for business analytics.

Fujitsu enables customers to build distributed IT infrastructures ranging from the edge to the core and to the cloud based on:

- Fujitsu INTELLIEDGE
- Fujitsu PRIMERGY servers
- Storage by Fujitsu and NetApp
- Network technologies from leading partners
- Fujitsu Infrastructure Managers
- Virtualization and cloud software from leading ISVs

Additionally, to deliver this fluidity to data and information, Fujitsu partners with NetApp to build and integrate a Data Fabric, which embraces not just the core and cloud, but also devices and data at the edge of the enterprise network. Data Fabric encompasses an entire product suite, designed to maximize operational efficiency, protect critical data, and accelerate business outcomes. With a common set of data services delivered through a software-defined approach, the Data Fabric delivers:

- Secure and consistent data management, no matter where data is located
- Efficient data transport
- The visibility to leverage the right IT resources, when and where they are needed

Business at the Edge

When hundreds or even thousands of devices send data from the edge of the network to the data center, industrial IoT can make networking and integration more complex. The time taken to transfer data from the edge and transform it into actionable business intelligence can also slow decision-making. To capitalize on the business insights made possible by IIoT, organizations are taking processing and analytics closer to the edge for near-real-time feedback.

**Edge computing: the benefits**
Edge computing enables organizations to unlock the value of industrial IoT:

- Moves processing closer to where data is produced – thereby addressing limitations of centralized computing such as latency, bandwidth, data privacy and autonomy
- By shortening the distance data must travel, edge computing reduces response times to enable real-time decisions – thereby improving customer experience
- Edge reduces network load (and cost) by avoiding data traffic
- Data spends less time in transit – less security risk, lower space and energy requirements at the center

Edge is the future! By 2022:

40%

75%
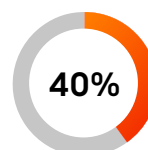
40%[1] of enterprises to double edge spending
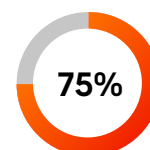
As a result of digital business projects, **75%[2]** of enterprise-generated data created and processed in traditional data center or cloud — an increase from the less-than 10% generated today[2]

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1 IDC, May 2019   **2** Gartner, "Start Moving Data Management Capabilities Toward the Edge", Refreshed 9 January 2019, Published 29 September 2017

The core: from data centers to centers of intelligence

Data center computing also needs agile, high performance systems to run the core applications – such as SAP – that power the business. Fujitsu PRIMEFLEX Integrated Systems for SAP HANA, powered by NetApp storage, creates a unified platform that operates efficiently at the core – keeping critical workloads on-premises – while also integrating seamlessly with IT infrastructure in the cloud and at the edge.

Additionally, Emerging machine learning and artificial intelligence technologies will take business analytics to the next level, and data centers will evolve into centers for business intelligence.

All this will require a data fabric that can provide access to the full range of enterprise data, wherever it is created: on the edge, in the core and in the cloud. With One Data Fabric based on NetApp's ONTAP, and end-to-end offerings from Fujitsu, the two partners offer powerful solutions to energize the future of businesses.

Fujitsu PRIMERGY Servers: embracing latest technologies

- **Modular, scalable design**
  Fast, flexible response to rapidly changing IT demands

- **Performance for diverse workloads**
  Latest Intel® Xeon® Processor Scalable Family and enhanced DDR4 modules with 1.5x bandwidth

- **Graphic & GPU support**
  Advanced GPUs to accelerate most demanding HPC, hyper scale, and enterprise data center workloads

- **FPGA support**
  Efficient acceleration and flexibility 'through programmable hardware for applications

- **Non-volatile memory technology**
 New memory technology that is faster, denser, and non-volatile

Cloud infrastructure: the new normal

With its speed, agility and cost advantages, cloud computing has become an integral part of IT architectures. Many organizations choose to blend several external cloud services with their own private cloud, and to run workloads on the most appropriate platform in each case. However, this "best-of-all-worlds" approach can create new complexities in IT management, cost control and internal IT back-charging.

Fujitsu and NetApp partner to build hybrid IT infrastructures allowing IT organizations to blend private, public and managed cloud seamlessly with existing or on-premises IT while maintaining complete control and access to data.

Fujitsu Hybrid IT & Data Fabric powered by NetApp
Within the framework of a unified data fabric powered by NetApp, Fujitsu hybrid IT services enable organizations to integrate, orchestrate and manage their on-premises and multi-cloud services. Fujitsu Enterprise Service Catalog Manager, for example, acts as a central service portal via which users can access IT services without further operator intervention. As well as provisioning, it also meters consumption and takes care of billing.
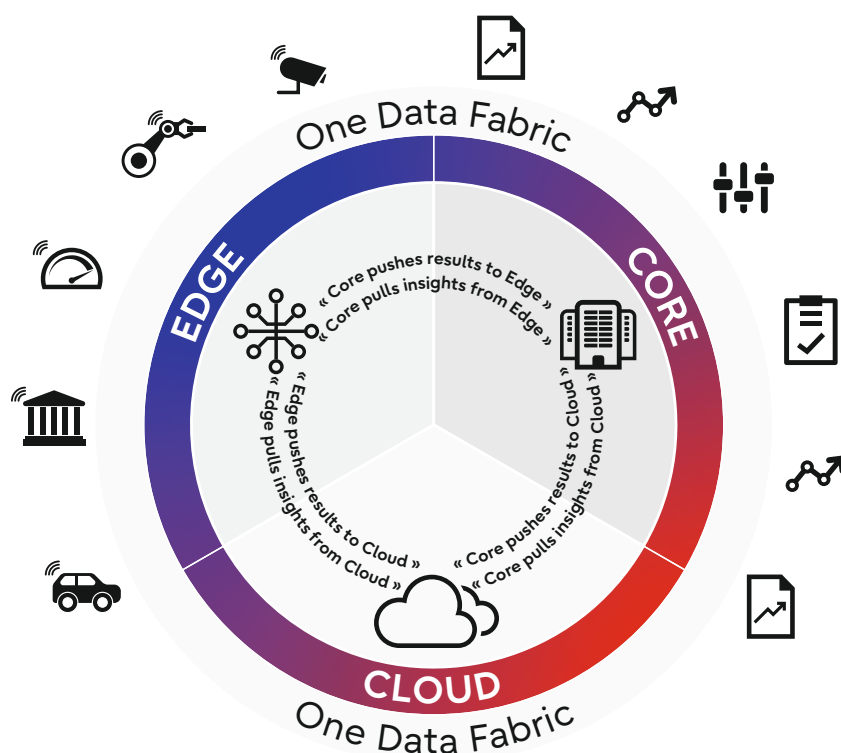
Fujitsu and NetApp: strong partnership to innovate IT

The Data Fabric enables organizations to seamlessly blend data/information from the edge, private, public and managed clouds with existing or on-premises IT and while maintaining complete control and access to valuable data, regardless of where it was created, where it is processed or where it is stored.

In their over 20-year partnership, Fujitsu and NetApp have set new standards for optimizing IT infrastructures. The objective has always been simple: to create integrated IT in which components work together seamlessly. The combined innovation leadership of the two partners is now helping organizations take the next step to distributed IT architectures in which business information can be managed seamlessly from the edge, to the core and cloud.

Learn more about Fujitsu and NetApp:
www.fujitsu.com/netapp