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Cloud Branch Office Network built on VMWare Cloud on AWS

October 2020

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EXECUTIVE SUMMARY

Information infrastructure in branch office network of a large Organisation is typically a complex mixture of myriad technology systems, networks, line of business applications, databases, physical storage systems, legacy desktops and unmanaged devices.

The key questions in the minds of C-level management at these organisations centre around following topics:

- **Age of the hardware:** is the branch office hardware old or obsolete?
- **Branch Level Security:** Are there any known cyber-threats for the branch office?
- **Data Protection:** Is all the data from the branch available in a safe repository?

The key objectives for a resilient cloud branch office network are systems and processes that enable Zero Downtime, Zero Data Loss, Zero Trust Security.

As IT systems increase in complexity, it is important to design for Simplicity, Scalability, Efficiency and High Performance.

The advent of Cloud Computing coupled with emerging Edge Computing Technologies such as 5G, Satellite, IoT capabilities for Backup, security and connectivity are the new tools for realising a future ready IT architecture.

VMware Compute, Storage, Network and Desktop Virtualisation coupled with the global infrastructure of Amazon Web Services allows us to create a Simple, Secure and Scalable Cloud Branch Office Network for Organisations of any size.

Each organisation has specific requirements for monitoring and managing the Branch office infrastructure. The SIMA framework from RCV Innovations based on VMware's vRealize suite of Cloud Management products can be used to build customised branch office management portals.

Branch Office Network needs always-on Cloud enabled VPN like security. A managed Edge computing environment, such as VAMANIT Edge computing appliance with VMware ESXi is a perfect fit for this purpose. VAMANIT hosts the backup and replication capability from Veeam and AWS storage gateway which helps in Cloud Backup and File replication.

The goal of this approach is to help organisations lead with Cloud and Edge, to **provision** (Desktops/LoB apps), **protect** (Network /Data assets) **and prosper** with pay-as-you-grow model.



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ELUCIDATION

Age of the hardware: is the branch office hardware old or obsolete?

Computer systems have an expected usable life of 3-5 years and hardware failures start showing up after the first few years. Along with hardware failures /outages like system crashes, other problems that Branch Offices usually face is Out of Warranty/Services, not well equipped to install latest software, no vendor support etc.

Sometimes, additional systems are needed, which cannot be provisioned immediately, as the office has to go through all the approval processes. Moreover, the requirements maybe temporary and in such cases, the systems later are just an added burden for the office.

In such scenarios, Branch offices may want to extend their on-premise infrastructure into public cloud to address these challenges.

Cloud Branch Office Network built on VMware on AWS helps address above shortcomings. It helps to deploy a highly redundant, robust, stable and scalable Infrastructure platform built on AWS global infrastructure Powered by VMware Virtualisation for Compute Nodes, Software defined Networking and Software Defined Storage.

This is specifically designed for every customer based on their environments and their needs with features that include:

- Ready -to- Run - Virtual Appliances for Virtual desktops and Line of business applications that are purpose built for your business with preconfigured virtual machine, software and remote management facility. These appliances are deployed in VMC on AWS to power your remote location with minimal operator intervention.
- Resilient - VMC on AWS based Infrastructure provides high level of Resilience with customised SIMA Portal built on VMware vRealize Automation XaaS services to enable rapid provisioning, rapid recovery, backup and replication automation.
- Pay-as-you-grow - VMC on AWS can start with 2-Node cluster to scale from 10 branches to 1000's of branches seamlessly. You pay per branch as you grow.



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Branch Level Security: Are there any known cyber-threats for the branch office?

Security is a major point of concern for organisations/Branch offices of any size. Often overlooked, but a major part of security is the remediation service.

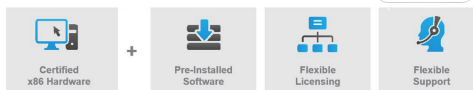
Most common security problems faced by many organisations include Data Breach, Distributed Denial of Service (DDOS) Attack, Code Injection, Malicious Programs that attack the company’s network, disrupt services and corrupt corporates sensitive data, Phishing etc.

There is a need for increased security to protect the systems from risks mentioned above, as the reliance is high on computer systems, the Internet and Wireless networks such as Bluetooth and Wi-Fi, due to the growth of “smart” devices that constitute to the Internet of Things (IoT).

Three vital components to consider for Branch Level Security:

- Data Protection to ensure data integrity
- High Availability to minimise disruptions
- Disaster Recovery to recover from unplanned outages

VMware Cloud on AWS is intrinsically secure, protected with latest industry standard hypervisors and security platforms.



VMware Cloud on AWS along with Vamanit offers a purpose-built Edge Computing appliance, always on Security with Simple Network Interface, Crypto key Routing Built-in Roaming Ready for Containers/ Kubernetes with optional 5G, Satellite, IoT capabilities for Backup, security and connectivity. Also provide assistance to virtualise and/or replicate your current branch setup in a geographically far site easily in hours.



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Data Protection: Is all the data from the branch available in a safe repository?

Organisations that have branch offices create and use data. Provisioning backup or replication in each of these remote branch office location takes significant effort and are mostly unreliable.

Data protection and Backups are critical in any environment, no matter where they are located. When poor backup strategies are employed, sometimes the critical data lost can be unrecoverable.

Branch Office environments present unique challenges when it comes to data protection and backups as they generally rely on tape backup systems and software that are expensive and hard to manage. Often, the validity of the backups is not tested, which result in corrupt backups.

There are many aspects to be taken in to consideration, while planning for Data Backup and storage strategies. Following are the key ones:

- Deciding between the need for Centralised or Localised backups
- Data Storage strategies
- To make a Local copy of data or No Copy
- Opting for Cloud Based Backups and Storage

Thinking through the design to protect the Branch Office environment and architecting a solution is vitally important to ensure the data is protected and not impacting Production environment.

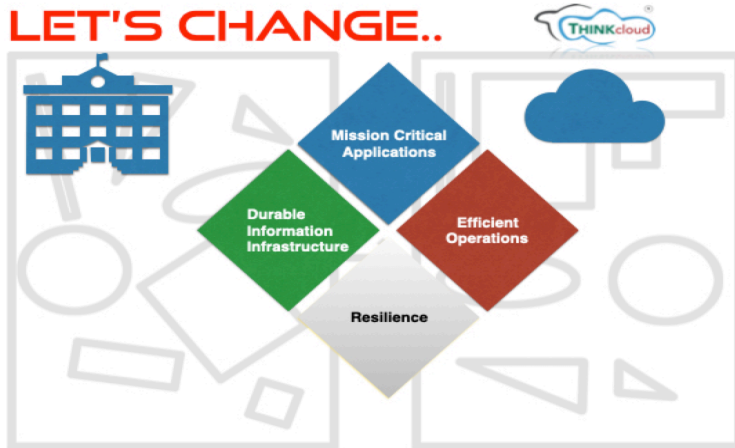
One such solution is a Vamanit, which is pre-installed with VMware, Veeam Cloud Backup and Restore along with AWS Storage Gateway as part of your subscription at no-additional cost. You are free to install other VMware certified (Paid or Open-Source) Firewall/SDWAN/Routing Virtual Appliances too.

Centralised Management: Visibility, Insight and Control of the remote or branch office is a critical, yet challenging, element for most centralised information technology (IT) organisations. There is a need for single, automated, centrally managed software-centric platform that replaces or supplements an existing branch network architecture. Customised SIMA Portal built on proven VMware vRealize Suite provided consistent management for provisioning new resources, ensuring security, managing health, risk and efficiency in the VMware cloud and on the distributed VAMANIT appliance network.



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CONCLUSION



Uninterrupted Information Infrastructure management portal

- **Visibility:** Monitor cloud & edge
- **Insight:** Performance & efficiency
- **Control:** Data and Assets

Built on VMware vRealize Suite, and API's from Veeam and AWS.

A VMware Cloud on AWS provides Solution by integrating with Advanced Edge Computing Technologies such as 5G, Satellite, IoT, SD-WAN, Software Defined Storage and Cloud backup. It also helps to minimise potential revenue loss from unpredicted outages with Redundancy at Server, Storage and Network level. VAMANIT Edge computing appliances with Centralised Management enabled by SIMA Portal from RCV Innovations provides compelling and cost effective architecture to realise a future-ready software defined Cloud branch office network.

About us:

RCV Innovations is a trusted partner in Cybersecurity, Cloud and IoT Integration services. Our Strong competence in VMWare based Software Defined Data Center (SDDC) and Secure Networking, AWS Cloud Management and IoT Technologies enables us to solve complex Infrastructure Management challenges.

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