

Configuration Management in cloud environment

An effective way to manage your inventory



Digitalization and virtualization change the landscape of asset management in any organization. Businesses consume and manage assets in a different way. The back end infrastructure has gone through transitions over the years from mainframe and minicomputers to client server to virtualization and into the cloud. Cloud computing is accelerating at a faster pace across domains. Cloud adoption results in a new set up of IT store and a different architecture of service management. Asset management in the cloud demands a new model of configuration management system (CMS) addressing common challenges of cloud. To realize meaningful value, configuration management in the cloud follows a different service management perspective.

A configuration management database (CMDB) is highly valued, as it is a single source of truth of all asset information. It serves as a master database for the IT estate. It tracks assets and identifies relationships among network infrastructure, systems, servers, applications and virtualized hardware. Let us discuss the model of configuration management in the cloud, cloud challenges, drivers and benefits of Configuration Management System (CMS) in cloud environment. A well-defined CMDB is mandatory in cloud infrastructure to track assets effectively.

The paradigm shift to cloud has given flexibility to businesses to manage virtual assets in the cloud.

This can be attributed to following advantages:

- Accountability and management transferred to third party supplier
- On demand infrastructure provides agility to business
- Asset procurement based on demand

A well structured configuration management is the basis for an effective IT Service Management, ITSM. CMDB provides the right information to business about different technical assets, components and dependencies. When the assets move beyond traditional infrastructure model i.e. different cloud environments, it becomes more than necessary to manage CMDB for such conditions.

Objectives of Configuration Management System

- To control asset components and maintain configuration up to date
- To maintain IT service quality and ensure compliance. Minimize the number of incidents occurrence
- To support ITIL processes such as change management, incident management and release management by providing configuration data of relevant assets . This information helps during change approval, release planning and problem analysis.

Accelerators

ITIL aligned service desk helps hospital IT support team to address staff issues properly and streamline internal processes.



Digital Workplace

Mobility and virtualization are common in a digital work culture. Technology assets used by the employees are stored in the cloud virtually and therefore, it is the responsibility of IT to track these virtual assets in cloud storage. The number of enterprise apps used by business is exploding and many of them include cloud hosted applications due to its own benefits. IT organization must enforce a strategic control in identifying and tracking these applications. Cloud application is a primary requirement of a digital workplace. End user support depends on how effectively these applications are captured.



Business agility

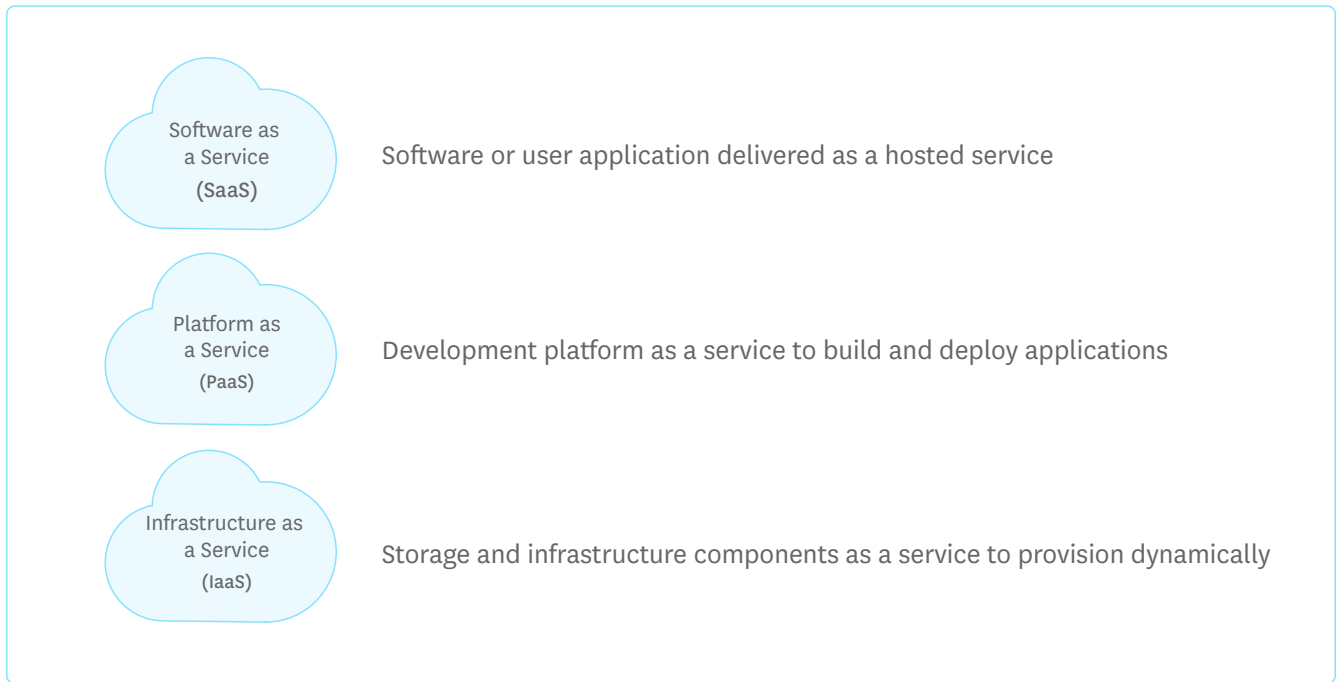
Businesses need to react faster and change faster to remain competitive. Traditional software need complex upgrade process to introduce new functionalities whereas cloud application has shorter release cycle and auto-upgrade process. Agility means faster innovation which is possible with cloud infrastructure components. Cloud infrastructure automates provisioning, deprovisioning and re-deploying resources as there is no need to wait for manual resource allocation. Based on demand, cloud infrastructure components handle resource allocation. This helps companies to move faster in an increasingly challenging environment.



XaaS, Anything as a Service

Cloud computing service models such as PaaS, IaaS, SaaS increase the need for a consolidated CMDB. Businesses leverage on demand infrastructure availability through IaaS and scale resource components dynamically. This is supported by flexible pay per use model and therefore, businesses get the advantage of cost savings and efficiency.

Cloud Computing Service Modelss



Fragmented teams

Development, QA and operations teams are geographically scattered and they depend on central services like IaaS, PaaS to carry out their day to day work. Cloud architecture encourages collaboration among scattered teams to deliver faster. Cloud infrastructure promotes “build and deploy” model to enable faster release. Cloud brings different teams closer to speed up time to market and innovation. Cloud enhances DevOps philosophy through team communication and collaboration.



Business Continuity

Business continuity management is crucial during disaster or any natural calamity. In a traditional set up, cost of duplicate system is huge and cloud architecture lowers this cost by having a better disaster management capabilities. Duplication of production data and back up plan are much easier in cloud. Cloud infrastructure is always accessible and it simplifies the service delivery. Downtime incurred is very low in cloud set up as resources are available anytime.

Cloud Inventory Management

In a traditional data centre set up, configuration items (CIs) in the CMDB do not change very often. Every physical asset is recorded in the database and asset state is maintained up to date. Assets in the inventory is proportional to purchase orders made by procurement. Software asset management and IaaS have changed the scenario. On demand infrastructure components mean that asset provisioning and deprovisioning take little effort. Cloud computing has increased the challenges of an up to date CMDB. This is why very few companies have successfully compiled a complete, real-time view of their infrastructure.

Following are the challenges of cloud based CMDB.

Challenges of CMDB in hybrid environment

- Cloud resource provisioning and auto scaling increases complexity
- Lack of unified consolidated system to manage enterprise CIs due to challenges in data format
- Discovering license and compliance information
- Shadow IT organizations increase the complexity of enterprise IT ecosystem
- Virtualization platforms with new classes of data
- A set of inter-relationships, virtual networks created within the cloud providers and shared storage increase complexity
- Automation enables faster changes i.e. a huge number of resources and instances can be provisioned in the cloud. This results in new assets being created at a faster pace. Furthermore, these systems handle downscaling similar to auto upscaling based on loads and traffic.

Inventory management in cloud is different from conventional physical asset management. Asset lifecycle management has to be modified to fit cloud infrastructure.

The cloud platform comprises of dynamic data in a contemporary IT environment:

- Legacy IT applications / devices
- Multiple clouds (such as Amazon and Azure)
- Virtualized environment for different functionalities

Discover	Inventory	Normalize	Reconcile	Optimize	Share
<ul style="list-style-type: none"> Fixed, Mobile Mainframe Cluster 	<ul style="list-style-type: none"> Hardware Software SWID Local, Virtual, Cloud usage 	<ul style="list-style-type: none"> Categorize Suite versus solo Clean up 	<ul style="list-style-type: none"> AD/LDAP Modeling Dependency mapping 	<ul style="list-style-type: none"> LocationGeo/EA License types Harvest/Recycle 	<ul style="list-style-type: none"> Repository IT and Bus teams App stores

Source: Gartner

Continuous Discovery

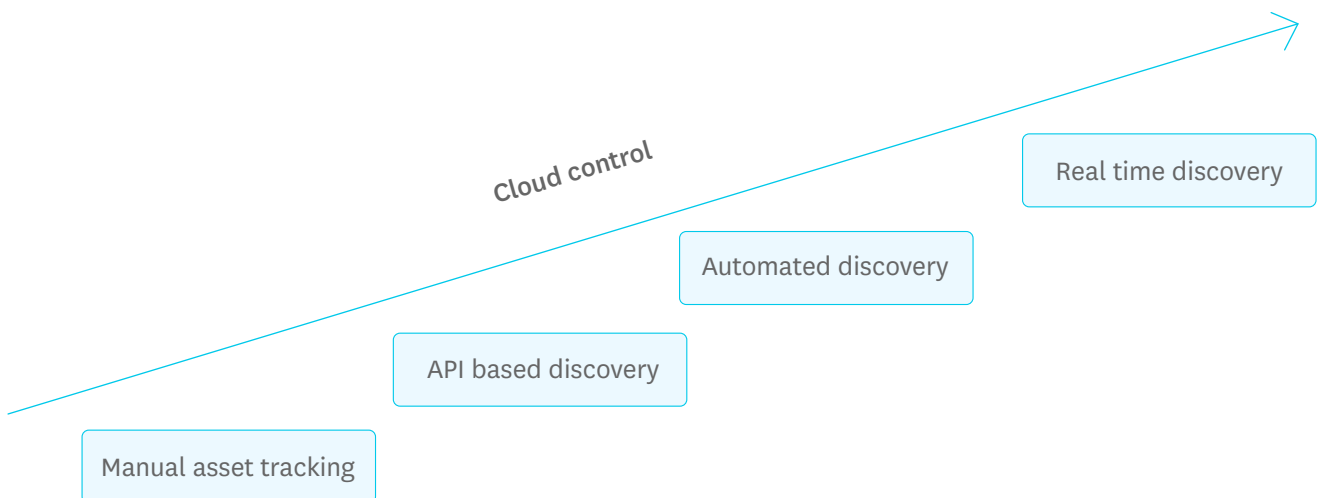
CMDB will fail when businesses

- Adapt physical models to hybrid and virtualized systems
- Follow static discovery for a conventional CMDB

Only a dynamic CMDB with real-time or near-real time discovery capability will survive as businesses adopt a hybrid infrastructure system.

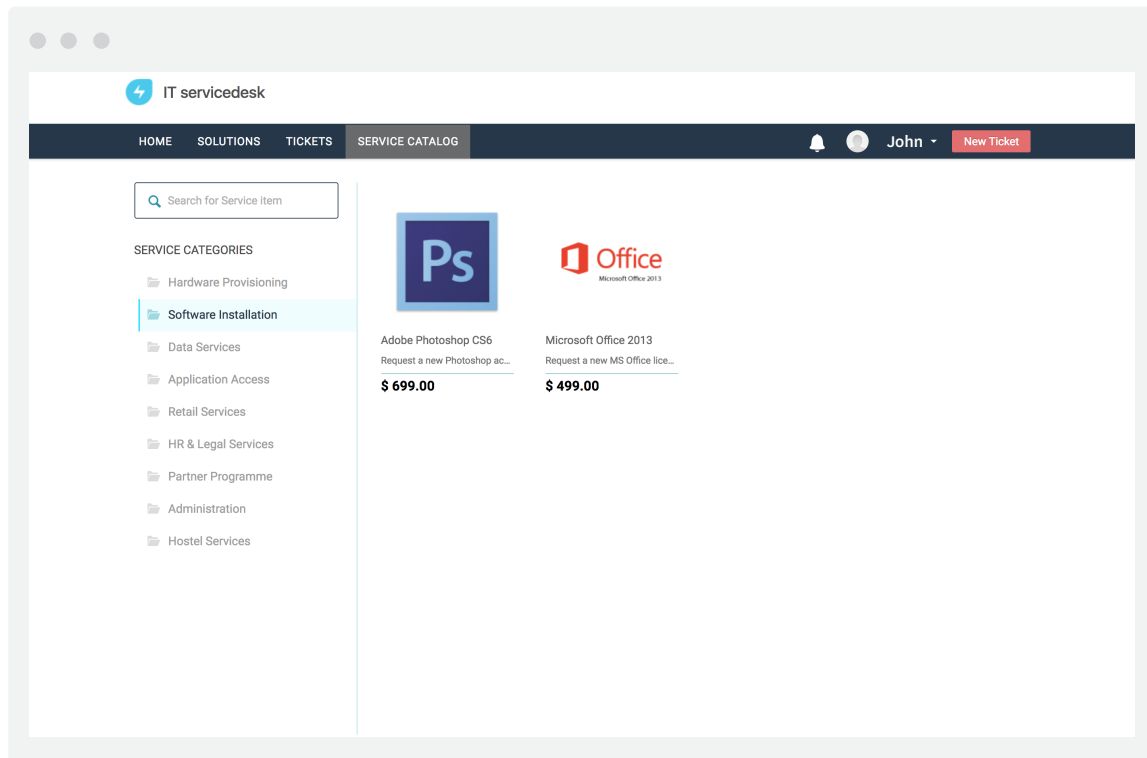
Cloud asset discovery includes compliance and reconciliation related information. Service desk solution should have the capability to track software assets along with compliance report. Once this information is available, optimization is the next step to reallocate licenses and remain compliant. Discovery process includes scanning of

- Physical on premise components
- Virtual assets and private cloud resources
- IaaS, SaaS, PaaS resources



Enterprise App Store

Leverage end user experience by providing an enterprise app store for your Inventory Management. This kind of self-provisioning removes bottlenecks and improves response time. Orchestration enables this self-provisioning and deprovisioning. IT team can manage procurement, upgrades of apps through this intuitive catalog. CMDB is maintained up to date consolidating this information through orchestration.



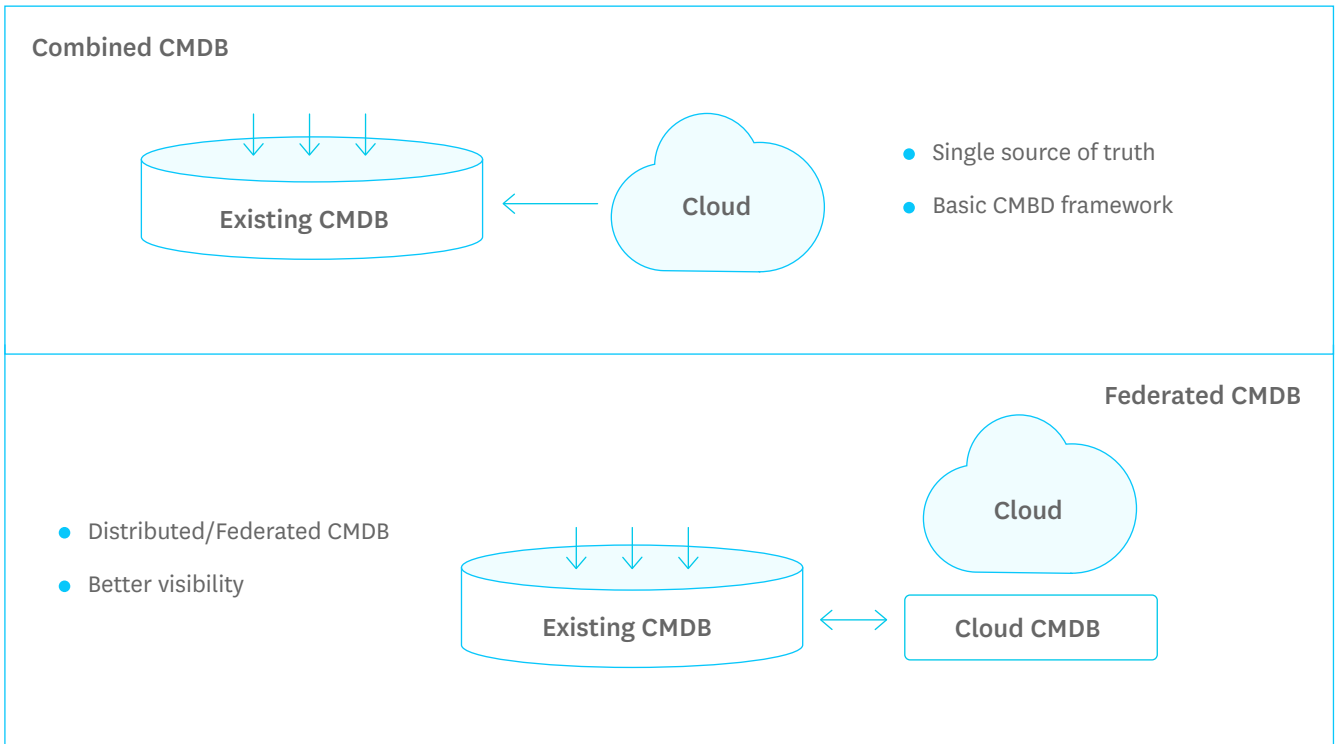
Hybrid Environment

Federated CMDB

A single inventory system that discovers every asset is a huge challenge in a multi type environment. Federated CMDB synchronizes assets across multiple systems. This provides better visibility and greater value. Federation typically means the way the data is collected, stored and accessed to create the CMDB. In a Federated CMDB, the data can be stored anywhere and it will be scanned. Virtual CMDB tracks CIs that are outside conventional environment.

Combined CMDB

A combined CMDB is a single source of truth where all inventory is stored and managed. Most businesses use a combination of federated and combined CMDB approaches to realize business value.



Change Management in Cloud

- Configuration level changes are handled in cloud CMDB based on approval process
- Standard pre-approved changes are automated in cloud CMDB such as auto scaling and DNS update
- Every change is recorded and tracked in cloud CMDB so that it is easier to derive meaningful reports

Benefits

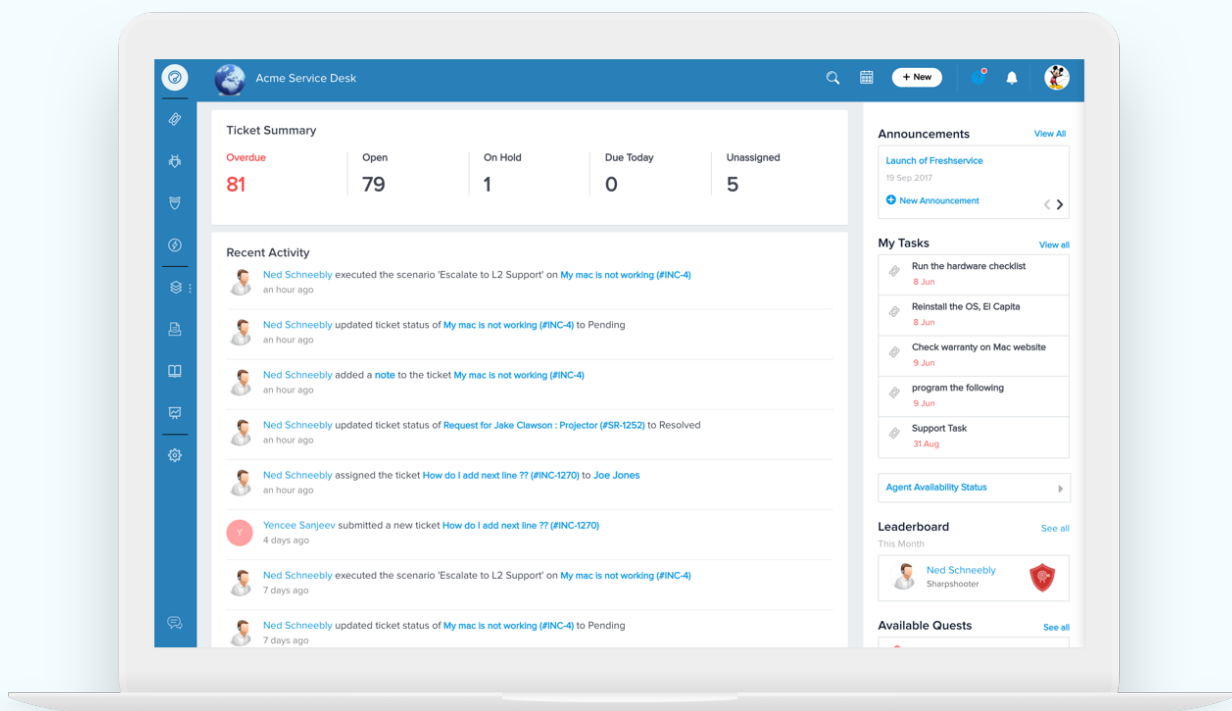
- ✓ Faster service recovery with the help of rapid diagnosis
- ✓ Dynamic and continuous updates to assets
- ✓ Better control over IT ecosystem using dynamic asset tracking
- ✓ Improved asset performance with auto provisioning and deprovisioning
- ✓ Efficient management of over and under-capacity
- ✓ Optimization of cost and resources
- ✓ Better handling of disaster recovery
- ✓ Effective change management with agility

About Freshservice

Freshservice is a cloud-based IT service desk and IT service management (ITSM) solution that is quick to setup and easy to use and manage. Freshservice leverages ITIL best practices to enable IT organizations to focus on what's most important - exceptional service delivery and customers satisfaction. With its powerfully simple UI, Freshservice can be easily configured to support your unique business requirements and integrated with other critical business and IT systems. Are you trying to keep up with the current ITSM trends? Freshservice is on a constant mission to innovate and deliver great experience.

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