



Infrastructure for the Future with Cloud Management Platform

Understanding the Relevance of Cloud Management Platform (CMP) in Infrastructure Management



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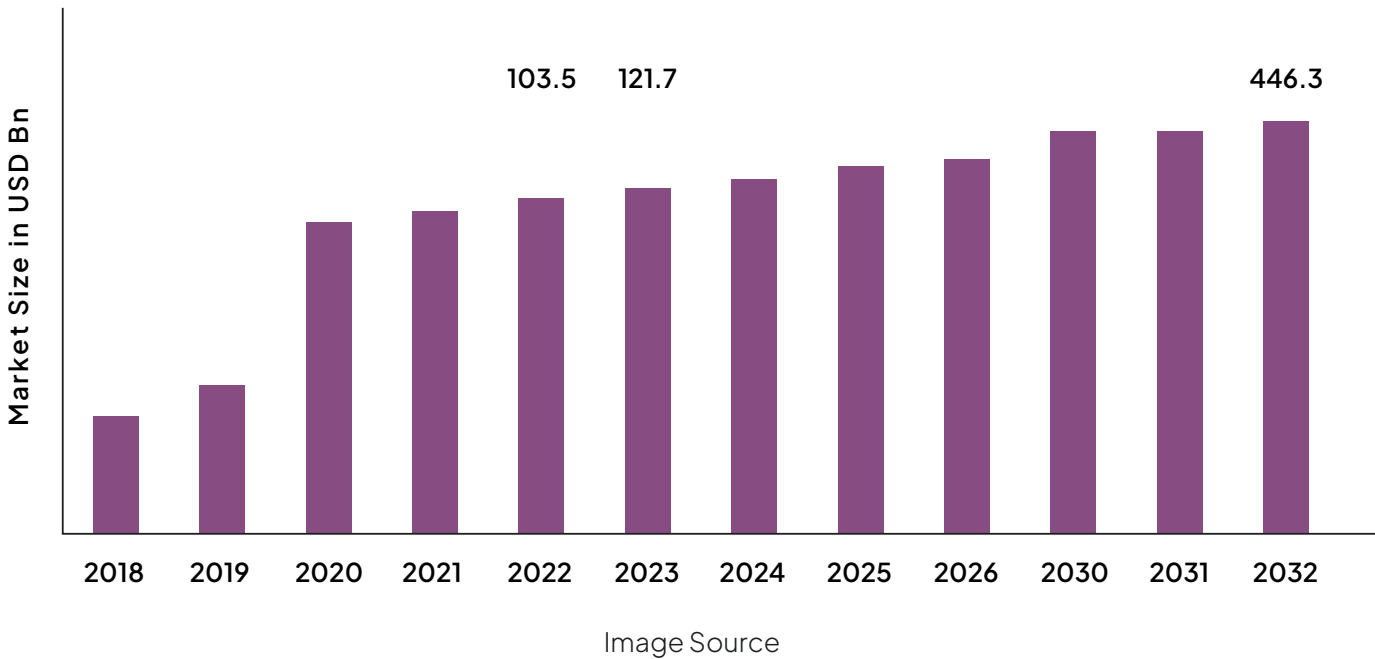
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Introduction

A recent **IDG survey** found that 92% of enterprises have implemented some form of cloud technology while 64% of workloads are currently operating on the cloud infrastructure. With more enterprises shifting their IT applications and infrastructure to the cloud, each enterprise must think about their infrastructure strategy, and how they would build an IT infrastructure that would address their needs, and keep them competitive for the next several years. One of the key decisions enterprises need to make is how they could build an infrastructure platform that they could call their own and be able to seamlessly manage their variety of assets across multiple clouds, multiple data centers, or hybrid workload assets effectively and efficiently. This would involve making deliberate choices to reduce the number of tools and keeping enough flexibility to be able to address the unforeseen needs of the organization. Enterprises need to manage their cloud operations and resources to achieve business results. This highlights the need for each enterprise to build its own Cloud Management Platform (CMP) to support and streamline the cloud transformation journey.

Cloud Infrastructure Services Market



This whitepaper delves into how a cloud management platform can be utilized for effective infrastructure management. You will learn about the benefits, best practices, and future trends in cloud management.

Understanding Cloud Management Platform

What is cloud management? Cloud management is the process of maintaining complete control and oversight of traditional on-premises as well as cloud-hosted infrastructure and resources. By using management tools, organizations can implement end-to-end visibility and scalability of their infrastructure to adapt to frequent changes. Moreover, a CMP would allow an organization to plot its unique journey to the cloud based on business strategy and changing market conditions.

Effectively, a cloud management platform (CMP) is an integrated suite of software tools used to monitor, manage, migrate, and modernize infrastructure environments. Depending on the infrastructure environment, organizations can deploy a CMP for a private, public, multi-cloud, or hybrid cloud environment.

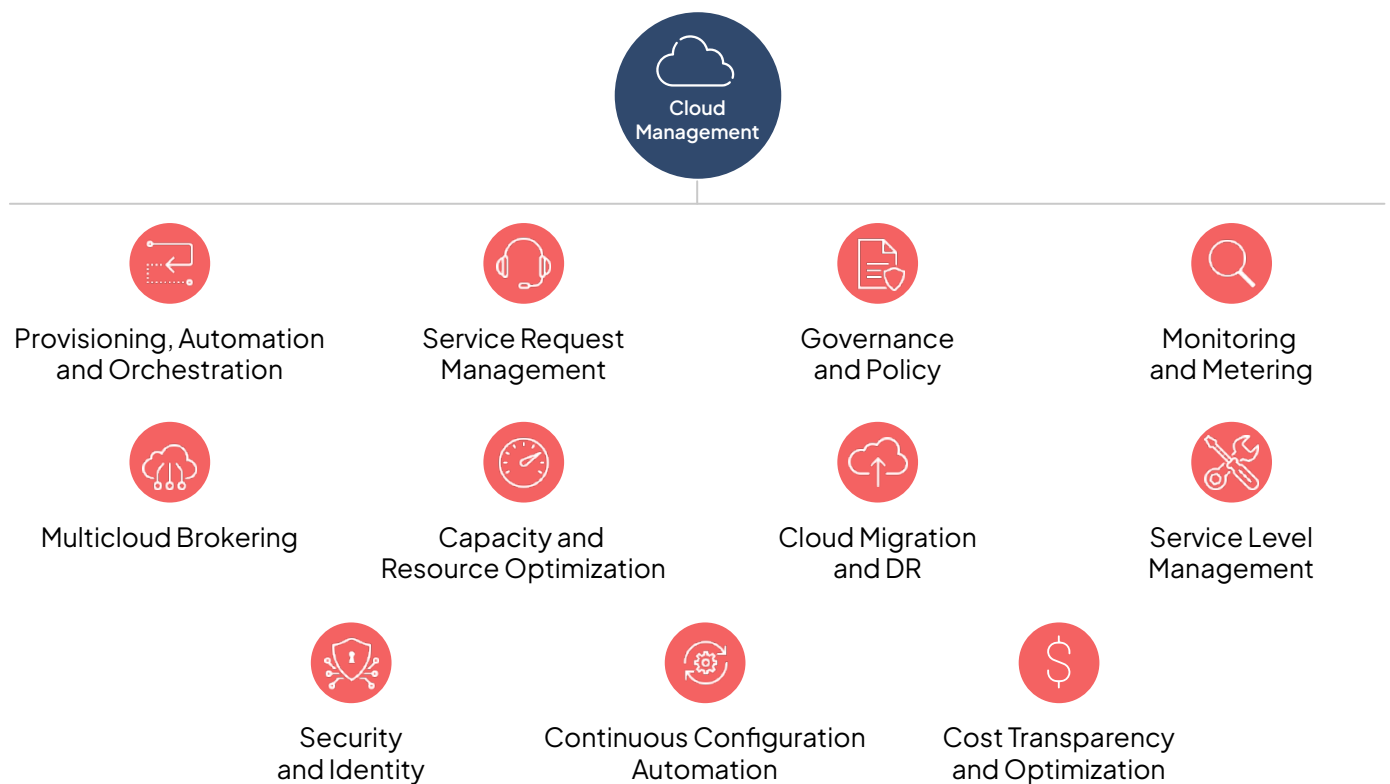


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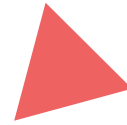
Here are the components of a cloud management platform:

1. Automation and orchestration of:

- Virtual machines and application migration to the cloud
- Virtual machine golden images
- Configuration management
- Patch Lifecycle management

2. Cloud security includes:

- Identity and access management (IAM)
- Data encryption
- Mobile and endpoint security
- Security posture monitoring and management
- External risk assessment and threat analysis

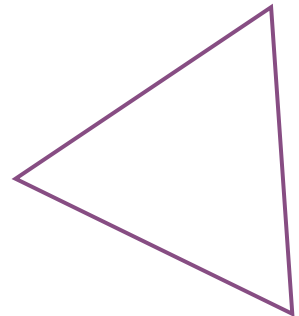


3. Data governance and compliance including:

- Regular audits
- Service and resource governance

4. Backup and resilience:

- Frequent cloud backups
- Disaster recovery sites
- Failover to the DR site



5. Cloud performance monitoring of:

- Cloud storage
- Networks
- Applications
- Workloads
- Computing resources



6. Cost management including:

- Right-sizing of cloud instances
- User billing and chargebacks



What are the benefits of Cloud Management Platforms?



Cost Savings



Automation



Centralised Platform



Visibility



Faster Innovation

Image Source

Cloud management platforms (CMPs) are integral to managing applications and resources across your infrastructure. A well-developed CMP can provide a variety of advantages to the enterprises, such as:

1. Visibility

In a complex multi-cloud environment, IT managers often lack real-time visibility into cloud infrastructure and resources. With its centralized platform, the CMP overcomes this limitation. Additionally, CMPs enable decision-makers to visualize resource consumption and identify underutilized resources.

2. Automation

Using automation tools and processes, CMPs in cloud infrastructure management can automate the allocation of the right resources required for any infrastructure network. Effectively, it can save valuable time spent in identifying available resources.

Besides this, automation can detect any potential issues in resource consumption and maintain a seamless delivery of application-related services.

3. Compliance

With its end-to-end operational insights, CMPs can help companies manage their IT assets and infrastructure. This means tracking user activity and managing user permissions. Thus, CMPs can enforce compliance and governance across the cloud environment.



4. Cloud Spending

Without cloud management, companies can exceed their allocated cloud budget or infrastructural spending. Most organizations exceed their **cloud budget by 23%** - and expect that to increase to 47%. CMPs enable companies to quantify their real-time resource consumption. With actionable insights, CMPs help them manage cost allocation and streamline their resource utilization, thus reducing their cloud expenses.

5. Innovation and Competitive Edge

A good CMP can not only be a great way to control the bottom line, but it can also be a secret weapon that helps organizations become more agile, capture market opportunities faster with quicker time to market and win market share against competition. This can be a great revenue driver that can help organizations win year over year.

Key features and function of well-developed CMP

Here are the key functions of a CMP:

1. Automation

Effective infrastructure and cloud management is correlated to automating manual tasks and eliminating human error. With automation, CMPs can enable companies to automatically allocate available resources, manage their capacity, and perform continuous integration to reduce their operational workload. While not all parts of the CMP can be automated, automation can provide a competitive edge that would be hard to duplicate.

2. Self-service

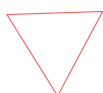
Through self-service functionality, CMPs enable companies to manage their cloud resources and assets. IT would no longer be seen as a bottleneck when business units are empowered and held accountable to self-allocate resources within predetermined parameters. With self-service management, companies can automatically sync their resource allocation with their cloud requirements.

3. Cloud Observability

CMPs facilitate cloud observability by monitoring and logging every event occurring across cloud environments. CMPs can also use AI to aid in monitoring and understanding events and occurrences across their infrastructure. Additionally, by analyzing the event logs, organizations can identify issues and errors, and further automate incident management. Well-executed observability can lead to higher stakeholder satisfaction across the organization.

4. Cloud Governance

Cloud migration involves change and could mean companies losing control over their applications and infrastructure. With a CMP, companies can maintain observability, including cost optimization, and retain oversight over their non-cloud and cloud assets. CMPs can help companies implement effective governance and processes, align cloud configurations, and comply with regulatory requirements.



Advantages of Cloud Management Platforms

Cloud Management Platform (CMP) could be an effective way for organizations to optimize their cloud costs, improve their operations, and adopt best practices that offer an edge. One of the goals of an effective CMP could be using minimal sets of management consoles to control a diverse infrastructure environment that could be hybrid and multi-cloud.

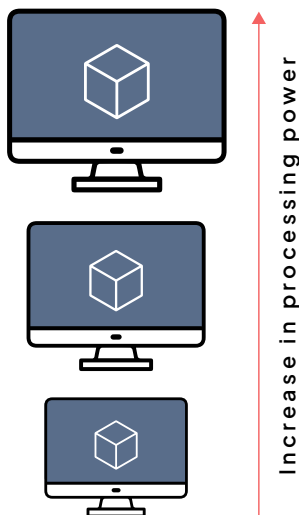
Here are some advantages of a cloud management platform for enterprises:

Scalability and flexibility in infrastructure provisioning

The term scalability in cloud infrastructure provisioning refers to the ability to increase (or reduce) the size and capacity of the computing resource according to changing demands. A flexible infrastructure is all about businesses adapting to any demand fluctuation in a cost-effective manner.

With a CMP, organizations have the advantage of rapidly scaling according to changing demands, thus ensuring that the cloud infrastructure is provisioned to the business requirements.

Vertical Scaling



Horizontal Scaling

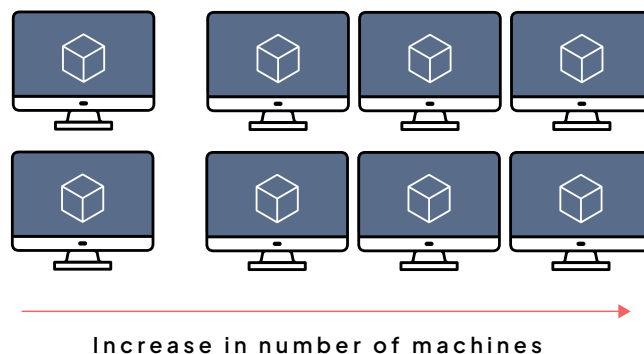


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CMPs typically support the following types of scaling and simplify the process to avoid business disruption.

- **Horizontal scaling:** This method involves adding more servers to the cloud platform to increase the computing power.
- **Vertical scaling:** This method involves increasing the computing power of existing servers by adding more memory or storage space.

Automation capabilities for efficient resource utilization

Automation is a distinct advantage of CMP particularly in diverse and dynamic cloud environments. With automation, CMPs can:

- Dynamically allocate the required resources to applications and workloads
- Perform load balancing based on the current levels of resource consumption
- Implement dynamic power management to cut down energy consumption

With their automation capabilities CMPs can significantly improve operational efficiency and reduce manual intervention. They can optimize resource utilization by reactivating (or reusing) idle cloud resources. This level of resource efficiency ensures continuity of operation for business-critical applications.

Cost optimization and budget control through granular monitoring

Granular monitoring is the process of closely tracking and monitoring any company's cloud spending. With cloud management platforms, organizations can optimize their cloud cost and budget through predetermined policies, monitoring, and swift actions.

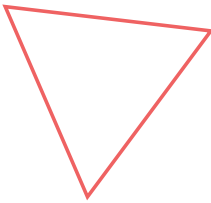
Here's how CMPs optimize cloud spending and expenses:

- Collecting and analyzing cost-related data from different cloud vendors.
- Identifying any data anomalies or opportunities in cost optimization.
- Automating budget control by right-sizing instances and scheduling shutdowns.
- Identifying any unused cloud resources.
- Forecasting cloud usage and costs.
- Implementing billing chargebacks.

Enhanced security and compliance management

To counter the risks of cyber threats and attacks, CMPs offer companies the advantage of enhanced security and compliance management. With security-related features like role-based access, data encryption, and real-time threat monitoring, CMPs help to protect sensitive data from cybercriminals.

Additionally, CMPs enable companies to comply with industry standards for using the cloud platform.



Best Practices for Implementing Cloud Management Platform

Let's discuss some of the best practices in implementing a cloud management platform.



Assessing organizational readiness and defining objectives



Among the initial practices, it's important to determine if your organization is ready to migrate to the cloud and implement a cloud management platform. This means organizations must have the right infrastructure, resources, and business processes in place to implement cloud migration and infrastructure management.



Here's how to evaluate organizational readiness and define your cloud objectives:

1. Evaluate your existing infrastructure.

By evaluating their existing infrastructure, organizations can identify any potential bottlenecks or challenges to their cloud migration process. For instance, existing hardware systems, or current applications can be evaluated to be able to adapt to target cloud environments.

2. Define your cloud objectives.

Next, define the objectives of migrating to the cloud and how CMP might help you achieve that objective. Robust cloud objectives can be to reduce infrastructure costs, improve agility and business outcomes, improve data security, and address scalability for the future.

3. Evaluate your existing workload.

The next practice is to evaluate your existing usage patterns and workload and determine the order in which applications or processes are suited for the cloud environment. This practice can also help you decide which workload is best suited for the public cloud, private cloud, hybrid cloud, or to remain on-premises.

4. Define your migration strategy.

After evaluating the existing infrastructure and workload, define your cloud migration strategy or approach that is suited for your organization. Cloud migration strategies include the lift-and-shift, refactoring, or rehosting approaches.



Selecting the right CMP solution based on specific requirements



Implementing cloud management can be technically complex and challenging. Further, there are several qualified cloud implementation companies with technical expertise and industry experience in cloud solutions and many of them will have pre-determined CMP-like platforms. It would be up to each organization to evaluate and decide what CMP would suit their unique needs.





Your CMP partner would not only need to have the technical expertise and skills but also must align their solution to your business needs and requirements. For example, if cost-saving is your cloud objective, your CMP partner needs to have clarity on helping you achieve this objective.

CMP implementation companies must also understand your specific business and industry domain to customize their platform to your requirements.

For a smooth transition to the cloud, organizations must plan the right cloud strategy. Here are some best practices for transitioning to a cloud infrastructure:

1. Onboard all the business stakeholders (including technical personnel and business executives) in the CMP transition process
2. Determine the right type of cloud service based on the workload requirements and available budget
3. Identify the workloads that are not yet ready for the cloud environment
4. Identify and mitigate all the possible cloud security risks
5. Define the roles and responsibilities of the cloud transition team



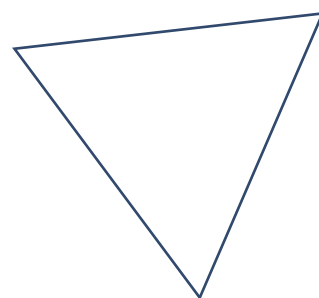
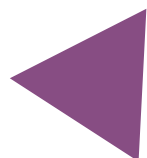
Continuous monitoring, optimization, and adaptation of CMP strategies

In the post-CMP implementation phase, organizations must continuously monitor and optimize their cloud strategies to control their cloud spending and improve efficiency. A CMP is not a one-time implementation but requires regular reviews and adjustments.

Typically, continuous monitoring and optimization involve:

- Using cloud monitoring tools to gain real-time visibility into the cloud infrastructure
- Identifying unused or underutilized cloud resources that are not delivering business value
- Optimizing CMP and reconfiguring as needed to continuously improve performance and lower costs

Through continuous monitoring and optimizations, organizations are better positioned to respond quickly to any demand changes and leverage cost-saving opportunities. Continuous adaptation can align your CMP environment with your changing business needs and objectives.



Future Trends in Cloud Management Platforms

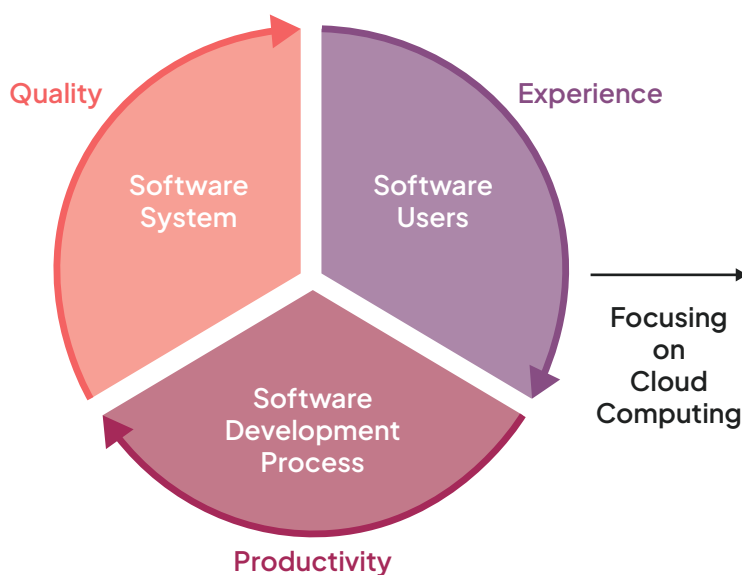
With the ongoing drive towards digital transformation, organizations continue to move assets to the cloud. Valued at \$680 billion in 2024, the global market for **cloud computing** is expected to reach a value of \$1.3 trillion by 2029. This trend underscores the need for each organization to define its unique cloud management platform (CMP).

Here are some future trends we are likely to see in the CMP domain:

Integration with emerging technologies such as AI and machine learning

Enterprises will engage in integrating their cloud management with deep learning technologies like AI and machine learning. For instance, cloud-powered AI solutions can self-learn and become more efficient at processing data. Hence, the industry demand for cloud-hosted AI services will increase in the coming years.

Software Analytics



Cloud Intelligence / AIOps

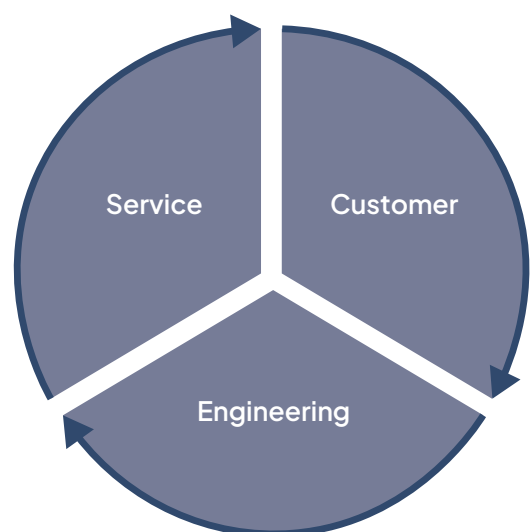
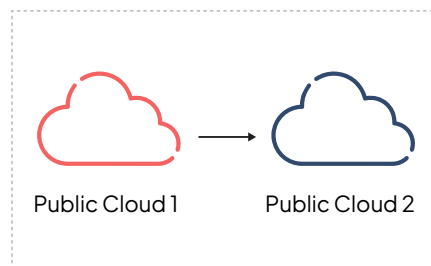
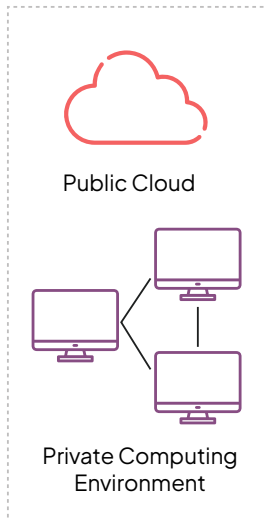


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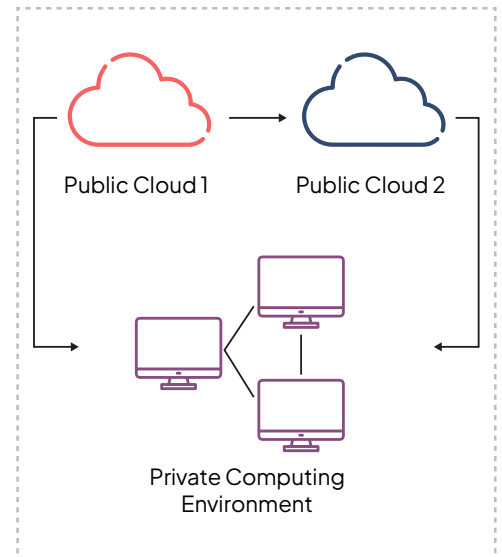
AI will get smarter, fueled by a more complete view of trusted data, and seamlessly integrate into the cloud. As an integral part of cloud management, AI technology will increasingly leverage automation, consume data, analyze decisions, and improve recommended outcomes that will power future generations of CMPs.

Evolution of multi-cloud and hybrid cloud management capabilities

According to Jason Carolan of Flexential, “The trend toward hybrid multi-cloud solutions will accelerate in 2024.” This is mainly driven by concerns like vendor lock-in, data security, and government regulations.



Multi Cloud



Hybrid Multi Cloud

Image Source

Cloud management platforms must evolve their capabilities for multi-cloud environments. Among their capabilities, CMPs must ensure seamless integration and management between various cloud environments, and support smooth scaling for cloud apps.

Impact of edge computing on CMP adoption and management strategies

Alex Reid of 11:11 Systems says, “Change is the only constant in how companies deliver infrastructure.” As cloud management continues to change, edge computing will bring back edge deployments (or the practice of bringing IT infrastructure closer to on-premises).

Edge computing is delivering a host of benefits like lower data latency, better security, and better resilience. This innovation will have a profound impact on CMP adoption and management.



Conclusion

As the cloud infrastructure grows more diverse and complex, organizations need an effective cloud management platform to manage their operations with speed and efficiency. Through this whitepaper, we have discussed how CMPs can future-proof your cloud infrastructure by:

- Automating resource utilization
- Delivering scalability and flexibility
- Providing cost optimization through granular control

Implementing a CMP requires organizations to understand their cloud readiness and their cloud objectives. With our **cloud managed services**, Onix can help you accelerate your cloud transformation journey. Contact us today!

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