



# CLOUD COMPUTING

## Storage Virtualization in Different Industries - Case Studies

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**Dr. Prafullata Kiran Auradkar**

Department of Computer Science and Engineering

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This presentation showcases

Five contexts where storage virtualization is used in recent years

We discuss

- The industry background

- Problem being addressed

- Solution approach

- Outcome

# Consolidated Communications Holdings

## Industry Background:

This 125 years old company, physically spans over 50,000 route miles, 20+ states, and 1.8 million connections.

The descison to go for new storage solution came up after facing an email outage that leaked its residential email clients.

**Industry:** Communications

**Storage virtualization provider:** DataCore

- The company employed
  - a **SAN solution** with attention to flexibility and performance
  - To keep up with the firm's requirements for caching.
- The firm uses DataCore's storage solution in two forms:
  - a traditional storage product consisting of hard drives
  - solid-state drives (SSDs)
- A hyperconverged model with greater storage through virtualized storage controllers.

- Consistent 100% uptime delivered over a period of 10years
- Reduced storage related spend
- Reduced time, effort, cost spent on preventive maintenance

With a network of over 13 hospitals and 4,000 beds, [Krishna Institute of Medical Sciences \(KIMS\)](#) provides comprehensive healthcare services across cardiac sciences, oncology, neurosciences, organ transplantation, and 20 other specialities.

**Industry:** Health care

**Storage virtualization provider:** VMware and VMware vSAN

As KIMS Hospitals expanded, the workload increased threefold.

Due to insufficient information on the performance of the existing storage infrastructure, there was an increase storage options they considered (onsite, ad hoc, and pay-on-demand cloud storage options)

With storage option, the management and maintenance of storage infrastructure became ever more complicated.

Some of the applications were functioning on outdated software

Made wayvulnerable to ransomware attacks.

KIMS Hospitals needed **a robust and swift IT infrastructure** that could manage big data within complex systems and numerous applications

KIMS Hospitals deployed the **VMware vSAN solution** with **Dell hardware** to meet its existing needs for redundancy, scalability and cost efficiency.

**VMware's virtualized storage**, combined with **VMware vRealize Operations** optimized data exchange between networks and applications.

The modernized **hyperconverged infrastructure (HCI)** allowed IT administrators at KIMS Hospitals to have a virtual data plane with real-time analytics on virtual machines (VMs) storage attributes, including performance, capacity, and availability.



## Outcomes:

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- 80% of workloads moved from AWS to HCI, saving thousands in billings
- 98% VMware vSAN issues resolved in the pre-development phase
- No downtime encountered during maintenance activities

## Seneca Family of Agencies

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Founded in 1985, the community caters to over 18,000 young people and families across California and Washington State

Helps children and families see through the hardest times in their lives

offers permanency, mental health services, education, and juvenile justice.

**Industry:** Mental health services

**Storage virtualization provider:** StarWind and StarWind HCA

## Problem Context

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They were using a mix of dated VMware hosts and a Hyper-V cluster for its virtual environment.

The high incidences of VMware cluster renewal and Hyper-V's slow performance compelled the organization to move toward hyperconvergence.

The existing IT infrastructure was limited by storage problems and required extensive patching times done off-hours.

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## Solution

They implemented the HCA and ran high availability with simply two nodes with StarWind HCI Appliance (HCA)

## Outcomes:

- Patching in cluster now done during business hours
- Quick migration across hosts
- Increased storage capacity

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## Grupo Alcione

With over 30 years of experience, **Grupo Alcione** specializes in electrical equipment and supplies.

Today, the company has expanded to 22 branches, 800 employees, and 11 Mexican states.

- **Industry:** Manufacturing
- **Storage virtualization provider:** Nutanix and Nutanix AHV

Electronics is a **competitive industry**; to realize better customer conversions,

- TGrupo Alcione wanted quickly access inventory in real-time
  - To update customers about pricing and budgeting information in real-time without delays
- They needed a high-performance, multicloud system with a lower-cost investment,

- Nutanix AHV built Alcione's infrastructure on nine nodes and two clusters.
- The first cluster, having six nodes, works as a production environment.
- The second cluster, with three nodes, serves the disaster recovery plan (DRP)
  - Here important operational virtual servers replicate every hour
    - ensured critical service availability.

## Outcomes:

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- 30% savings on data center expenses
- Quick, real-time access to inventory
- Higher availability of critical services and improved reliability
- Increased operational efficiency
- Reduction in frequent customer support calls



## Daegu Metropolitan City

**This is not a strict storage virtualization context. It's more like cloud adoption**

The third largest city in the Republic of Korea, **Daegu**, has a population of **2.5 million residents** with **eight administrative districts** and **13,000+ public employees**.

In 2015, the government decided to work on a three-phase project to create the Daegu

**Industry:** Government

**Storage virtualization provider:** Red Hat and Red Hat Virtualization

## Project City Cloud (D-Cloud)

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An ambitious project to offer important services like public notices, healthcare, and financial assistance in a timely manner.

The city government needed to update its decade-old IT infrastructure along with hardware sourced from different places.

Daegu dealt with higher operational costs, primarily because of multiplicity of hardware and software solutions.

## Solution Approach

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The city initially deployed Red Hat Enterprise Linux, Red Hat JBoss Enterprise Application Platform (EAP), and Red Hat Virtualization to create its new cloud-based service environment.

Red Hat Enterprise Linux created the foundation for Daegu to start building the **hybrid cloud infrastructure**.

Once the initial framework was laid out, the virtualization software laid out a central infrastructure for virtualized and cloud-native workloads.

Red Hat JBoss EAP then helped Daegu to overtake the managerial part, ensure user security, and attain high performance at scale.

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## Outcomes:

- Reduced operating costs by 36%
- Transformation of 50% of the legacy IT systems into cloud-based environment
- Simplified infrastructure operations and management
- Created foundation for easier resident access to information and services



# THANK YOU

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**Prafullata Kiran Auradkar**

Department of Computer Science and Engineering

**[prafullatak@pes.edu](mailto:prafullatak@pes.edu)**