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# IT Operations and Cloud Management for Technical Professionals Primer for 2024

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## IT Operations and Cloud Management for Technical Professionals Primer for 2024

Published 31 January 2024 - ID G00802666 - 8 min read

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Initiatives: IT Operations and Cloud Management for Technical Professionals

Modern enterprises depend on digital platforms and increasingly, business stakeholders want to control both their fate and the technologies that shape it. IT teams need modern tools, services and processes that enable effective and automated governance of increasing digital democratization.

### Scope

IT teams must enable increasingly varied consumers across complex technology ecosystems. Our initiative combines efficient foundations and emerging innovations to turn IT into a competitive advantage.

Topics in this initiative include:

- **IT Operations Strategies and Practices:** Evaluate cloud and data center management platforms, manage and deliver across on-premises and off-premises solutions, and deliver an automated platform to internal consumers.
- **Monitoring, Observability and AIOps:** Monitor and manage system and application performance, and use that operational telemetry to augment, accelerate and automate proactive operations processes.
- **Automation of Infrastructure, Provisioning, Processes and DevOps:** Build pervasive, resilient and trusted automation throughout operations to enable efficient and agile platforms and services.
- **IT Service Management and Governance:** Manage and deliver diverse and disparate IT services and assets throughout their life cycles, enabling effective governance without impeding agility.
- **Cost Management and Resource Optimization:** Adapt accountability to continually optimize IT resource consumption – both on-premises and in the cloud – to proactively avoid waste and ensure cost efficiency.

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Analysis

Figure 1: IT Operations and Cloud Management for Technical Professionals Overview

**IT Operations and Cloud Management for Technical Professionals**



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IT is continually evolving to deliver on the growing adoption of technology and digital platforms in all aspects of modern enterprises. Fulfilling all the different technology dependencies requires a growing variety of on-premises and off-premises environments, platforms and services – delivered reliably, securely and with greater autonomy than ever before. Legacy processes and systems can't meet the demands of modern enterprises and their development teams.

These cases demand innovation to recast, rebuild and replace processes and tools that can't meet the needs of multisite, multicloud IT landscapes. This collection of research identifies and simplifies this innovation, and helps infrastructure and operations (I&O) technical professionals provide a strong foundation for scaling digital business efforts, with technical assessments and implementation guidance on:

- Modernizing IT operations to enable greater autonomy and accountability, with research on DevOps, cloud financial management and platform engineering
- Embracing hybrid, multicloud, multiprovider as the default state across on-premises, cloud, and edge compute capabilities
- Evolving resource management, governance, resilience and automation practices to help IT keep pace with the dynamic technology and provider landscapes

## Topics

It is impossible to deliver operational excellence in an agile, distributed environment with processes and tools that were designed for monolithic applications and centralized operations. There is a constant struggle to adapt legacy operations to modern architectures and increasingly self-service internal consumers. This trend toward user autonomy and digital democratization will change the role of IT – the future is tools, skills and processes that devalue mechanical control and expand enablement and governance. I&O technical professionals need to be equipped with the insight that allows them to examine existing IT processes and identify more-effective approaches for the new environment, its challenges and to formulate more impactful goals. The pace of innovation makes it difficult to stay up-to-date on the latest advances and enhancements, let alone to assess and compare their fitness for your unique requirements and constraints.

Our research in this area addresses the following topics:

### IT Operations Strategies and Practices

Every organization has data, applications and services across data center, cloud and edge environments. Each environment delivers or enables a critical component of the broader IT strategy, but the resulting diversity complicates availability, risk, integration, monitoring and management. Operational strategies need to support IT services, wherever they are, and deliver them to a diverse user community. Our insights guide clients to strategies and practices for scaling IT operations across these environments and consumers.

## Questions Your Peers Are Asking

- How do we enable self-service that helps developers build and run their applications?
- How can our organization support DevOps and platform engineering initiatives to optimize the full system life cycle?
- What new practices, roles and skills do we need to learn to thrive in a hybrid, distributed and multicloud world?
- How can we leverage both traditional approaches and new approaches, like site reliability engineering (SRE), to improve resilience, disaster recovery (DR) and data protection for all types of hybrid environments?

## Recommended Content

🔑 Some recommended content may not be available as part of your current Gartner subscription.

- [Comparing Cloud Operations Approaches](#)
- [Designing Availability and Resilience for Applications in Public Cloud IaaS and PaaS](#)
- [How to Address the Testing Gap for Platform Engineering and Cloud Native](#)
- [The Gartner Framework for Ransomware Recovery](#)

## Planned Research

- Strategies to address the cloud skills gap, including the potential impact of generative AI (GenAI)
- Updated guidance on public cloud governance and automation
- Additional coverage on the operational impact of increasing consumer autonomy
- Comparing and combining different operational strategies to maximize efficiency and impact

## Monitoring, Observability and AIOps

Augmenting monitoring with observability elevates the generation, transport and analysis of fit-for-purpose data. Modern monitoring and observability don't just inform on the state of assets and applications; it provides understanding and explains why. Turning this understanding into value, however, often requires new skills, new processes and new collaborations. Our research captures practices to ensure that monitoring provides a proactive, intelligent and data-driven foundation for IT operators and business stakeholders.

### Questions Your Peers Are Asking

- How can we deliver observability to diagnose problems and improve application performance and availability?
- What tools, technologies and vendors can improve our visibility into application performance and operations?
- How can AIOps help proactively resolve issues before they cause outages and incidents?
- How can we collaborate on cross-discipline observability with security and application teams?

### Recommended Content

🔒 Some recommended content may not be available as part of your current Gartner subscription.

- [Reference Architecture Brief: Software Observability](#)
- [Enhance Monitoring and Observability via Telemetry Pipelines](#)
- [How to Monitor Containers and Kubernetes Workloads](#)

## Planned Research

- Implementing Extended Berkeley Packet Filter (eBPF) for observability and monitoring
- Calculating the ROI for monitoring and observability
- Monitoring digital experience for APIs and cloud-native applications
- Assessing the impact and capturing the potential of GenAI in monitoring and observability

## Automation of Infrastructure, Provisioning, Processes and DevOps

Automation is fundamental to delivering agility and scaling governance; moreover, automation is crucial to delivering more consumer autonomy. Automation must be the foundation of IT processes and can be some of the most effective investments in escaping a purely reactive posture. Culture, team structures and processes need to reflect automation as a foundational principle. Our insights on this topic highlight the tools, skills and practices that clients use to make these critical changes.

## Questions Your Peers Are Asking

- How can we adopt infrastructure as code (IaC)?
- What are the best practices for infrastructure automation?
- Should we adopt third-party automation tools, or use the cloud providers' built-in offerings?

## Recommended Content

🔑 Some recommended content may not be available as part of your current Gartner subscription.

- [How to Harden IT Process Automation Security Practices](#)
- [Comparing DevOps Architecture to Automate Infrastructure and Operations for Software Development](#)
- [Use Platform Engineering to Scale and Accelerate DevOps Adoption](#)
- [Is Using GitOps-Style Automation With Kubernetes Right for Me?](#)
- [How to Empower Technical Teams Through Self-Service Public Cloud IaaS and PaaS](#)

## Planned Research

- Automating cloud landing zone provisioning
- Cross-topic focus on automation, within all IT disciplines
- Increasing need for policy-driven automation as an autonomy enabler
- Developing GitOps-inspired workflows in Terraform Cloud

## IT Service Management and Governance

There is tension between the demand for “agility” and the need for “control.” IT organizations face a constant, major challenge to provide both – while delivering the latest capabilities, mitigating risk, maintaining accurate and timely asset information, and quickly resolving incidents. To meet these divergent requirements, our IT service management (ITSM) insights offer practical advice on leveraging emerging capabilities to scale and accelerate service delivery while improving governance.

## Questions Your Peers Are Asking

- How can fundamental ITSM practices be adapted to modern IT?
- How do we enable consumers to get what they want, when they want it, without introducing risk?
- How can we provide increased agility, while improving governance?

## Recommended Content

🔒 Some recommended content may not be available as part of your current Gartner subscription.

- Solution Path for Implementing Foundational ITSM Practices
- ITSM Best Practices: How to Implement an Effective IT Change Management Practice
- ITSM Best Practices: Automating Incident Management
- ITSM Best Practices: Implement a Major Incident Management Response Plan

## Planned Research

- Initiating coverage of asset management
- Discovering disruptive innovations in ITSM tools and processes
- Assessing impact of GenAI on IT product and service catalog management

## Cost Management and Resource Optimization

As IT budgets are constrained by broader market trends, cost efficiency and optimum resource utilization are becoming larger priorities. However, the mix of cloud services, ephemeral assets, distributed environments, pricing changes and increasing self-service has made this a complex practice. Our insights guide I&O clients on how to implement effective cost management, identify impactful innovations and make real-time resource optimization a competitive advantage.

## Questions Your Peers Are Asking

- How do I forecast my cloud costs?
- How can I make development teams accountable for their self-service consumption?
- How do I track and allocate my cloud spending?
- How do I develop an operating model for cloud financial management?
- Should I implement FinOps and how do I accomplish that?

## Recommended Content

🔒 Some recommended content may not be available as part of your current Gartner subscription.

- [Beyond FinOps: The Gartner Framework for Public Cloud Financial Management](#)
- [Beyond FinOps: Budgeting and Forecasting Public Cloud Costs](#)
- [Beyond FinOps: Gaining Visibility Into Your Public Cloud Costs](#)

## Planned Research

- Optimizing cloud costs within the Gartner Framework for Public Cloud Financial Management
- Shifting accountability to cloud consumers to proactively constrain cloud costs
- Comparing cloud financial management tools

## Suggested First Steps

- 2024 Planning Guide for IT Operations and Cloud Management
- 2024 Planning Guide for Cloud, Data Center and Edge Infrastructure
- Introducing the “You Build It, You Run It” Modern Operations Pattern

## Essential Reading

- 2024 Planning Guide for Identity and Access Management
- Comparison of On-Premises Approaches for Using Backup to Cloud
- Design a Data Protection Strategy for On-Premises and Cloud IaaS
- How to Build a Secure Environment to Recover From Ransomware and Other Cyberattacks
- Introducing the “You Build It, You Run It” Modern Operations Pattern
- Guidance Framework for Deploying Centralized Log Monitoring
- Designing and Operating DevOps Workflows to Deploy Containerized Applications With Kubernetes
- Guidance Framework for Implementing Cloud Platform Operation

## Document Revision History

IT Operations and Cloud Management for Technical Professionals Primer for 2023 - 2  
February 2023

IT Operations and Cloud Management for Technical Professionals Primer for 2022 - 4  
February 2022

IT Operations and Cloud Management for Technical Professionals Primer for 2021 - 4 February 2021

IT Operations and Cloud Management for Technical Professionals Primer for 2020 - 24 January 2020

Infrastructure, Operations and Cloud Management for Technical Professionals Primer for 2019 - 5 February 2019

## Related Priorities

Initiative Name	Description
Infrastructure for Technical Professionals	New workloads – e.g., generative AI (GenAI) – require compute, networks and storage. We modernize data centers, the cloud and edge infrastructures to meet evolving demands and transform skill sets.

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# Actionable, objective insight

Explore these additional, complimentary resources and tools for infrastructure and operations leaders:



## Guide

### 2024 Planning Guide for Cloud, Data Center and Edge Infrastructure

Discover technical planning trends for I&O professionals.

[Access Guide](#)



## Roadmap

### The IT Roadmap for Cloud Migration

Support multicloud strategy with smarter cloud migration decisions.

[Access Roadmap](#)



## Roadmap

### Devising an Effective Cloud Strategy

Create a strategy that maximizes the benefits of cloud computing for your organization.

[Access Roadmap](#)



## eBook

### 2024 Gartner Top 10 Strategic Technology Trends

Discover insights and actions for business and technology leaders.

[Explore Trends](#)

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