Architecting a Next-Gen Hybrid Cloud to Support Digital Resilience in 2021 and Beyond

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Why Digital Resilience Matters

A key learning from the pandemic is that organizations need to be prepared for unforeseen disruptive global events. Digital resilience helps them to prepare.

What is digital resilience?

The ability for an organization to rapidly adapt to business disruptions by leveraging digital capabilities to not only restore business operations, but also capitalize on the changed conditions.

Digital resilience has six dimensions that organizations need to master to deal with a volatile future. There are three steps in the digital resilience process:

1. Respond and restore
2. Expand and optimize
3. Accelerate and innovate

DIGITAL RESILIENCE

LEADERSHIP & ORGANIZATION
OPERATIONS
FINANCIAL
BRAND & REPUTATION
WORKFORCE
CUSTOMERS & ECOSYSTEMS

Source: IDC Digital Resilience Framework Research, 2020
Building a Digitally Resilient Enterprise Using Digital Technologies and Platforms

Digital resilience is the convergence of two previously separate functions — business and IT resilience — because business is IT!

By 2022, 70% of all organizations will have accelerated use of digital technologies, transforming existing business processes to drive customer engagement, employee productivity, and business resilience.

Source: IDC Digital Resilience Framework Research, 2020
Key Investment Areas to Drive Innovation, Adaptability, and Resilience

Digital resilience is about balancing investments in infrastructure with investments in business innovation. Investments in IT and hybrid cloud are investments in digital innovation.

Digital core investment, 2019–2024 CAGR

- **Digital transformation spend**: 18% ↑
- **Hybrid cloud**: 22% ↑
- **Security investment**: 6% ↑
- **Hybrid work**: 22% ↑

A third of EMEA organizations expect IT spend to be higher in 2021.

Technology objectives are also changing to focus on business value, growth, and innovation:

- **65%**: Using technology to deeply transform a few parts of the business as opposed to broadly transforming the entire organization
- **62%**: Focused on reducing the time to value from technology investments
- **61%**: Using technology to obtain actionable insights about customers and operations
- **55%**: Aggressively shifting to consumption models

Digital investment areas will outpace the 5% CAGR for overall IT spend to 2024.
Significant Role of Cloud-Centric Infrastructure to Support Digital Resilience

Infrastructure resilience delivered through a hybrid cloud strategy and developer services such as containers and open APIs are seen as critical for digital resilience.

Cloud architectures play a key role in succeeding in every digital resilience dimension:

- **Leadership and organization**: Hybrid cloud culture, cloud center of excellence, DevOps/agile development
- **Financial**: Cost optimizations, CloudFinOps, strong links between investment and business outcomes
- **Workforce**: Overcoming cloud skills gaps and complexities, low-code/no-code task apps, cloud-centric development, application refactoring for cloud
- **Operations**: Optimized operations at scale, intelligent operations through observability, operationalizing use of next-gen technologies such as containers
- **Brand and reputation**: Application performance and stability, cloud governance, security, and trust; privacy and compliance
- **Customers’ ecosystems**: Community-delivered innovation, open ecosystems, interoperability and standardizations

Steady investment growth is expected across hybrid cloud and container platforms to meet innovation and resilience expectations.

**2021 Cloud Investment Expectations**

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<table>
<thead>
<tr>
<th>Service Type</th>
<th>Increase</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>PaaS data services (data protection, database management for containers)</td>
<td>36%</td>
<td>29%</td>
</tr>
<tr>
<td>IaaS (public cloud infrastructure)</td>
<td>32%</td>
<td>34%</td>
</tr>
<tr>
<td>Cross-cloud management (intelligent cloud ops)</td>
<td>32%</td>
<td>34%</td>
</tr>
<tr>
<td>Hosted private cloud</td>
<td>32%</td>
<td>33%</td>
</tr>
<tr>
<td>PaaS developer services (containers)</td>
<td>30%</td>
<td>36%</td>
</tr>
<tr>
<td>SaaS (applications delivered as a service such as Workday, M365, Salesforce)</td>
<td>29%</td>
<td>32%</td>
</tr>
</tbody>
</table>
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*Excludes not stated / don’t know

A third of organizations in Europe expect an increase in 2021 spending on all types of cloud infrastructure despite tight budgets.

76% of hybrid cloud users see IT as a “driver of competitive advantage” or “enabler of business efficiency,” compared with 67% of non-hybrid cloud users.

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Source: FERS Survey Europe, Wave 4, May 5–16, 2021 (n = 530); IDC European Multicloud Survey, 2020
Investment in Digital Infrastructure Resilience Rises in Priorities

Only 28% consider it as “no priority”

Digital infrastructure resilience continues to be a core enabler of modern digital business. 71% of organizations see it as a top or high investment priority. Key areas where enterprises will invest:

- Hybrid/multicloud solutions for frictionless connectivity and visibility (76% already have hybrid cloud environments and are working on integrations)
- Formal governance processes for risk mitigation and data protection (58% are already following this to varying degrees)
- Containers, software-defined on-prem infrastructure, and cloud-native platforms (57% already use them)
- Observability (16% of organizations have identified observability tools as an area of key investment to optimize cloud operations)
- Professional services to overcome complexities (54% of organizations engage a cloud services company during the migration and integration phase)
- Unified cloud management plane for greater consistency of operations

Cloud infrastructure is cited as the most critical technology for remote business operations in the post-pandemic world.

Source: FERS Survey Europe, Wave 4, May 5–16, 2021 (n = 530)
Digital Infrastructure Resilience: Expectations and Inhibitors

Digital infrastructure is expected to enable business outcomes around innovation, risk reduction, and efficiency. It is expected to leverage automation and data-driven strategies for successful business transformation.

Inhibitors need to be addressed with modern integrated architectures to achieve business outcomes and meet expectations.

Inhibitors to Achieving Expectations

- Staff levels and skills are difficult to expand and update: 36%
- Many mission-critical workloads have latency, performance, and/or security constraints that require continued use of legacy systems: 35%
- Lack of consistent automation and analytics to optimize our environment: 34%
- Multiple datacenter and cloud management silos rely on different tools that are difficult to integrate: 33%
- Governance related to access, chargeback, SLAs, and vendor selection is fragmented: 31%
- The cost of public cloud services is too high: 28%

The ability to deliver various types of cloud environments consistently, cost efficiency, and rich cloud ecosystem are the top 3 attributes organizations are looking for in their modern hybrid cloud partner.

Source: FERS Survey Europe, Wave 4, May 5–16, 2021 (n = 530); IDC European Multicloud Survey, August 2021
Digital Leaders Are “Cloudifying” On-Premises Infrastructure and Relying on Modern Infrastructure Capabilities More Than Digital Followers

Digital Leaders rely on advanced IT approaches to deliver agility and flexibility because they recognize that:

- Automation and orchestration are key to effective IT service delivery — building on top of cloud-ready infrastructure and applications.
- Intelligent management and observability can help adapt to changing workloads and identify potential bottlenecks and threats in advance for effective remediation.
- Cloud-native architectures and container management holistically can eliminate complexities and cost wastage.
- Security, governance, and cloud economics are first considerations.

**Extensive Use of Advanced Capabilities in IT Environments**

- Intelligent security
- Cross-cloud deployment and development
- Programmable infrastructure
- Automation and orchestration
- Formal risk management/governance processes
- Intelligent monitoring, optimization, and remediation (observability)
- DevOps or modern agile application development
- API-centric development/API gateways

Digital Followers (367)  |  Digital Mainstream (549)  |  Digital Leaders (271)
Containers Are a Key Enabler for a Successful Hybrid Multicloud Architecture

Containers enable the next wave of digital infrastructure — and adoption is on the rise. Containers will be the new backbone for cloud-native applications and modernized applications alike. Getting containers right is critical for success. Containers help modernize on-premises cloud and enable cross-cloud mobility and operations.

More than 7 out of 10 European organizations are already running more than 10% of their applications on containers.

Proportion of Applications Running on Containers Today (August 2021)

- 10% to 25%: 41%
- 26% to 50%: 28%
- 1% to 9%: 9%
- None: 6%
- More than 50%: 5%

By 2024, net-new production-grade cloud-native apps will increase to 70% from 10% of all apps in 2020, due to adoption of technologies such as microservices, containers, dynamic orchestration, and DevOps.

Two-thirds of midsize and large organizations in Europe indicate that by 2022 cloud-native initiatives will be integrated across various parts of their businesses.
Access to Containers, Agile Infrastructure, and Cloud Experience
On-Premises Makes Hybrid Cloud a Reality

Application and digital innovation components come to datacenters — time to drive standardization, integration, automation, and consistent management to find success in modern hybrid cloud.

- DevOps and developer friendly
- VMs and containers
- Automation and orchestration
- Simplicity
- Modern experience
- Intelligent ops
- Full stack management from single vendor for simplicity
- Cross-cloud operations
- Trust and security by design
- Resilience
- Data management (backup, DR, and security of world-class standards)
- Sustainability
- Cost efficiency

Cloud-like architectures now possible on premises

Platform for innovation

Agile application architectures

Foundation for “digital trust”

Modern processes and culture

Programmable infrastructure

Modern on-prem and public cloud together deliver modern hybrid cloud necessary for continuous innovation and resilience.

Cloud-like infrastructure, processes, and operations now possible on premises.
Ultimate Hybrid Cloud Resilience Goal: Application Centricity and Optimized Operations

Organizations are building modern hybrid cloud architectures that can deploy any workload on the most suitable part of hybrid cloud with ease and fluidity.

Expectations from modern hybrid cloud — app and data fluidity, standardized operations and management, unified experience on any infrastructure.

Top 5 areas identified for immediate investment to optimize cloud operations:
- Security operations center: 23%
- Application and infrastructure performance management: 21%
- Continuous monitoring, remediation, and optimization tools: 20%
- Cloud cost assessment: 19%
- Cloud center of excellence for best practices and standards: 19%

Hybrid cloud is a default reality for most European organizations ...

8 in 10 ...

... but true success requires consistent and standardized operations.

© IDC 2021
Source: IDC European Multicloud Survey, August 2021
Ultimate Hybrid Cloud Resilience Goal: Application Centricity and Optimized Operations

**Healthcare IT services company**

As an IT service provider for the healthcare insurance sector, the company needed a high degree of scale, self-service, automation, and cross-cloud operations.

- Rigid hardware-defined infrastructure
- Management complexities and overheads
- Lack of adaptability
- Absence of cloud-like experience

- Modern hyperconvergence-based private cloud with integrations to public cloud and edge that was implemented as a turnkey infrastructure solution
- Benefits include cloud-centric IT that meets business objectives through high automation, flexible cloud operations, and unified control plane for management and self-service

**SAP service specialist**

Expand customer base by ensuring high degree of customer satisfaction through best-in-class SAP services to customers.

- Doubling the customer base without compromising on quality, manageability, and customer experience was unachievable with existing technology architectures
- Need to shift from lengthy migrations and planned downtime that was resource intensive

- Highly available resilient infrastructure fit for customers’ SAP environments: infrastructure efficiency and zero data loss for digital resilience
- Benefits included highly automated, non-disruptive maintenance to deliver reliable services to growing customer base

- Scalable cloud-like platform to support business expansion without need to invest in more skilled professionals or additional IT budgets

**Business objective:** operational resilience

**Challenges**

- expand customer base by ensuring high degree of customer satisfaction through best-in-class SAP services to customers

**Solution and benefits**

- highly available resilient infrastructure fit for customers’ SAP environments: infrastructure efficiency and zero data loss for digital resilience
- benefits included highly automated, non-disruptive maintenance to deliver reliable services to growing customer base

- scalable cloud-like platform to support business expansion without need to invest in more skilled professionals or additional IT budgets
Being Digitally Resilient Is a Central Tenet of the Future Enterprise

To become a “future enterprise” and be ready for a volatile future, organizations need to balance customer satisfaction and innovation with operational and cost efficiency. Only a future enterprise will be ready to deal with sudden changes in the business environment and be digitally resilient.

Top business priorities, 2021

- Customer satisfaction: 47%
- Operational efficiency: 44%
- Innovation: 37%
- Cost savings: 30%

Source: FERS Survey Europe, Wave 4, May 5–16, 2021 (n = 530)
# Time to Shine: Savvy C-Suites Are Investing to Make Modern Hybrid Cloud the Bedrock for Digital Resilience and Optimized Operations

When planning a hybrid cloud strategy, savvy business and technology leaders have long-term, continuous value in mind. Here are the key hybrid cloud 2.0 success pillars for hybrid cloud. Are you ready?

<table>
<thead>
<tr>
<th>Hybrid cloud 2.0 success pillars</th>
<th>Long-term design strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Containers and microservices</td>
<td>By 2024, nearly 70% of organizations’ new custom-developed applications will be built and managed using microservices and containers as foundations for stronger and higher-performing automation.</td>
</tr>
<tr>
<td>Cross-cloud operations</td>
<td>More than 40% of enterprises will replace outdated operational models with cloud-centric models that facilitate organizational collaboration for better business outcomes.</td>
</tr>
<tr>
<td>Cloud economics</td>
<td>The belief that they are wasting at least 15% of their public cloud spending will drive enterprises to invest in cloud cost management to cut cloud waste in half.</td>
</tr>
<tr>
<td>Cloud governance</td>
<td>All enterprises will struggle with app modernization and data integration across cloud silos; 20% will adopt connected cloud architectures to overcome these concerns.</td>
</tr>
<tr>
<td>Application performance and mobility in hybrid cloud</td>
<td>To gain business agility, enterprises will commit to modernizing up to half of their existing applications, with cloud-native development and deployment services.</td>
</tr>
<tr>
<td>Cloud strategy, leadership, and culture</td>
<td>Leaders will focus on skills, digital KPIs, business outcomes, and standardized operations; hybrid cloud adoption will be defined by the company’s applications, culture, terms, speed, and choice.</td>
</tr>
</tbody>
</table>
MESSAGE FROM FUJITSU

The Need for Change

For many years, we have been able to successfully differentiate ourselves through brilliant technological features and the high quality of our products. However, in a fast-changing industry like ours, technological features and quality are not sufficient anymore to meet all of our customers’ needs. To remain attractive and benefit from dynamic changes in the market, repositioning is inevitable. Market conditions are constantly changing, which is why we need to stay relevant to our customers’ challenges, today and in the future.

We strive to add value to our customers’ business and to make a positive difference in the lives of our people, our customers, and our partners. By investing in more customer-centric themes to improve customer experience (CX), Fujitsu is looking to stay relevant and to be a trusted advisor for our customers, providing a unique CX.

Why hybrid cloud?

In line with Fujitsu’s vision, the latest report from IDC clearly shows that hybrid cloud is the natural evolution as organizations optimize their infrastructures and 83% of European organizations leverage the benefits of running hybrid cloud. Being customer obsessed, we are simply responding to our customers’ requests. Fujitsu is uniquely positioned to help customers find the right cloud for the right workload because we can offer a choice of solutions on which to build a hybrid cloud. These solutions build on Fujitsu’s engineering heritage, where we have already pre-certified, pre-integrated, and pre-built solutions to take out the complexity, cost, and risk for our customers.

Craig Parker, Head of Hybrid Cloud Europe Product Business, Fujitsu
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