Tintri Cloud Service Provider Solution

Differentiate services with VM-aware storage

Cloud service providers (CSPs)—who live or die by services powered by VMs—operate in a very fast-growing and competitive market. Every CSP is looking for an edge—a way to offer highly differentiated services with exceptional efficiency.

However, conventional storage is LUN-based and fundamentally not built for cloud, hence a blocker—not an enabler—for the CSP.

Tintri understands that storage can be "make or break" for your business. You need the right partner to keep your TCO under control while accelerating revenue growth. Tintri will enable you to operate with predictability and agility, and to power differentiated services through differentiated technology.

Tintri's VM-aware storage (VAS) solution is the first and only storage solution built specifically for virtualization—serving as the foundation of cloud and enabling scale. The Tintri VAS platform is designed to deliver quality of service (QoS), manageability and automation. We are tightly integrated with VMware to take advantage of VMware's cloud offerings. All this makes Tintri the best fit for CSPs.

Differentiated services:

- VM-level QoS and performance isolation
- End-to-end infrastructure visibility
- Analytics (per-VM and predictive) for capacity planning

Exceptional efficiency:

- Lowest TCO per VM
- No storage PhDs required to operate
- Best ROI per tenant with no overprovisioning
- Automation at scale

Performance SLAs through QoS

CSPs provide tiered services that customers (tenants) subscribe to based on their performance needs and affordability. The expectation is uptime SLAs and accurate billing. However, the reality is tenant workloads can be highly unpredictable and changing over time.

As a result, CSPs have resorted to over-buying multiple tiers of storage and over-provisioning to cap capacity utilization and avoid falling off a performance cliff. Some have to dedicate storage for customers and even then it's not enough.

Tintri assigns each VM its own "lane". Performance isolation allows for collapsing multiple tiers into one array, resulting in a smaller storage footprint with power and cooling savings. No more over-provisioning as a tradeoff for performance because Tintri storage can be under high utilization without sharp performance degradation.

Plus, Tintri is the first and only vendor that guarantees VM-level policy-based QoS. Enabling user-defined performance guarantees (min IOPS) and throttling (max IOPS) is as simple as drag and drop (see figure 1 below). With visualization of performance resources and contention, you get immediate feedback on the impact of your change on latency and overall system throughput.
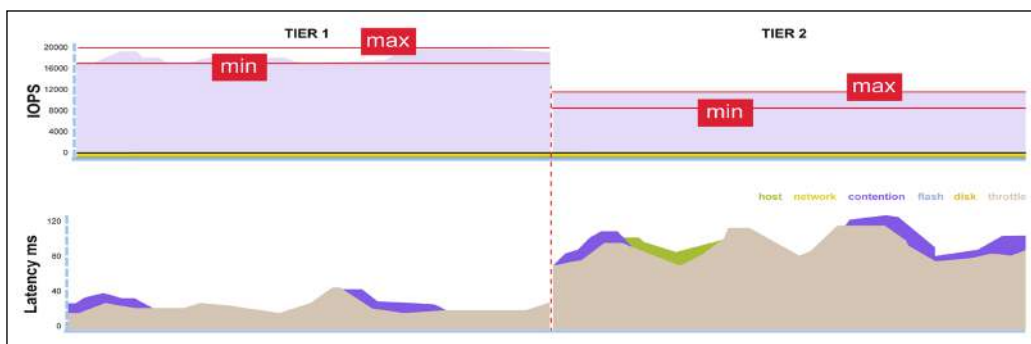

Figure 1. VM-level QoS with IOPS min and max to guarantee service tiers performance

Differentiation through analytics

Tintri's VM-level granularity brings unique advantages and upsell opportunities that can set you apart (see Figure 2). With per-VM statistics (both historical and real-time), CSPs can generate customized and advanced reports about each VM or group of VMs by tenant or application—called a service group. For example, CSPs can suggest a customer move a VM from the Bronze to the Silver service tier. Tier switching is as easy as a policy (in this case IOPS) setting change—just a few clicks. No data copying between LUNs or arrays is needed. The customer can enjoy instant performance improvement—visualized via latency decrease.
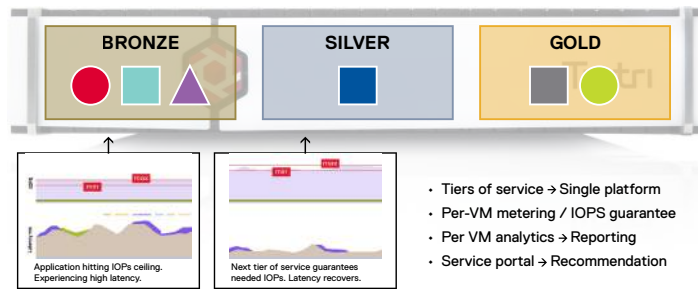

Figure 2. Service tier upgrade scenario through self-service portal

Scale through automation and manageability

For CSPs, scale should be factored into storage decisions, and not simply be an after-thought. As you grow, the ability to automate provisioning, upgrades, troubleshooting, management, billing and customer engagements can "make or break" your business. Tintri provides tight integration and interoperability into the VMware and OpenStack tools on which you rely. Tintri also offers an automation toolkit including REST APIs and PowerShell scripts to allow customization.

Simple, automated management across the infrastructure results in 98% reduction in mundane tasks, allowing CSPs to focus on services that generate revenue and significantly reduce OpEx.

Figure 3. Ease of configuring QoS on a service group level

Hosted Private Cloud

CLOUDITALIA®

"The Tintri systems are ideal for environments with hundreds of thousands of virtual machines running business critical databases, enterprise applications, desktops and mobile apps and private cloud deployments."

Bernado Marzucchi,
CTO, CloudItalia

Infrastructure As a Service (IaaS)

amatis NETWORKS

"VM and Application-Aware storage speeds troubleshooting, cuts data center footprint and power consumption by 66%, and reduces latency in hosted customer environments by 98%."

Alex Fossa,
CTO, Amatis Networks

Desktop As a Service (DaaS)

ct4

"Tintri is the primary storage platform for 150 DaaS customers with over 10,000 end users. It's not just the initial price point; it's the flexible way that Tintri enables us to buy. We like the ability to establish static pricing per desktop VM."

Craig Adams,
CIO, CT4

Disaster Recovery As a Service (DRaaS)

CIRRITY

"With our DRaaS offering, customers replicate their production systems to Cirrity in an offline state, and we can balance the workloads when those customers choose to run testing or need to fail over in the event of a disaster."

Dan Timko,
CTO, Cirrity

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