

# **India's First Implementation on VMware Tanzu Platform**

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# TABLE OF CONTENTS

1 Our Client	1
2 The ACC solution	2
3 The key responsibilities	2
4 A deep dive into VM ware	3
5 VMware Tanzu framework	5
6 The need for Implementing Log Forwarding with Fluent Bit	7
7 Protection of Data	7

## Our Client

Our client is one of the most famous cultural examples of invention combined with strong business and trade procedures. They have progressed steadily and dynamically over the years, motivated by a desire to provide our customers with financial services that meet the industry's highest quality standards.

They commenced operations in 1994, catering to the needs of both consumer and corporate customers. It is a universal bank having a large financial footprint across the country, with over 2.5 crore customers, over 5,000 distribution sites, and more than 2,000 branches.



Their mission is that they will continue to offer value to all stakeholders by improving the organization's sustainability and emerging as India's most convenient bank with industry-leading financial metrics. Its technology platform supports multi-channel delivery capabilities. It enjoys clearing bank status for both major stock exchanges - BSE and NSE - and major commodity exchanges in the country, including MCX, NCDEX and NMCE.

## The ACC solution

To accelerate innovation and deliver new customer experiences, Our client turned to VMware Tanzu. By using VMware as the foundation, Our client gained the flexibility to build and run apps on any cloud—on premises or in public cloud environments. Today, Our client is taking great advantage of VMware Cloud on AWS. It was ACC's first Implementation guided by VMware specialist team. ACC being a VMware partner with the support of VMware team had setup the management infrastructure.

IBL is well on its way to adopting Containers as the preferred method for developing and deploying its mission-critical applications because it is a digital-first organization. For their cloud application deployment, they have been utilizing the Kubernetes platforms.

## The key responsibilities

- Install and configure Tanzu
- Making Bootstrap
- Establishing a new Tanzu Kubernetes Cluster
- Creating namespaces
- Permitting user authentication Creating new Pvc's is in accordance with the application criteria
- Adding clusters to Tanzu Mission Control
- Tanzu Mission Control configuration for Velero Backup

Another crucial factor is safeguarding your modern applications and Kubernetes infrastructure across various clouds and teams. The ACC team selected VMware Tanzu as its Cloud-Native Application Enterprise Platform.



## A deep dive into VM ware

The use of VMware, or "Virtual Machine" software, as the name suggests, generates a virtual machine on your computer. This can assist companies in managing their resources more effectively and increasing their efficiency.

Reduced IT expenditures are just one benefit of using "virtualization" on a corporate server, among many others.

Particularly for start-up companies that are expanding quickly, VMware is an excellent choice. It is far safer because you can easily remove a virtual machine and make a new one if you have an issue with it. Your actual computer is still usable in any scenario. In the business world, new operating system patches and upgrades can be tested in a secure environment using a VMware virtual machine before being applied to actual systems.

Because all server workloads differ, this is significantly more efficient because it allows work to be distributed to underutilized computers through the use of virtualization. Performance is also accelerated, and thus reduces unneeded downtime.

Each virtual machine (VM) has a configuration file that stores its settings, a virtual disc file, which is a software equivalent of a hard drive, and a log file that records all of the VM's activities, such as hardware modifications, system failures, VM migrations from one host to another, and the status of the VM.

For virtualization, using VMware's products and services has many advantages. The following is an example of these:

A physical computer's resources can be used more efficiently thanks to VMware. Multiple mission-critical programmes shouldn't be run on the same server OS since doing so increases the risk of OS instability, which in turn increases the risk of other applications crashing. This is why administrators dislike doing this. Running each application in its own OS on a separate, dedicated physical server is one way to remove this danger, but doing so is wasteful because each OS might only require 30% of the server's CPU power. Making better use of the physical server's available CPU power is possible with VMware by running each application in its own OS on the same physical server.

Energy and space usage are both improved by VMware, which enables you to run more applications on fewer physical servers. Your data center will take up less room with fewer physical servers, and it will need less power and cooling.

Support for the industry: With more than 500,000 customers, VMware is the leading supplier of virtualization services. Customers are supported by a vast array of supplemental goods and services through a network of 75,000 partners.

## VMware Tanzu framework

The Framework includes the following essential elements:

- Tanzu Kubernetes Grid (TKG)
- Tanzu Mission Control (TMC)
- Tanzu Observability (TO)

### Tanzu Kubernetes Grid (TKG)

The VMware Tanzu Kubernetes Grid, or TKG as it is more often known, is a multi-cloud Kubernetes footprint that can be used both on-premises in vSphere and in the public cloud on Amazon EC2 and Microsoft Azure. To save you from having to create your own Kubernetes infrastructure from scratch, VMware has created and supported the Tanzu Kubernetes Grid, which is built on reliable upstream and community initiatives.

### Tanzu Mission Control (TMC)

Wherever you are in your infrastructure modernization journey, Tanzu Mission Control can be beneficial. Tanzu Mission Control is a global management hub that enhances control, efficiency, and security, regardless of whether you are just starting or have already felt the pain of Kubernetes administration at scale.

Through its API, CLI, or web-based console, Tanzu Mission Control gives you the ability to declaratively control all of your clusters. In order to manage resources, apps, users, and security more effectively, you can group your clusters and namespaces logically using the Tanzu Mission Control console. Tanzu Mission Control offers a number of cluster management features, such as:

## Cluster Lifecycle Management

You can construct new clusters, upgrade them, and delete any clusters that are no longer required using Tanzu Mission Control by connecting to your own cloud provider account.

## Cluster Observability and Diagnostics

From a single console, you can view the status and resource utilization of every cluster you have. Direct access to cluster information, namespaces, nodes, and workloads is available from the Tanzu Mission Control console.

## Data protection

Velero backup and restore the data resources in your clusters to guarantee the safety of the priceless data resources in your clusters.

## Access Control

Tanzu Mission Control starts with a secure by default service and enables you to add granular role-based access control and federated identity management to fine-tune your security needs.

## Tanzu Observability (TO)

For DevOps teams, Tanzu Observability is the most scalable and sophisticated observability platform. In modern multi-cloud settings, SREs, developers, and platform operators can precisely assess the performance of applications and infrastructure. They also have rapid access to shared context, allowing them to quickly analyze unidentified issues and determine the source.



## The need for Implementing Log Forwarding with Fluent Bit

For the Linux, OS X, Windows, and BSD family of operating systems, Fluent Bit is a Fast and Lightweight Logs and Metrics Processor and Forwarder. It has been developed with a major emphasis on performance to enable the straightforward collecting of events from various sources.

With the help of the lightweight log processor and forwarder Fluent Bit, you may gather information and logs from various sources, combine them, and transfer them to various locations. You can install signed Fluent Bit binaries from Tanzu Kubernetes Grid on management clusters and Tanzu Kubernetes clusters to offer a log-forwarding service.

With this Tanzu Kubernetes Grid release's Fluent Bit implementation, you may collect logs from management clusters or Tanzu Kubernetes clusters operating in vSphere and send them to an HTTP endpoint, which then sends them to the Log Insight cloud environment.

## Protection of Data

A strong, open source foundation serves as the basis for Tanzu Mission Control's data protection. Utilizing the hugely well-liked Velero project. Installs and maintains Tanzu Mission Control so that you don't have to handle the Velero lifespan. Rather than running Velero. Tanzu Mission Control's UI, CLI, or API let you interact with every cluster directly. Regardless of location, centrally create backups and restorations for all of your clusters. They can be found. Clusters, namespaces, and even collections of resources can all be backed up and restored. Using label selectors for Kubernetes. These are automatically approved by Tanzu Mission Control. Velero runs the backups after receiving commands via its cluster agent technology. sending information such as faults and status.

# ABOUT ACC

ACC is an AWS Advance Partner with AWS Mobility Competency. Awarded The Best BFSI industry Consulting Partner for the year 2019, ACC has had several successful cloud migration and application development projects to its credit.

Our business offerings include Digitalisation, Cloud Services, Product Engineering, Big Data & Analytics and Cloud Security. ACC has developed several products to its credit. These include Ottohm – Enterprise Video and OTT Platform, Atlas API – API Management and Development Platform, Atlas CLM – Cloud Life Cycle Management, Atlas HCM – HR Digital Onboarding and Employee Management, Atlas ITSM – Vendor Onboarding and Service Management and Smart Contracts – Contract Automation and Management.



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