TOP 9 PITFALLS

TO CONSIDER AND TO BE TURNED INTO CRITICAL SUCCESS FACTORS FOR THE TACTICAL OPERATIONAL DOMAIN

Defence and national security organisations often operate in extreme situations and have specialist security considerations. The threats to operational efficiency can include anything from the local environmental conditions to the bigger political picture, which means that maintaining a secure, effective, IT infrastructure is essential.

Nutanix has helped some of the world's most respected defense and national security customers make the transition to an efficient, virtualized on premise datacenter built on our Cloud Platform-technology. We also supply ruggedized equipment on a Nutanix platform that's designed to help agencies achieve their objectives in even the most demanding environments.
With the predictable economics and the benefits of webscale IT, Nutanix enables you to deliver better services – wherever in the world you might need it.

1. SPACE

For 80% of customers considering virtualized initiatives, rack space is a concern. Why? Because datacenter space is expensive in both real estate cost and opportunity cost. It is more expensive per square foot than standard office space (cubes, offices, break rooms, etc.) because it requires more power, cooling and security. If a datacenter becomes filled, it must be emptied or expanded if new initiatives are to be hosted. What fills a datacenter? Racks! What fills racks? Infrastructure! The servers, switches, storage, and security components that host the application components.

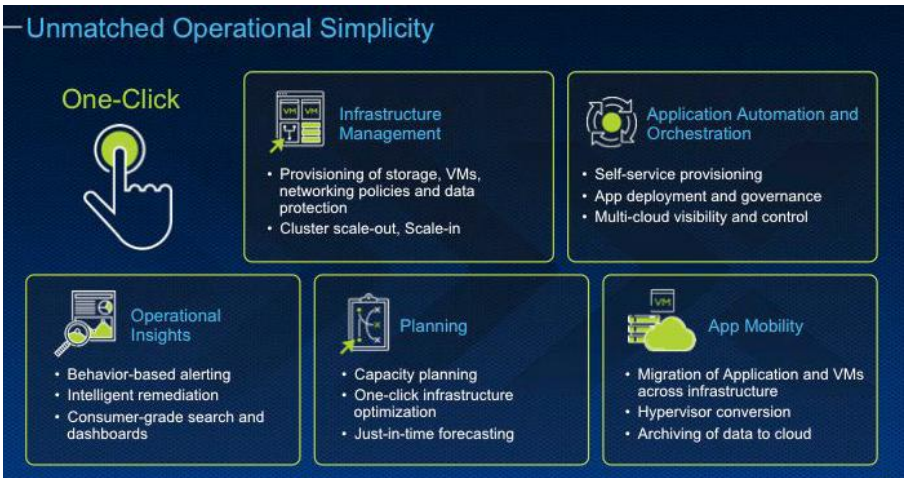
The more infrastructure required for hosting each of your initiatives, the sooner you will run out of datacenter space. And if you're already low on datacenter space when you start your initiative, you need to be particularly cognizant of the amount of rack space required to host the infrastructure components required for your initiative. Nutanix's hyperconverged architecture is second-to-none in maximizing compute, storage and IOPS per Rack-Unit (RU). Thus the reason that prospects who are 'Space challenged' strongly consider Nutanix to host their virtualized initiative.

2. WEIGHT

Most customers pay little attention to the weight of the infrastructure required to host their virtualized initiative. But for some, weight is critical. In the tactical Department of Defence (DoD), where initiatives need to be hosted and accessed in forward-deployed locations, weight is a factor in shipping components overseas as well as a factor as the components must be hand-carried and configured in challenging terrain and weather conditions. You can run the Nutanix platform in the data-center, in ruggedized form factor and small form factor servers from almost any brand. By using Nutanix, customers concerned with weight combine server, storage and switch components into a single platform that is lighter and far less cumbersome than traditional architectures. Nutanix' DoD customers have reduced the number and size of ruggedized cases required in-theater, and in many cases have dropped from 2-many carry to 2-person carry.

3. POWER

The "big four" in delaying virtualized initiatives are power, cooling, cost, and complexity (more on the latter three later). Power shortcomings can delay any virtualization effort by months. Why? Because the infrastructure required to run VMware, Citrix, or KVM draws massive amounts of power. For example, an HP C7000, which has sixteen dual-socket blades, has six 2400-watt power supplies. But for some of VMware's most important features HA, vMotion, DRS) to work, servers aren't enough — a SAN is required as well. So add two 800 watt power supplies to power a couple of NetApp controllers... Nutanix is the choice for customers who have limited power in their datacenters, or who are concerned with the cost or ecological impact of unnecessary power use. That same 16,000+ watt infrastructure from a similar HP and NetApp



environment could be replaced by 4 Nutanix blocks drawing a maximum of 1400 watts each (including their redundant power supplies) — thus a total of 5600 watts required as compared to 16,000+ watts.

4. PERFORMANCE

For most virtualized initiatives, performance is critical. There are many measurements used to attempt to predict the speed of each component of the infrastructure components. This complexity in attempting to measure expected performance is eliminated by simplifying the infrastructure. Rather than hosting the virtualized initiative on multiple components (each with a differing role), host on a single, converged virtualization platform. Eliminate the need for any network fabric by attaching the CPUs, RAM, flash and spinning disk to the same motherboard. Have all components communicate at bus speeds. Keep "hot" data in the fastest tier, and "cold" data in the slower tier. But most importantly, combine three tiers into one, Measure once. As your initiative grows, add another appliance of horsepower.

5. COOLING

There is a direct correlation between power & cooling requirements — and for this reason, cooling lurks in the background as a threat to any new virtualization initiative. Power seems to carry more glamour and is asked about far more often as IT personnel consider their infrastructure. But a lack of adequate cooling in the datacenter can be just as much of a threat to a customer's deployment timeline. Heat is a byproduct of power consumption, and infrastructure components can only tolerate a certain temperature before they will begin to break down. A 3x reduction in power draw (as mentioned above under "Power") means a proportional reduction in cooling required. This reduction can translate into dollar savings, reduced ecological impact, or time savings in the form of not waiting three months for a contract to be awarded to a cooling contractor for improved air conditioning in the datacenter.

6. COST

For the past ten years, the single greatest cost of any virtualized initiative has been storage. Close behind are the server and network costs. Manpower and training to manage the storage, server and network infrastructure are also major contributors to the "investment" column that must be offset by "return" if an initiative is to see the light of day. Nutanix customers cut their CAPEX & OPEX costs by 60% or more when compared to traditional infrastructure. The converged infrastructure means fewer components are required, significantly reducing hardware costs.

7. COMPLEXITY

With multiple components of your virtualization pilot arriving from different vendors, on different days, with missing parts, and a ten-page bill of materials. If it's going to take eight weeks to even test drive any solution, you can pretty much forget about a green light for the project. One vendor from virtualization and application performance till network insights. That's what Nutanix delivers.

8. SPECULATION

Unlike traditional architectures, Nutanix doesn't require that you guess or speculate. Because of Nutanix' modular scaling characteristics and automatic node clustering, Nutanix customers are able to start small, with a few nodes supporting a pilot-sized initial deployment, and then scale simply and without risk… scaling to massive enterprise deployments in increments of as little as one node at a time. This enables customers to invest in additional infrastructure only when needed; and purchasing decisions can be made on facts and experience rather than guesses and speculation.

9. SCALING

Agencies are typically given two undesirable alternatives: risk buying all infrastructure up front (ignoring the definition of "pilot"), or pilot on less expensive, non-production infrastructure, then rip and replace (to untested production hardware) when the pilot runs out of horsepower.

More often then not, they choose neither. Why are agencies forced to ponder two poor options? Because traditional infrastructures don't scale well.

How does Nutanix help?

Your IT-operations do need the ideal infrastructure for Defence and National Security Organizations.

- Nutanix delivers a Unified End-to-End IT Fabric
- Leverage standard IT building blocks
- Datacenter
- Forward Operating Base (FOB)
- Edge
- Freedom to choose the right platform (from standard servers and small form factor-nodes)
- Start with 1 or 2 nodes and scale to 1000s
- Centralize IT operations
- Build a foundation for IoT
- Situational Awareness

Interested?

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