



Cloud Automation

Tools, Use Cases, and Benefits



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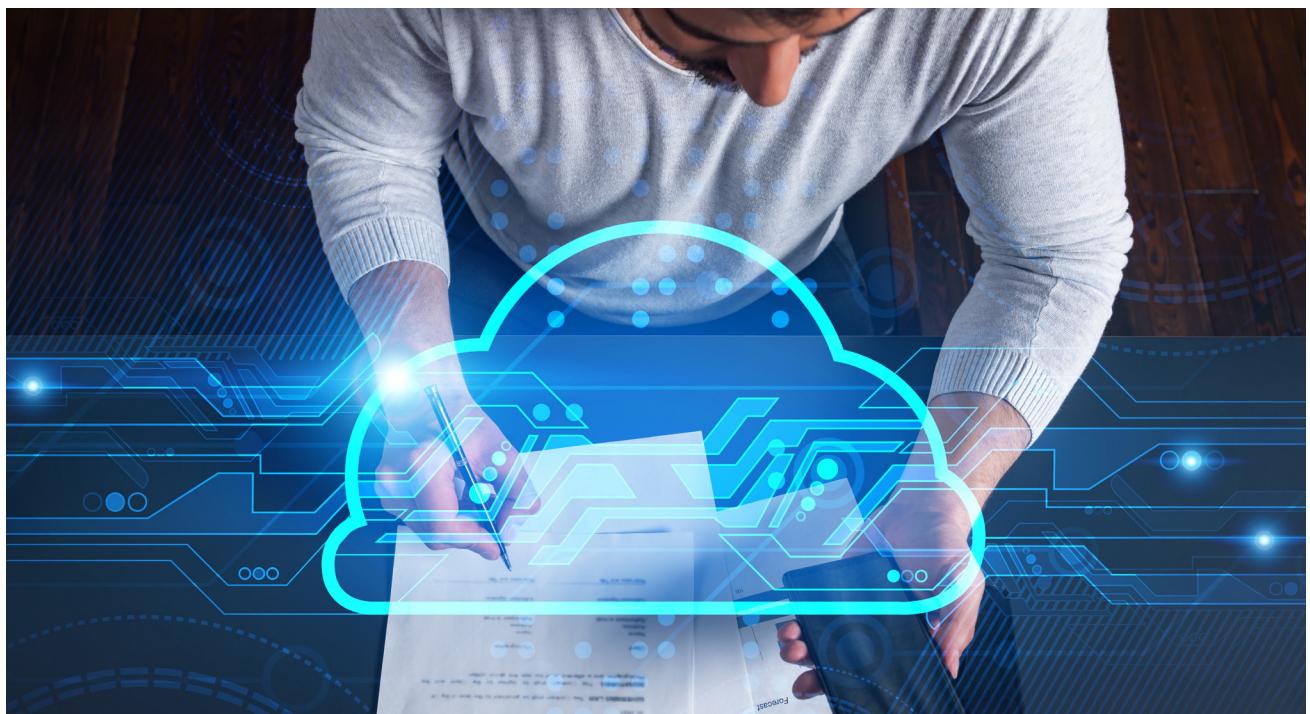
Cloud automation in modern enterprises

Cloud automation is integral to the modern-day enterprise as it offers agility and scalability, simplified business processes, security and resilience, and streamlined operations.

Enterprises need to adapt quickly to the constantly-changing landscape. They need to perform network or application configurations and scale up or down as required. Agility and scalability ensure that enterprises stay competitive.

A cloud automation framework can simplify a heterogeneous IT infrastructure, while cloud

orchestration helps integrate and deploy multiple network devices, virtual machines, and routers. Cloud automation is seen as a force multiplier to streamline all IT operations, freeing up unused resources and guaranteeing the optimum utilization of critical ones. It offers resilience through continuous monitoring and cloud management, alerting you to potential problems and automatically addressing them as they come up. Fortunately, there are several cloud automation tools that make it easy to move your IT operations to the cloud.



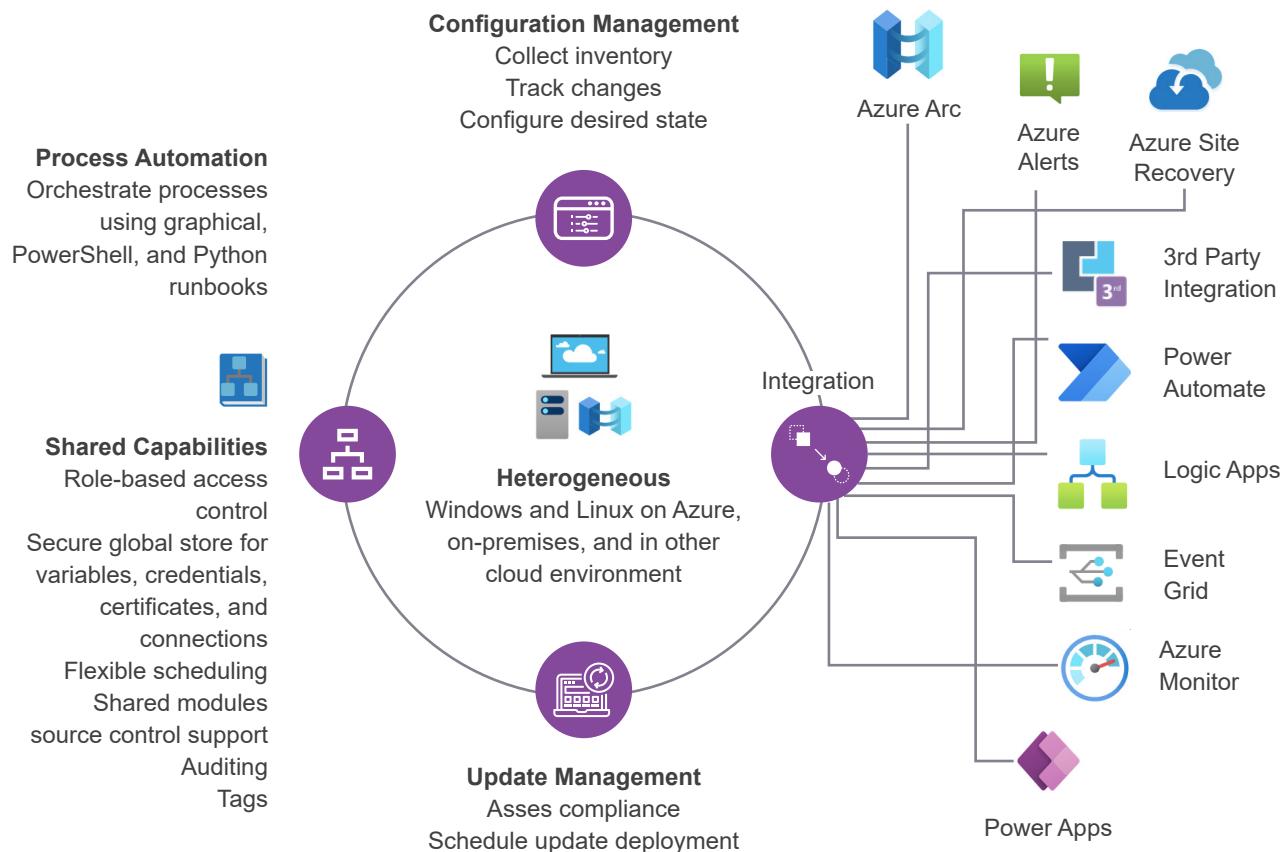


Types of cloud automation tools

Now that we understand how we can leverage cloud automation, it would help to know the different Cloud automation tools in the market. For instance:

Microsoft Azure Automation

MS Azure Automation offers cloud-based services for Azure and non-Azure environments. It focuses on automation and configuration and runs on Windows and Linux operating systems. It helps minimize human errors and reduces the time taken for deployment. Moreover, Azure automation helps manage operations, maintenance, and compliance-related issues.

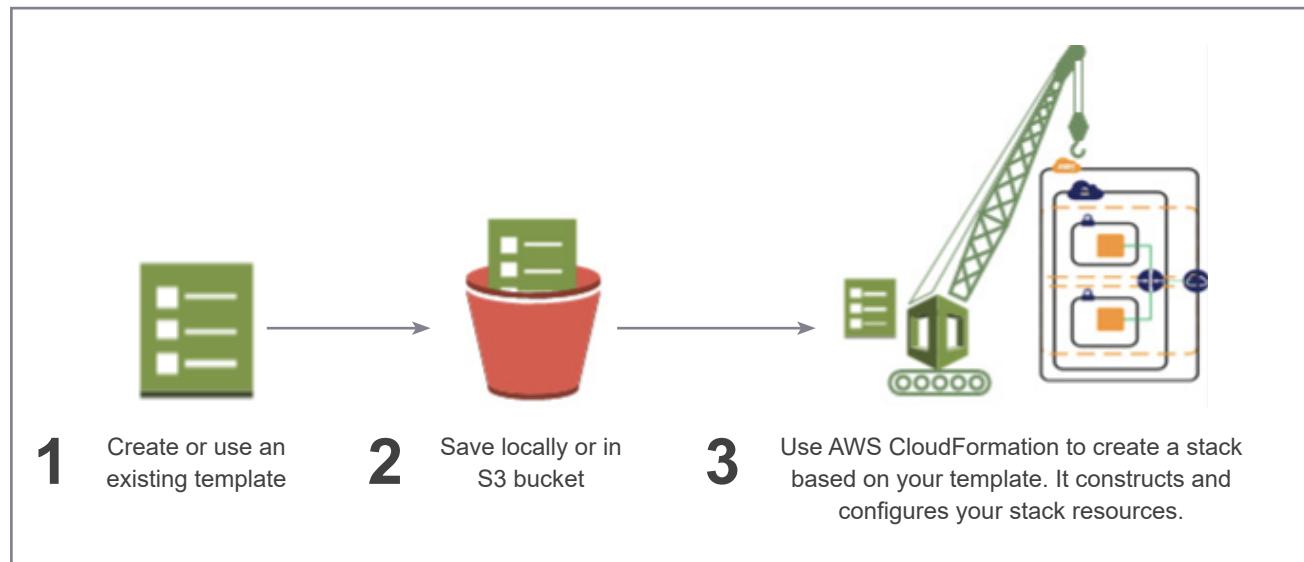




AWS CloudFormation

AWS enables the business and developers to create, correlate, provision, and manage

third-party AWS-related resources in a predictable and streamlined manner. CloudFormation offers three concepts - Template, Stack, and Change Set.



Google Cloud Deployment Manager

Google recommends the Cloud Deployment Manager for cloud infrastructures explicitly built using Google Cloud Computing. This automation tool comes with end-to-end capabilities for managing all cloud infrastructure configurations, from resource creation to deletion.

Puppet

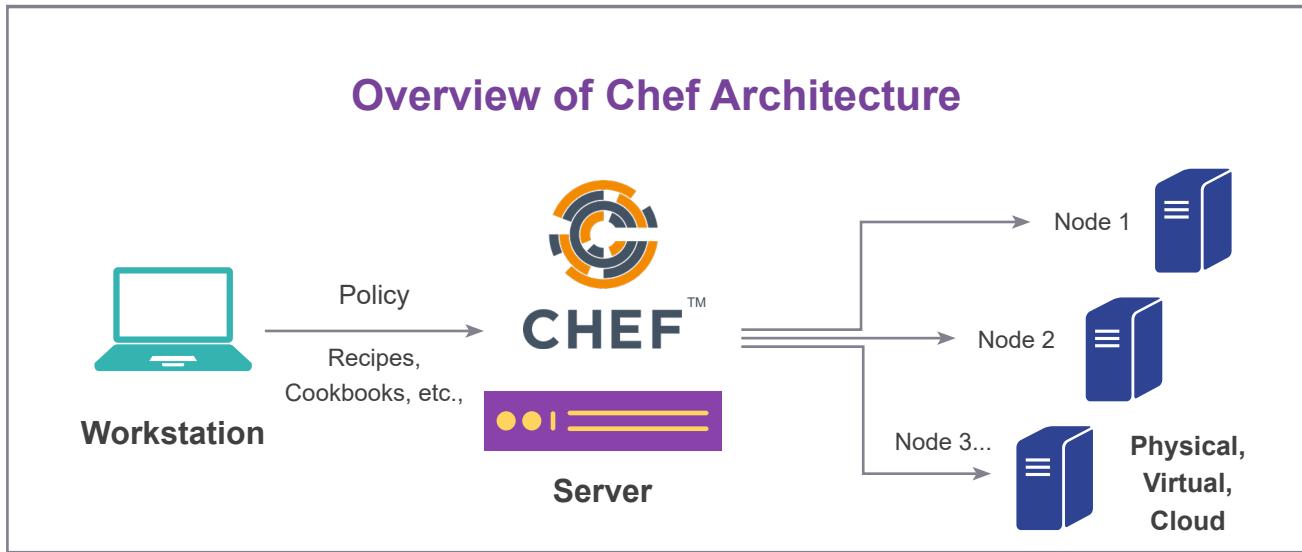
Puppet is a popular cloud automation tool that allows enterprises to authorize and model their cloud infrastructure. Puppet works on all variations of the cloud.

Chef

Chef works well as a configuration management tool to set up and manage physical and virtual servers.

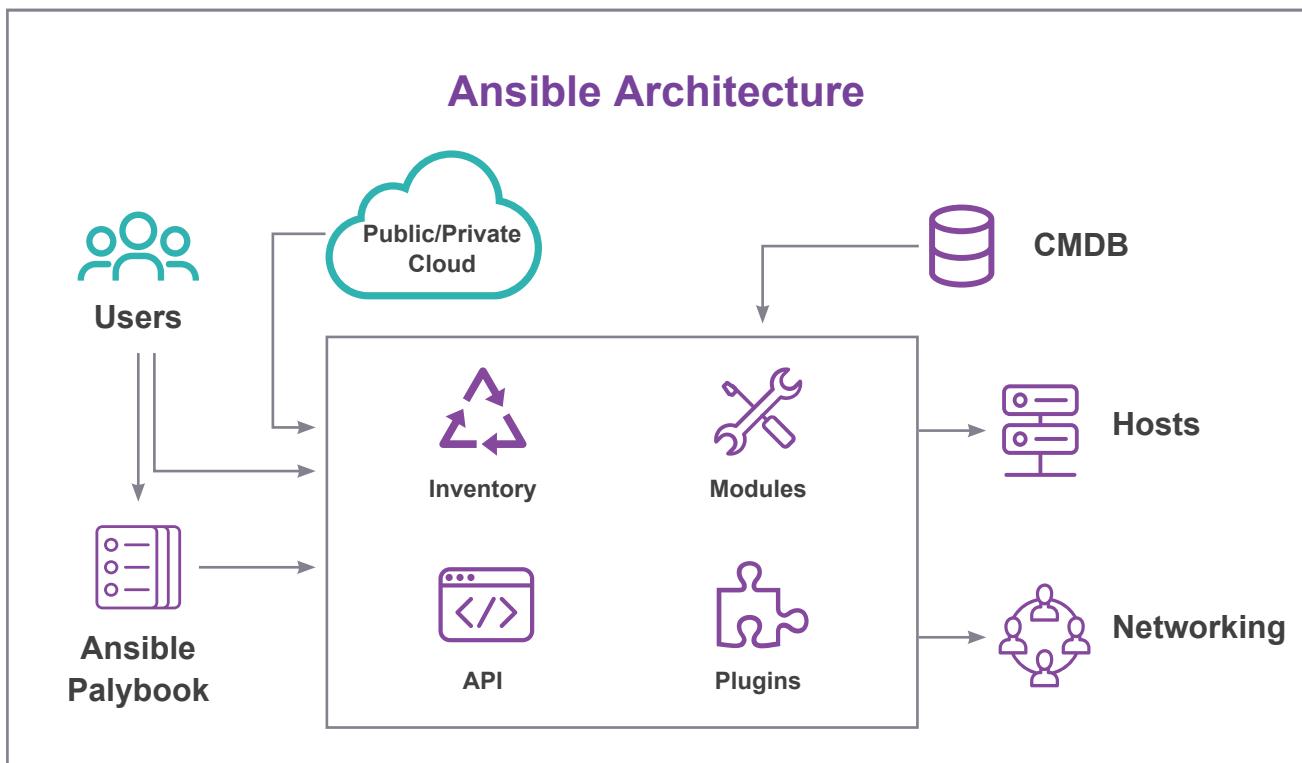
Chef enables enterprises to offer continuous security and compliance while automating the application deployments.





Ansible

As a cloud infrastructure automation tool, it helps provisioning, configuration management, and application deployment.



Essentially, they are tools to automate the installation, configuration, monitoring, and management of cloud-related operations. As more enterprises move to the cloud, optimizing the automation tools along the way, the market share of cloud services is growing exponentially.



Worldwide market size for public cloud services

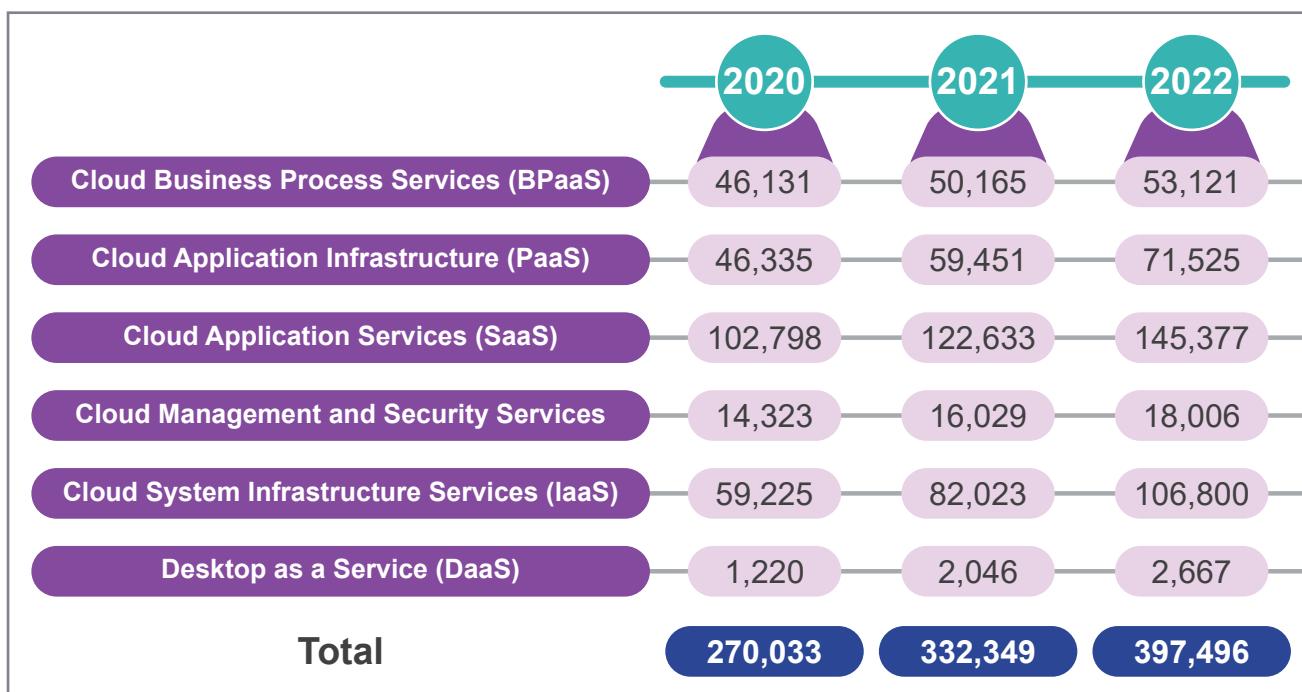


Enterprises' ability to manage a growing set of cloud services is expected to be the foundation for increased automation into IT process and businesses, even as they become digitally more resilient. According to International Data Corporation (IDC), the overall public cloud services market grew 24.1% in 2020, as it had done in the previous four years; IaaS and PaaS segments have grown at faster rates. This speaks to enterprises' increasing need for reliance, flexibility, and agility on a cloud foundation built on cloud infrastructure cloud-native platforms for deploying applications. Cloud service providers are also racing to expand their platform and infrastructure services to address

performance-intensive computing, confidential computing, and hybrid deployment use cases.

The worldwide public cloud services market came to \$312 billion in 2020, with AWS at 24% market share closely followed by Microsoft with 16.6% market share. In 2020, SaaS applications were the most mature public cloud segment and showed a revenue of \$148 billion, as enterprises across different verticals rushed to move out of legacy applications.

Gartner predicted that end-user spending on public cloud services would grow 23.1% in 2021 to \$332.3 billion, and to \$692.1B in 2025.

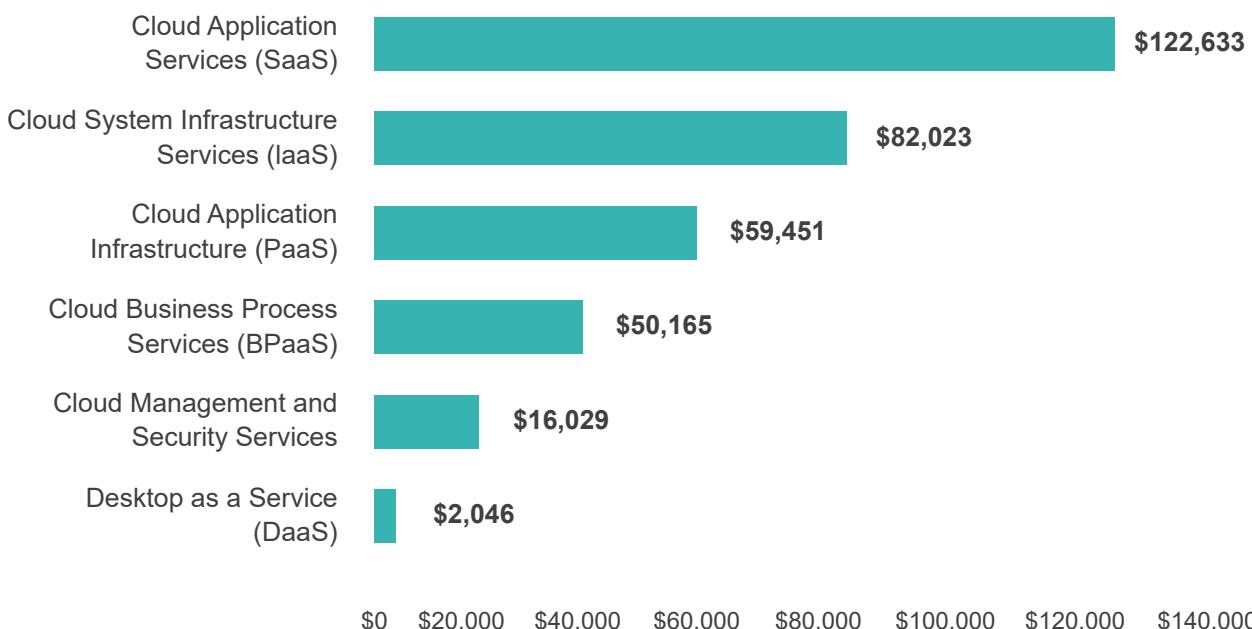




IaaS, SaaS, and PaaS spending is relevant. It shows the foundational set of services that end-users and SaaS organizations consume when building, modernizing, and governing applications on shared public clouds. The top 5 companies - Amazon Web Services, Microsoft, Google, Alibaba,

and IBM - captured over 51% of global revenues, in 2020. In the SaaS market, over two-thirds of market spending is outside the listed top 5. By Q4 of 2021, the global IaaS grew to \$178 billion, with AWS leading by a wide margin followed by Microsoft, Google, and Alibaba.

SaaS Leads The Public Cloud Market with \$122.6B Predicted End-User spending in 2021 (Millions of U.S. Dollars)



Source: [Worldwide Public Cloud Services End-User Spending Forecast \(Millions of U.S. Dollars\)](#)





Use cases for cloud automation

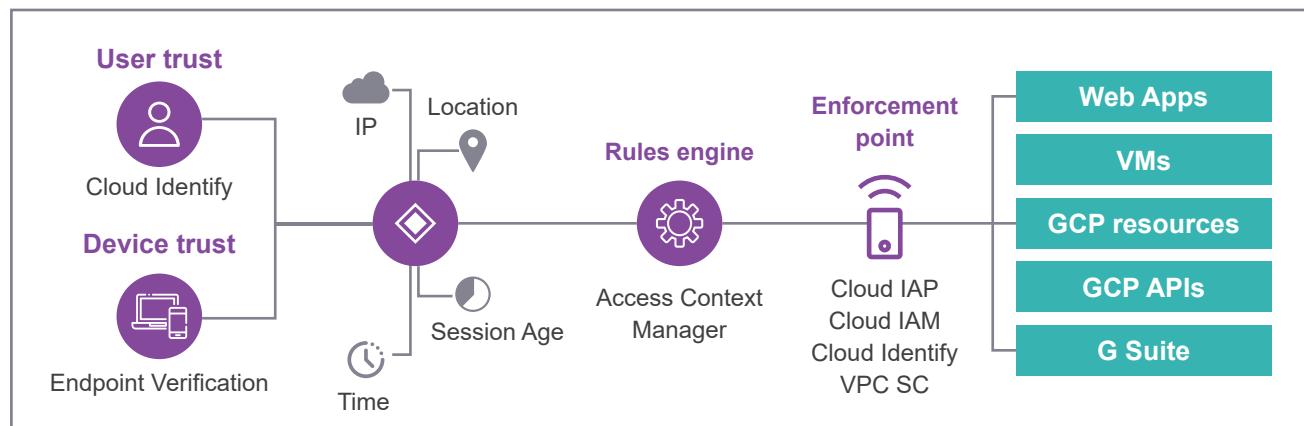
The below use cases demonstrate the need for cloud automation tools.

Provisioning infrastructure: The most obvious use of cloud automation tools is how they can allocate different resources. Setting up virtual servers can be daunting in an organization of any size. But, cloud automation tools help with a set of templates that can be created to configure each virtual server. A similar process can also help

with other cloud operations such as storage setup, network, etc.

Managing identity provisioning:

All users in a network need to have a level of authorization when it comes to the use of infrastructure. Cloud automation tools help maintain a clear record of the access levels of all users.



Application deployment: Technologies go through a series of upgrades. When new releases are tested and deployed, cloud automation tools automatically do the upgrades. They can ensure continuous deployment.

Monitoring and remediation: Cloud automation tools can be configured to identify red

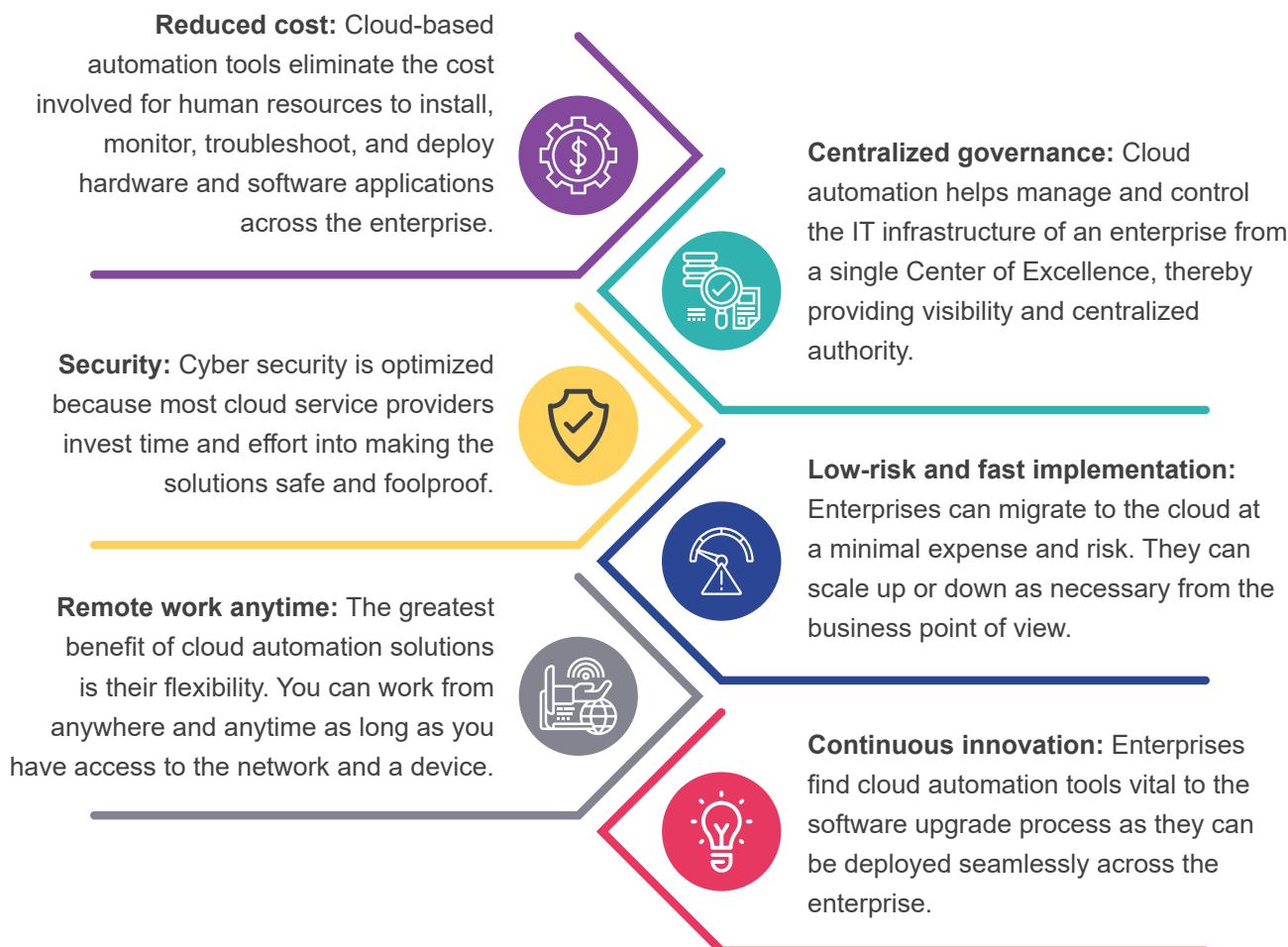
flags, such as an unresponsive database or a server running low on memory. These incidents are addressed automatically without human intervention.

With the numerous use cases and the availability of cloud automation tools in the market, the benefits are just as many when it comes to cloud automation.



Benefits of cloud automation

Below are a few major benefits of cloud automation that take an enterprise to the next level in an increasingly competitive marketplace.



Essentially, cloud automation tools help reduce an enterprise's reliance on human resources to manage, maintain, and control cloud environments by automating several cloud operations, thereby reducing operational costs and improving overall efficiency.



Trending cloud automation tools in 2022 and beyond

Cloud computing and smartphones are driving digitization across all verticals and customer domains. Therefore, enterprises' adoption of cloud computing solutions and storage has been steadily increasing, showing a growth of 23% in 2021 at \$332 billion. It is expected to grow to \$400 billion by the end of 2022. Enterprises would do well to adapt to cloud technologies and hold fast to the trends to secure continued business growth. For instance

IoT and cloud platforms

IoT and Cloud platforms are expected to create a hyper-associated world. According to IDC, IoT devices will cross 80 billion by 2025. IoT enables a comprehensive cloud ecosystem, and the PaaS solutions offer scalability as they support applications with in-built IoT features.

Hybrid and multi-cloud environments

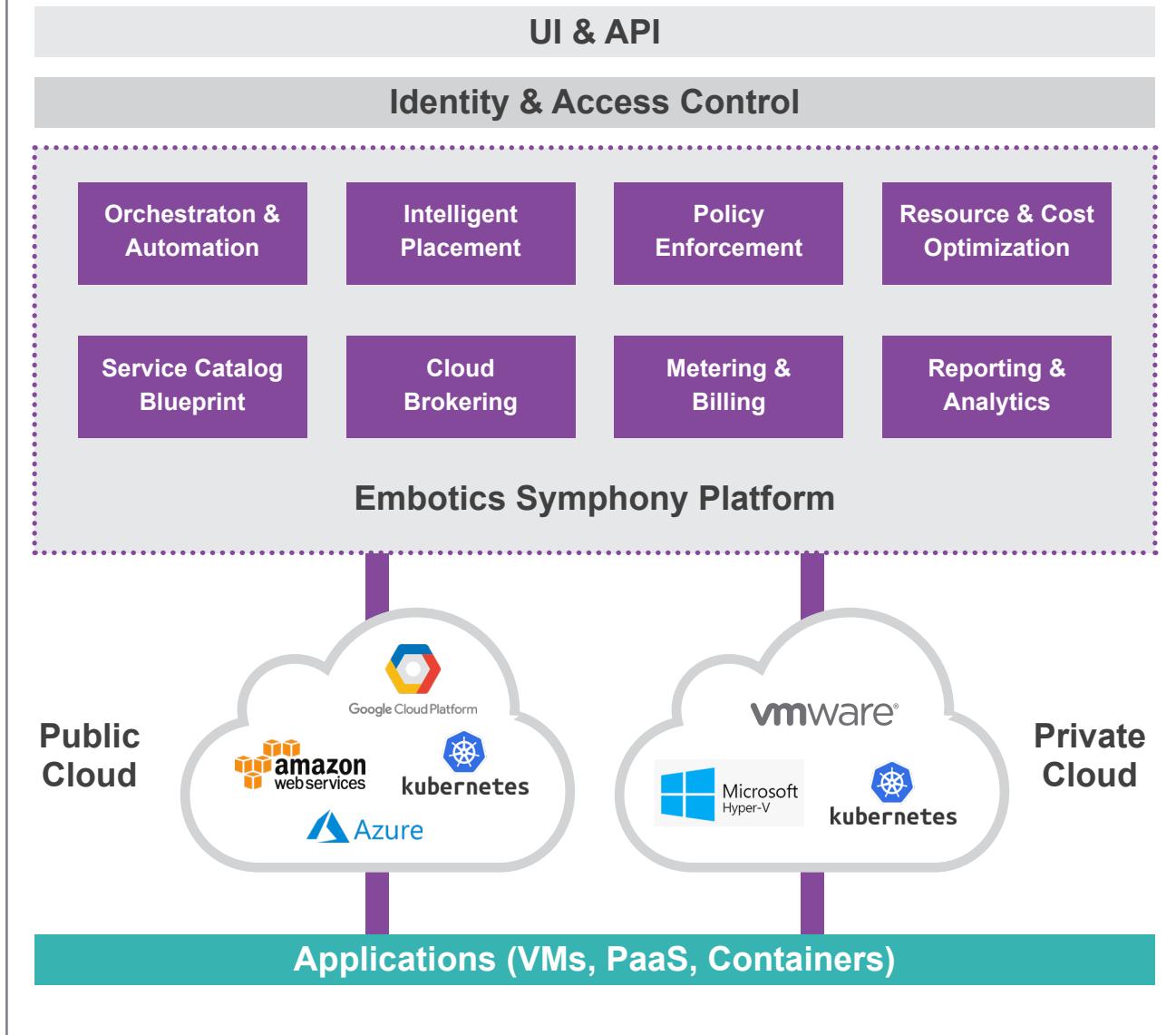
Typically, enterprises can store their data on a pay-as-you-go public cloud solution, i.e., on a third-party server. Accessing data is easy, and it reduces infrastructure costs. Or, they can store data on a highly customizable private cloud solution on-premises - for faster data transmission and reduced downtime.

Hybrid cloud provides enterprises by offering a mix of the above two solutions. Enterprises can have their most critical data on a private cloud on-premises, and the rest of their data moved to the public cloud such as Azure or AWS. The hybrid cloud enables enterprises to function in a multi-cloud environment.

By definition, multi-cloud environments are a combination of private, public, and hybrid cloud environments. This combination helps enterprises leverage the benefits of each platform and simplify their operations to create a flexible work culture.



Multi-Cloud Management Architecture





ACE from Aspire Systems

Now that we know the different cloud automation tools and their benefits, moving existing infrastructure to cloud automation is a natural next step. How? You may ask. The quick solution is through Aspire Systems. Aspire is an MSP that can help you optimize cloud solutions from migrating and managing to build secure and scalable systems in your organization. With their cloud consulting, engineering, and migration services, you can transform your business whether the applications run on-premise or on the cloud.

The Aspire Cloud Elevator (ACE) helps independent service vendors and customers assess their cloud adoption maturity. ACE also helps organizations prepare for the implementation of cloud adoption. However, measuring against a few key parameters makes it possible to know where an organization stands in terms of cloud maturity, from simple migration to cloud-native infrastructure and containerization.





To conclude

Cloud automation combines automation tools and processes that help execute workflows in a cloud environment. It helps avoid security problems when enterprises rely too much on manual workflows, making operations more efficient and productive. Therefore, the sooner an enterprise transitions to cloud automation, the better its bottom line.

Aspire Systems offers a holistic approach from evaluating current cloud maturity to optimizing cloud automation for your organization.





About Aspire Systems



- Global technology services firm with core DNA of Software Engineering
- Specific areas of expertise around Software Engineering, Digital Services,
- Testing, and Infrastructure & Application Support
- The vertical focus among Independent Software Vendors, Retail, Distribution & Consumer Products and BFSI
- 3000+ employees; 150+ active customers
- Oracle Global Platinum Partnership with OCI & R12.2.9, Domain Expertise

- Well Rounded Team covering Cloud Architects, Solution Experts & Application
- Consultants
- CMMI Maturity Level 3, ISO 9001:2015, and ISO 27001: 2013 certified
- International headquarters in Singapore with presence across US, Mexico, UK, The Netherlands, Poland, Middle East, and India
- Recognized 11 consecutive times as “Best Place to Work for” by GPW Institute

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