

MASSIVELY SCALABLE, INTRINSICALLY SIMPLE: TINTRI'S LOW TCO FOR THE VIRTUALIZED DATA CENTER

TINTRI FIELD REPORT EXECUTIVE SUMMARY – OCTOBER 2014

Fast-growing virtualized environments present a thorny storage challenge to IT. Whether mission-critical applications with demanding SLAs, VDI rollouts with boot storms, or deploying a private cloud for large dev & test environments: delivering virtualized environments and cloud deployments using traditional storage can stall or break a virtualization project.

Recently Taneja Group ran Tintri VMstore storage through our hands-on validation lab and documented significant large factors of improvement over traditional storage. Those factors accrue through Tintri's cost-effective acquisition, simplicity and ease of deployment and data migration, effective high performance and availability and smooth expansion over time.

This Field Report validates our impressive lab findings with feedback from the field: six customers who have Tintri storage in production environments. While each customer has a unique own story to tell, we found that everyone documented a compelling value proposition based on TCO factors. Throughout our research we found that Tintri's approach provides significantly lower TCO than traditional storage solutions. Here is a quick review of some of the most significant items in light of what we've just heard.

Performance (6X) - In the lab, we saw pure performance gains over comparable mid-range storage (that included SSD). From these interviews:

- "performance was much faster"
- "flash performance on 350 VMs and a key large eDiscovery database"
- "performance of bigger all flash arrays in a 2-3 U form factor"
- "faster performance for VMs than [our] flash enabled NAS"

While these results aren't quantitative, when combined with other details from the interviews (like reported IOPs, numbers of VMs, results of internal benchmark and testing, etc.), we are confident that the tested 75k IOPS (and low latency) from our lab is similar to what the Tintri user base can expect to experience in virtualized scenarios.

Capacity (6x) – Similarly, when it comes to capacity optimization and relative density, Tintri has set a high bar. From our interviewees -

- "10Tb to 1.1 TB"
- "75 disks to 16 disks – (16u to 4u) with room to grow"
- "6-10TB [Oracle] database in 3U easily – 5or 6:1 ratio"
- "Capex \$/GB swayed the COO to move to startup Tintri from traditional storage"
- "Tintri's dedupe and compression saves us on Capex and performance"
- "1/3 to 1/2 the \$/GB compared to our NetApp or HDS NAS"

Opex management – deploy and provisioning (52X) – We heard many statements supporting the speed of deployment and ease of ongoing provisioning. While CFO’s looked for the hard upfront Capex savings, every one of the actual hands-on users we talked to praised the utter simplicity of Tintri storage:

- “essentially management down to zero”
- “takes only a couple of seconds [to provision a new VM]”
- “we were juggling workloads around 15 different data stores before, now just one – no re-balancing or anything needed”
- “space expansion by DBAs doesn’t require [any] storage [admin]”
- “big savings as we setup/tear down classes and build environments daily”

The comparisons to traditional storage included many horror stories of endless consulting, months of planning, inflexible deployments, difficulty in scaling, and the many “best practices” in LUN masking/zoning, etc that one had to adhere to “in the old days”. While 52X may seem large on the page here, in practice the factor is likely higher, especially as a site’s storage complexity and dynamics grow.

Time to troubleshoot (min v days) – While troubleshooting as a large task can encompass many processes, when it comes to the specific troubleshooting of performance issues in the storage layer, Tintri really does reduce the effort in many cases to a quick check of their single management GUI.

- “VM level insight eliminates the time we wasted troubleshooting virtual issues to storage”
- “can instantly see stats by machine/workload, hosts disks networks”
- “no troubleshooting needed yet”
- “[VM] insight is priceless” – can prove its not storage”
- “only way to screw up is not install VAAI plugin“

Annual management time and effort (60X) - When it comes to overall management Opex, the whole design of Tintri with per-VM storage, performance optimization built-in, and policy based management is that specific storage management overhead dwindles towards zero.

- “zero time spent on management”
- “Don’t really admin it (except for troubleshooting larger issues)”
- “zero management, really”
- “lots of specific tasks we no longer need to do”
- “amount of time we save is “pretty huge”
- “not that many knobs to turn”

Is it 60X or actually down to zero? That might be splitting hairs, but the key takeaway here is that the Opex factor is so significant, it should cause everyone looking to upgrade or improve their storage strategy to consider it.

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