GETTING TO GRIPS WITH HYBRID CLOUD

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Executive Summary

Digital Leaders focus more strongly on using advanced automation and orchestration as well as intelligent assisted operations for agility and flexibility, while also proactively managing performance and cost.

Most companies are embracing cloud, but very few are transitioning completely to public cloud. Even the most digitally advanced companies have a strong on-premises preference, but they are the most open to using cloud alongside this.

Almost all workloads — with suitable optimization — are now capable of running in the public cloud. However, most companies still prefer to keep many workloads on-premises or deploy them in a hybrid cloud approach for performance, security, or privacy reasons.

Managing workloads across different cloud environments, and optimizing where they run over time as performance and costs change, will be vital to keep applications delivering on user expectations and avoid bill shocks for the IT department.

Industry Vertical

- ● IT/telecom service providers
- ● Manufacturing
- ● Retail/wholesale
- ● Education
- ● Professional services (real estate, accountancy, advertising, business consultancy, recruitment, etc.)
- ● Healthcare
- ● Construction
- ● Transportation
- ● Banking
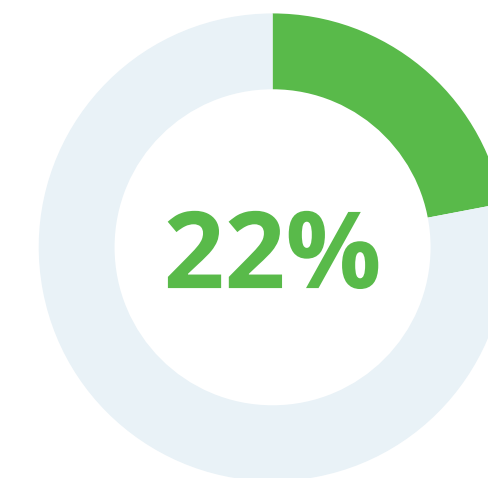- ● Others

Total Number of Respondents — 1,187

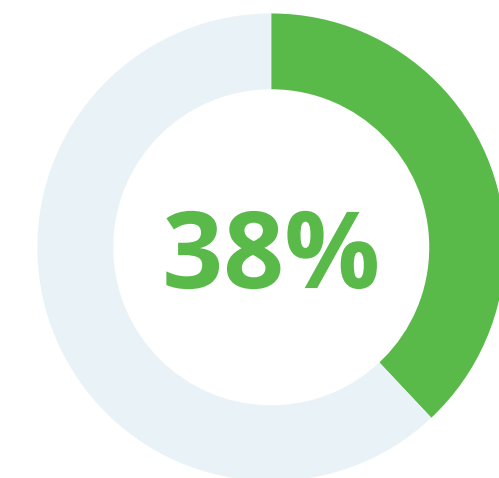22% — 18% — 14% — 9% — 8% — 7% — 6% — 6% — 6% — 5%
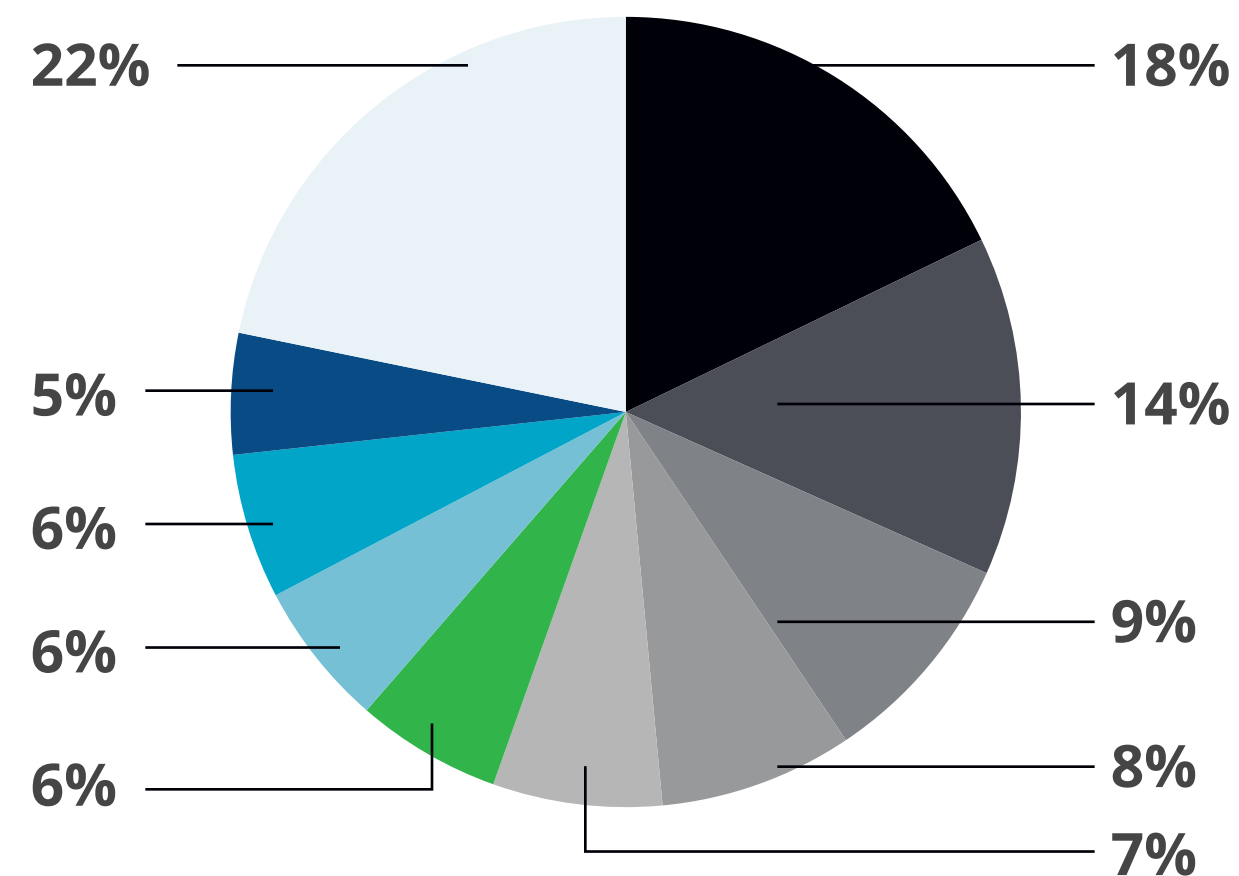
Company Size

How many employees are there at your company/organization globally?
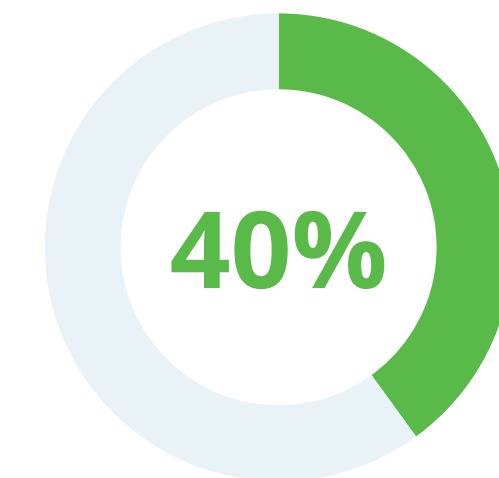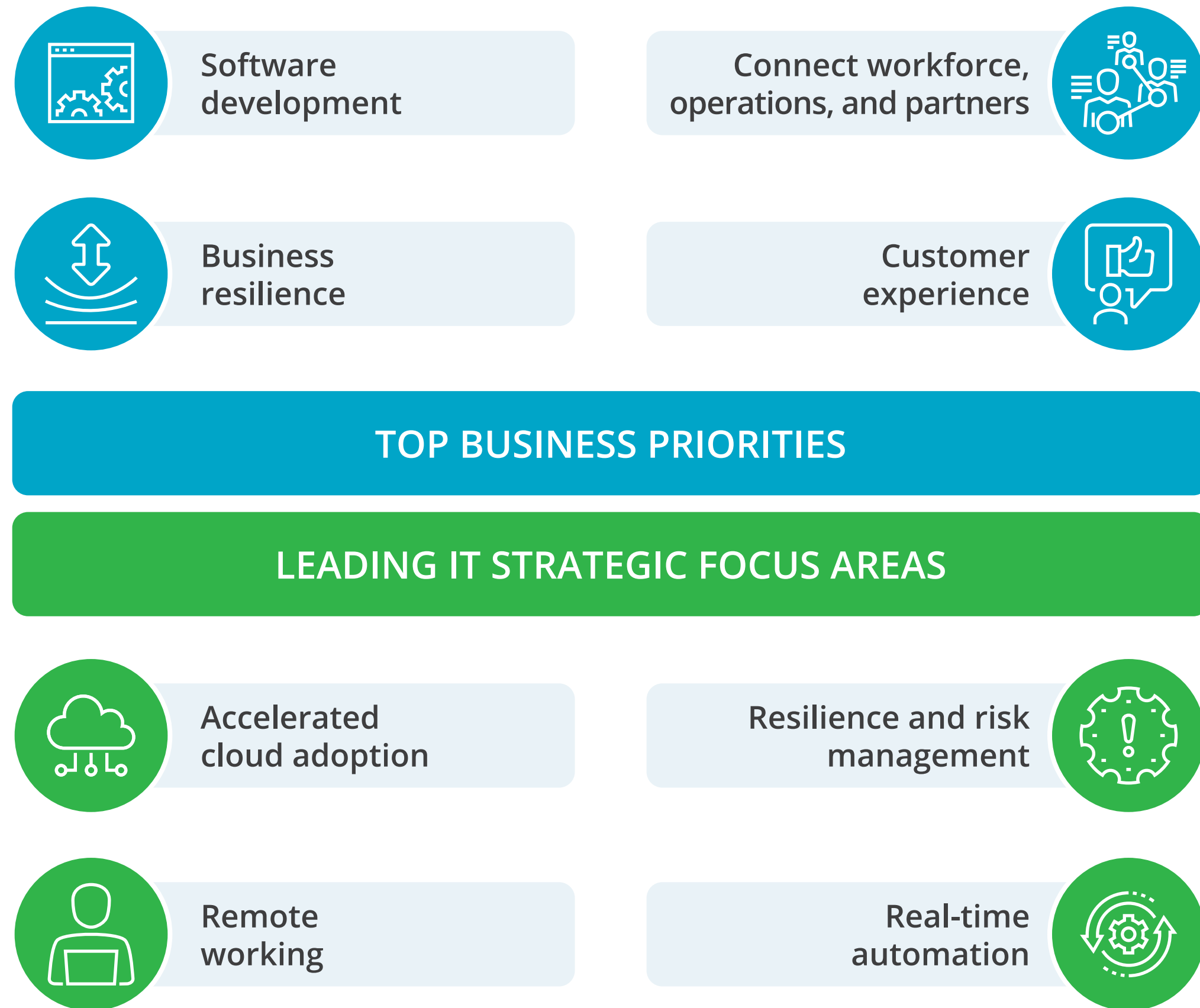

40%
SMB — under 500 employees
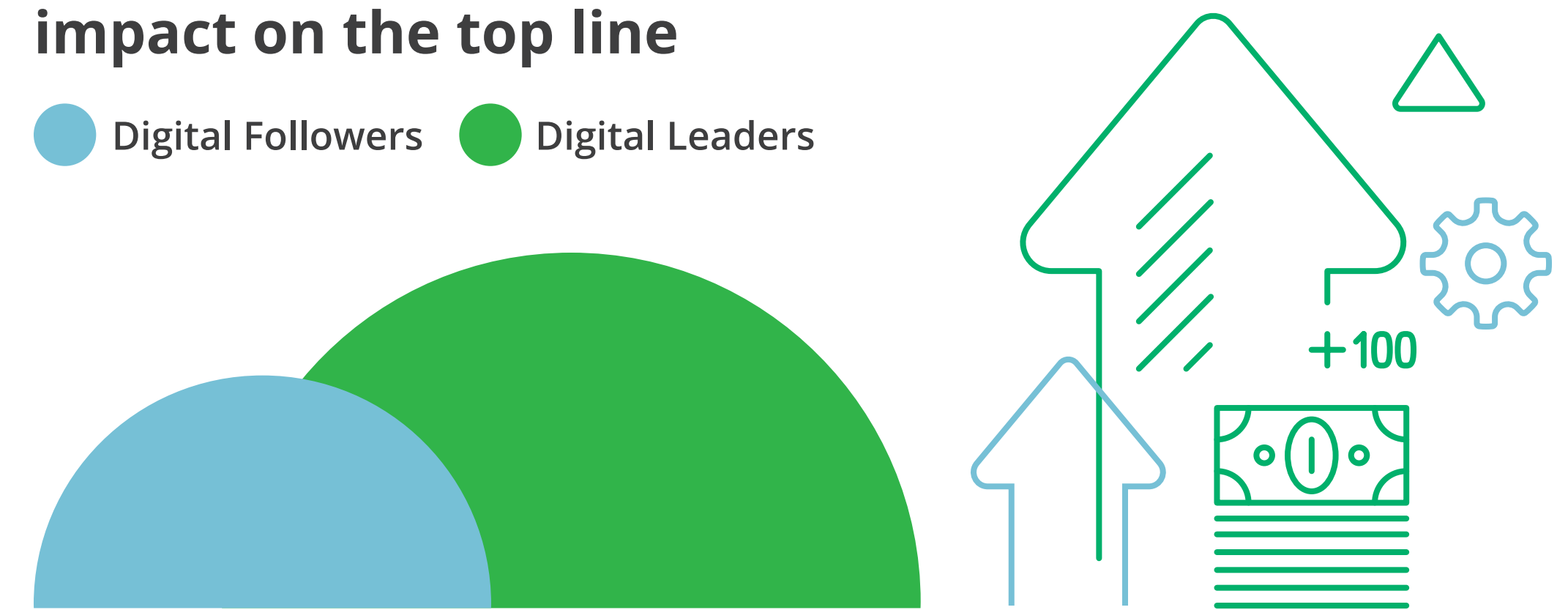
22%
Midmarket — 500 to 999 employees

38%
Enterprise — 1,000 or more employees

Volatile Market Conditions Are Forcing Rapid Responses

Software development

Connect workforce, operations, and partners

Business resilience

Customer experience

TOP BUSINESS PRIORITIES

LEADING IT STRATEGIC FOCUS AREAS

Accelerated cloud adoption

Resilience and risk management

Remote working

Real-time automation

## Digital leadership has a tangible impact on the top line

● Digital Followers ● Digital Leaders

Revenue growth in 2019

Digital Leaders — the **top 25%** of companies that **invest most heavily** in a range of **advanced IT infrastructure technologies** — saw much greater revenue growth as they can capture more of existing markets or pivot to new ones more easily.

Hybrid Cloud Is the Hallmark of Adaptable IT
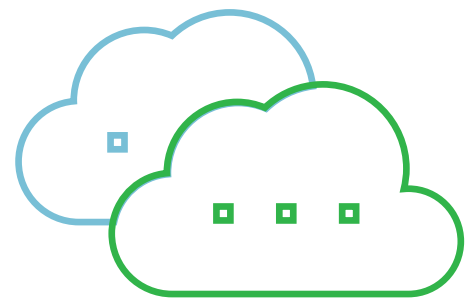
Most companies are embracing cloud, but very few are transitioning completely to public cloud. Even the most digitally advanced companies have a strong on-premises preference, but they are the most open to using cloud alongside this.

23% of Digital Leaders [the companies that are most advanced in their IT architectures], make the most use of public cloud services as part of their IT service delivery — with a leaning toward PaaS, compared to just 10% of Digital Followers.

But they generally still rely on a significant on-premises IT environment that needs modernization and needs to tie into these public cloud services.

The combined public cloud IaaS and PaaS market was worth $84.8B in 2019. This combined market is anticipated to grow at

27% CAGR

over the next five years.

IaaS   **PaaS**

Digital Leaders make more use of public cloud than the mainstream IT market. They recognize the value this brings to IT service delivery and are focusing on cloud-native application delivery with platform as a service more than infrastructure as a service.

A Well-Managed Hybrid Cloud Platform Helps Turn IT Into a Competitive Advantage

Attitude to adopting public cloud services

On-premises only:

14%

Hybrid cloud approach:

84%

Public cloud only:

2%

- The vast majority of companies have an existing IT infrastructure and many applications and services delivering a huge amount of value to the business.

- Most are pragmatic when it comes to cloud, and want to bring public cloud services into the mix to help improve IT service delivery alongside their existing apps and infrastructure.

- There is still an overall preference to run IT on-premises, but Digital Leaders are the ones turning most strongly to a hybrid cloud approach to improve IT agility and support innovation — turning IT into a foundation of competitive advantage.

This pays off in demonstrably higher revenue growth for Digital Leaders compared to the whole market.

They invest heavily in IT infrastructure to build an intelligent, automated, and agile infrastructure.

Digital Leaders tend to view IT as a means to win the market rather than a cost to be cut.

Successful Cloud Needs a Holistic Strategy

Reasons for failure of public cloud initiatives:

MAINSTREAM THINKS:
- Performance
- Reliability
- Integration with other public cloud services

DIGITAL LEADERS SAY:
- Cost of data transfers
- Overall cost control
- Data sovereignty
- Lack of standards

Public cloud is not a magic bullet:
- If you struggle with agile IT management on-premises today and just lift and shift your apps to the public cloud — without changing how you manage things — your outcome will be far from optimal.

Public cloud has reset expectations for how responsive IT can be:
- To achieve success IT needs to adopt a new approach to developing and deploying applications and services while still fully supporting existing services.
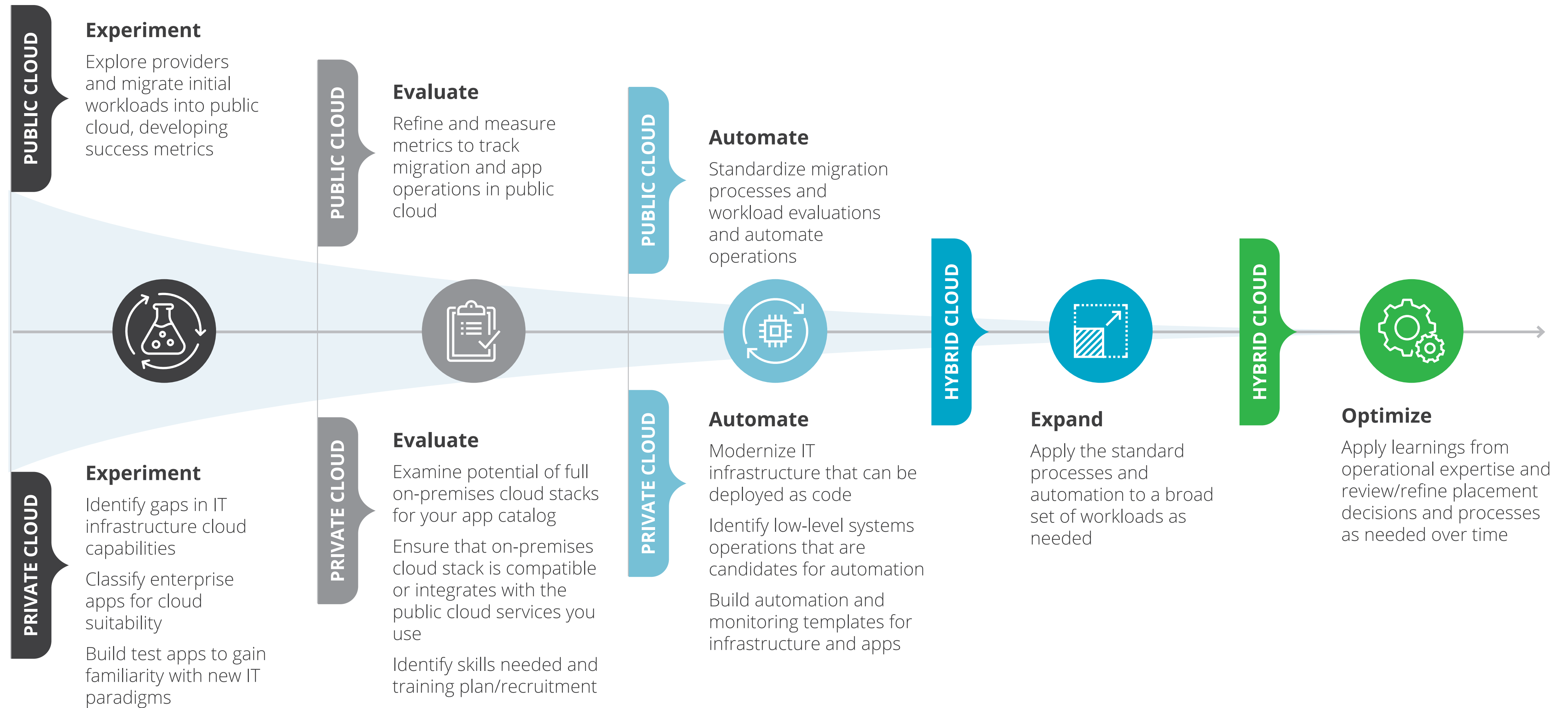
Companies also want to avoid lock-in:
- Tying applications and services to one provider risks locking companies into another company's strategy.
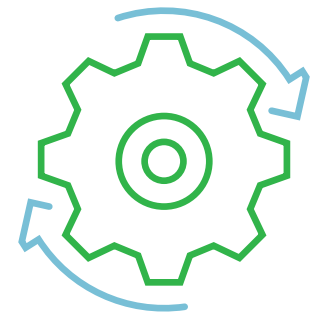- Portability/compatibility of data, code, and cost is key.

A beverage manufacturer moved the first 40% of its workloads to the cloud in 18 months. This was fairly easy as it moved applications that were not business critical. The remaining 60% of apps are more challenging as they look to shift more critical back-office systems to the cloud.

Blueprint for Seamless Hybrid Cloud

PUBLIC CLOUD

Experiment
Explore providers and migrate initial workloads into public cloud, developing success metrics

PUBLIC CLOUD

Evaluate
Refine and measure metrics to track migration and app operations in public cloud

PUBLIC CLOUD

Automate
Standardize migration processes and workload evaluations and automate operations

PRIVATE CLOUD

Experiment
Identify gaps in IT infrastructure cloud capabilities

Classify enterprise apps for cloud suitability

Build test apps to gain familiarity with new IT paradigms

PRIVATE CLOUD

Evaluate
Examine potential of full on-premises cloud stacks for your app catalog

Ensure that on-premises cloud stack is compatible or integrates with the public cloud services you use

Identify skills needed and training plan/recruitment

PRIVATE CLOUD

Automate
Modernize IT infrastructure that can be deployed as code

Identify low-level systems operations that are candidates for automation

Build automation and monitoring templates for infrastructure and apps

HYBRID CLOUD

Expand
Apply the standard processes and automation to a broad set of workloads as needed

HYBRID CLOUD

Optimize
Apply learnings from operational expertise and review/refine placement decisions and processes as needed over time

Modern Datacenters Need to be Cloudified

Digital Leaders recognize that automation and orchestration are the keys to effective IT service delivery — building on top of cloud-ready infrastructure and applications.
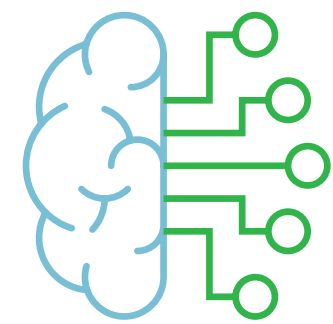
Analytics and AI/ML are important to understand how to configure and manage IT infrastructure with changing workloads and demands from supply chain, staff, and customers — enabling improved agility and flexibility.

Underpinning all of this is ensuring that applications have constant access to data that is protected and available at the best cost.

Where do Digital Leaders focus on to improve their datacenters to deliver flexibility and agility?
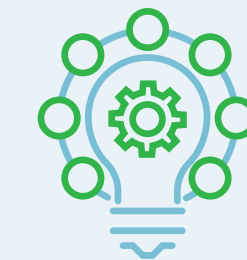
Digital Leaders think these are more important than the total market thinks they are

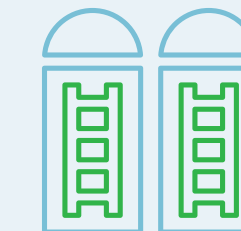**Automation and orchestration**

AI-based management

Infrastructure and application modernization

Digital Leaders think these are less important that the total market thinks they are
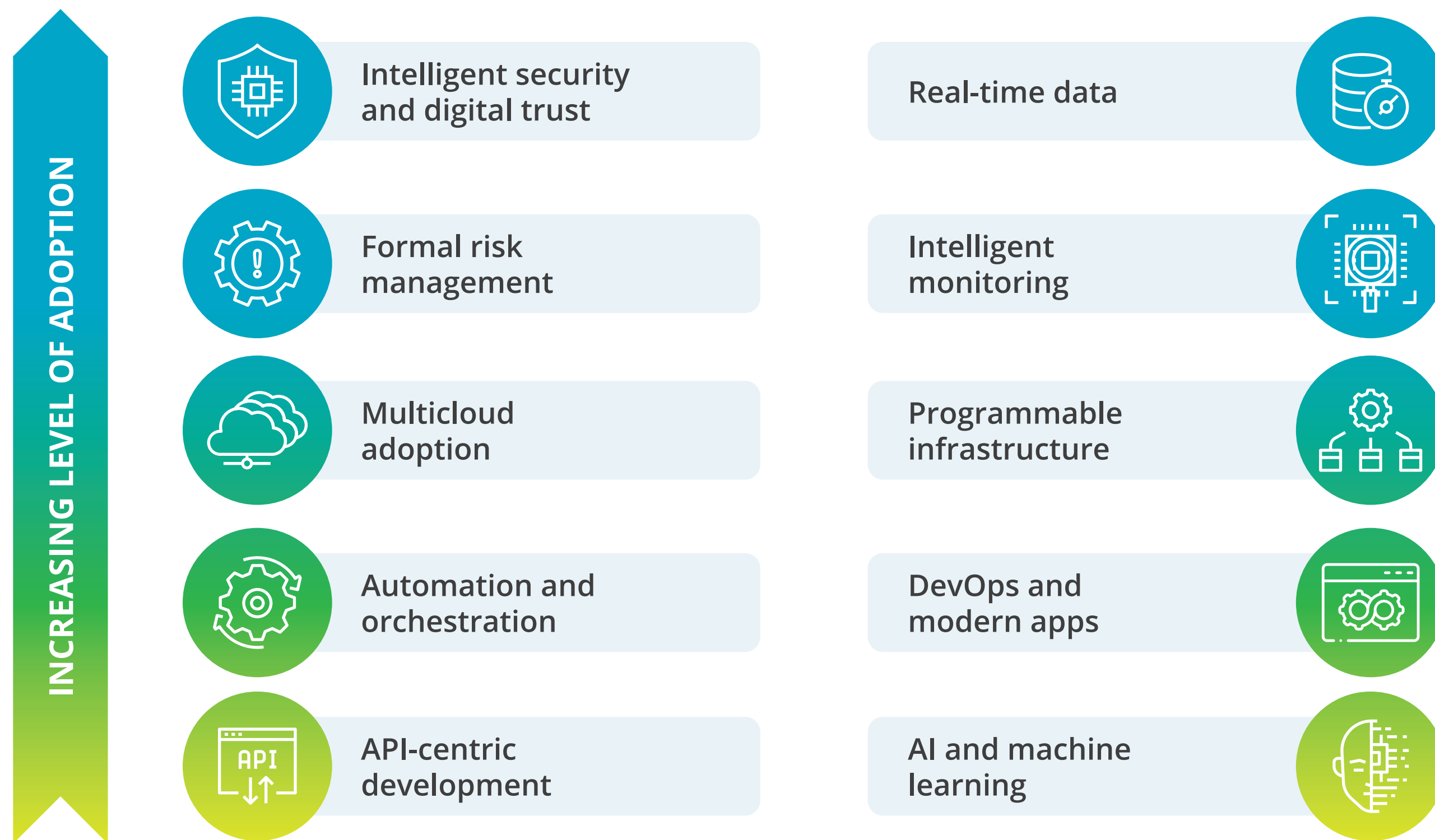
Cost

Data silos

Enhanced disaster recovery

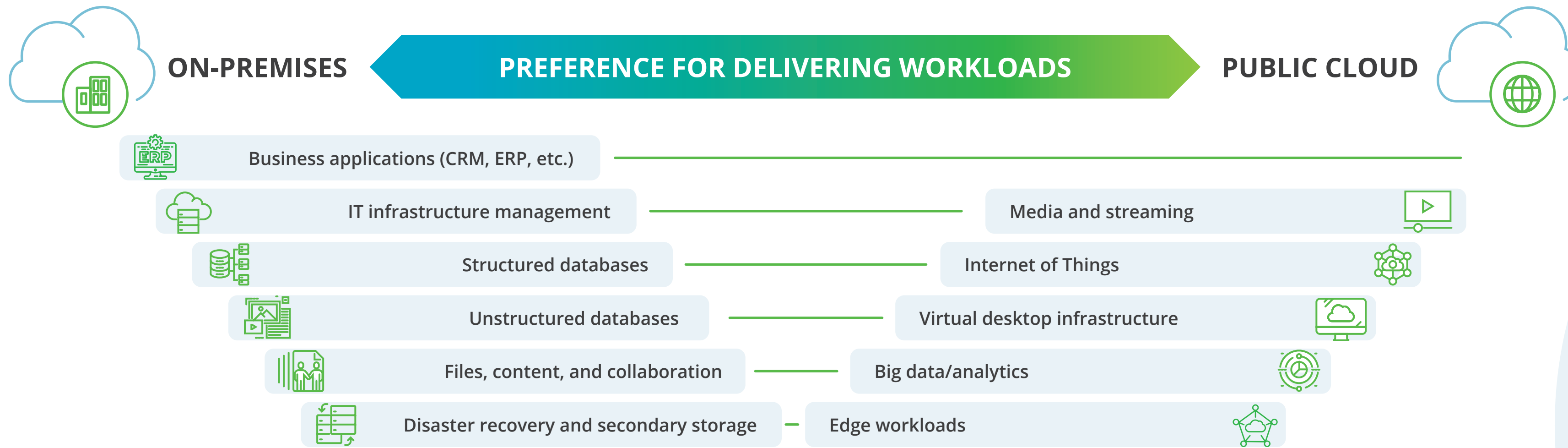Datacenter priorities — delta between the total market and Digital Leaders

What Makes a Digital Leader?

**We've seen how being a Digital Leader can really benefit a business when it comes to market performance.
This is what they're investing heavily in to make this a reality:**

INCREASING LEVEL OF ADOPTION

Intelligent security and digital trust

Formal risk management

Multicloud adoption

Automation and orchestration

API-centric development

Real-time data

Intelligent monitoring

Programmable infrastructure
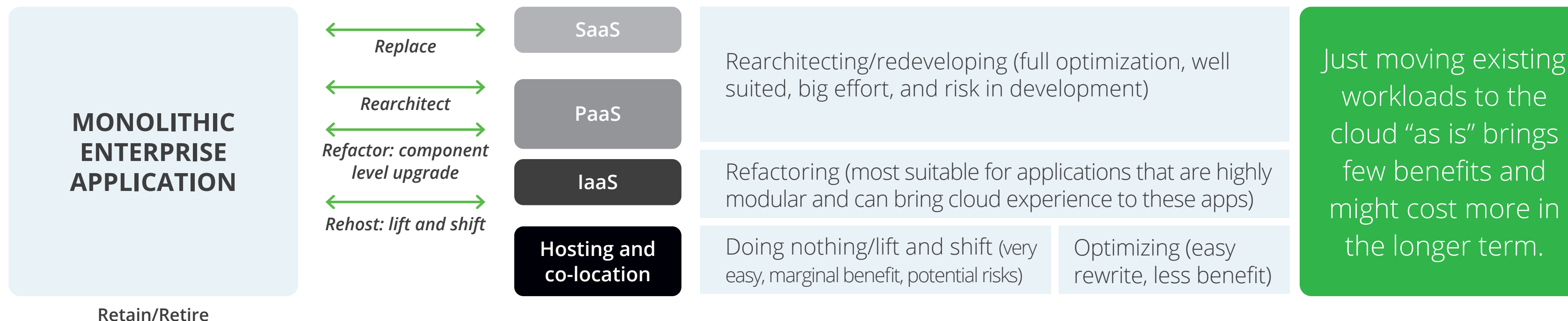
DevOps and modern apps

AI and machine learning

How capable is your IT infrastructure across these areas? Tangible improvements in targeted areas can seriously improve your overall digital platform and IT delivery.

Applications Need a Rethink to Reap the Rewards of Hybrid Cloud

ON-PREMISES → PREFERENCE FOR DELIVERING WORKLOADS → **PUBLIC CLOUD**

Business applications (CRM, ERP, etc.)

IT infrastructure management — Media and streaming

Structured databases — Internet of Things

Unstructured databases — Virtual desktop infrastructure

Files, content, and collaboration — Big data/analytics

Disaster recovery and secondary storage — Edge workloads

Options to modernize workloads

MONOLITHIC ENTERPRISE APPLICATION

- Replace
- Rearchitect
- *Refactor: component level upgrade*
- *Rehost: lift and shift*

Retain/Retire

SaaS	Rearchitecting/redeveloping (full optimization, well suited, big effort, and risk in development)	
PaaS		
IaaS	Refactoring (most suitable for applications that are highly modular and can bring cloud experience to these apps)	
Hosting and co-location	Doing nothing/lift and shift (very easy, marginal benefit, potential risks)	Optimizing (easy rewrite, less benefit)

Just moving existing workloads to the cloud "as is" brings few benefits and might cost more in the longer term.

> By 2022, the acceleration of legacy app modernization and net-new development will lead to **35% of production apps being cloud native** — utilizing microservices, containers, and dynamic orchestration.

(IDC FutureScape: Worldwide Developer and DevOps 2020 Predictions — European Implications, IDC #EUR145826320, January 2020)
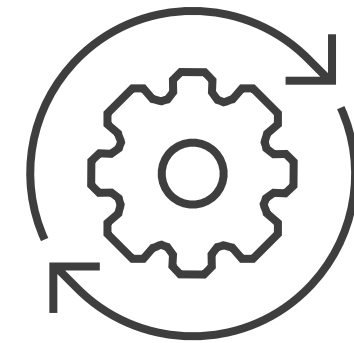
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Hybrid Cloud Success Depends on Much More Than Just Getting the Technology Right

TECHNOLOGY
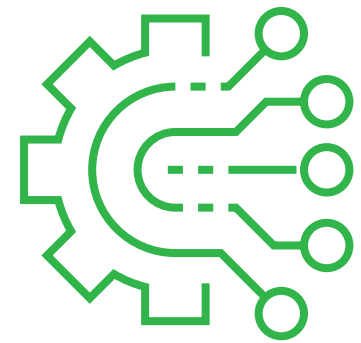
- SRE
- Standardization
- Integration
- Interoperability
- Infrastructure as code
- Flexibility trumps ultimate performance
- Shift to containers
- Hybrid cloud native

PROCESS

- Automation and orchestration
- Billing and cost control
- Policy and templates
- Testing
- Reproducibility
- Reliability
- Best practices
- KPI-driven decision making
- Self-service

PEOPLE
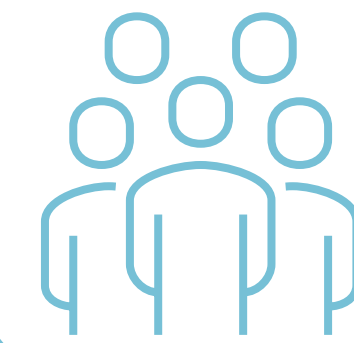
- Skills
- Retention
- Consultants and third-party support
- Regular independent architecture and operations reviews
- Center of excellence
- Program management
- Business alignment

Your Checklist for Mastering Hybrid Cloud

Assess where Public Cloud can Really Help You

The public cloud is turning out to be a complementary approach for application delivery, rather than the only approach. Without proper oversight or strategy, this can introduce yet more complexity into IT provisioning and management that needs mastering, so make sure you have a good handle on what is required rather than moving early and learning on the job.
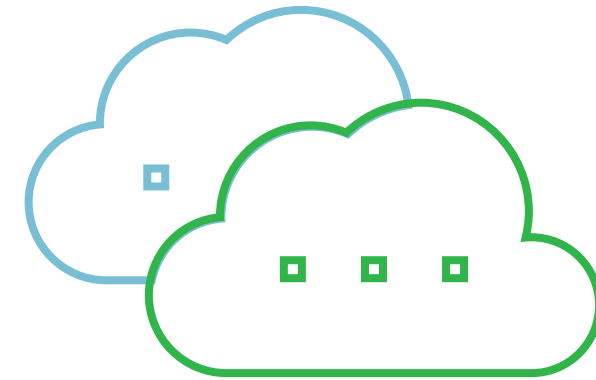
Adopt Automation and Orchestration

If you are already struggling to deliver new apps or manage existing ones on-premises, moving to the cloud without changing what you do will probably not improve your situation as much as you'd like and would introduce a whole set of new issues.
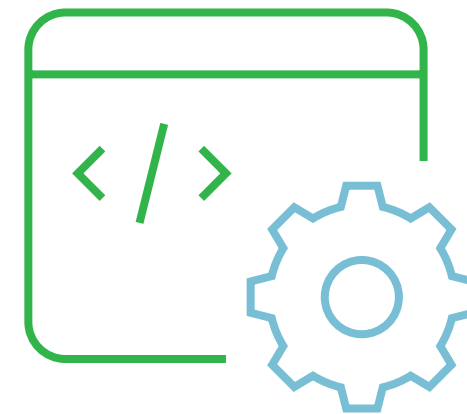
Invest in Integrated Management

Most companies rely too much on the default tools that come with their applications or cloud services. These are great for detailed management, but it can be hard to see the wood for the trees.

Proactive Issue Detection and Resolution

Getting a single up-to-date view into the performance and cost of your application portfolio is the holy grail — enabling issues to be detected early and costs to be controlled before they spiral out of control.

Take Control of Cost

Digital Leaders focus more strongly on using advanced automation and orchestration as well as intelligent assisted operations for agility and flexibility, while also proactively managing performance and cost.

About Virtana

Virtana is the leading hybrid cloud optimization platform for digital transformation. Its technology and services give innovative organizations the clarity they need to take control of their infrastructure, plan, transform, and optimize their cloud operations, and deliver a superior brand experience. Virtana's software modernizes IT, supporting its agility while guaranteeing performance, minimizing risk, and reducing cost. It guides users on a journey to see their infrastructure from a single pane of glass, act on issues that arise, and transform processes for future automation.

Learn more at https://www.virtana.com/

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