APARAVI™

An MSPs Executive Briefing about Innovation in Long Term Data Retention and Recovery

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2. Executive Summary

Managed Service Providers (MSPs) have a unique set of evolving requirements for long term data retention and recovery that currently, are not well-served by traditional backup solutions. These requirements include the need to manage ever expanding volumes of data in a hybrid cloud environment. Consider that:

> *"In July 2012, Microsoft Azure was storing 4 trillion objects. In January 2015, the service was storing 10 trillion objects."* [1]

> *"Organizations are using multiple cloud models to meet their business's needs, including private (62%), public (60%), and hybrid (26%)."* [2]

Your customers need full flexibility to store data locally and in private or public clouds. MSPs need to help meet regulatory requirements and administer more complex retention policies for multiple clients at multiple sites.

Traditional solutions were built for standard backup and recovery services These systems weren't designed, however, with regulatory retention in mind.

Using a traditional solution to setup a new client site can be a very manual process requiring considerable time and effort Because of the manual configuration, aspects of the data retention and policy strategy may be looked over. The overhead required to manage new sites can be high with a traditional solution. Moreover, administrators can inadvertently create security holes and give access to users who shouldn't have it

There's also a tendency for backup vendors to try and lock providers into using proprietary data formats or a specific cloud that only their systems can access. "Vendor and Cloud lock" make it difficult for MSPs to integrate the backup application with other systems they're already using. It can also limit your ability to utilize new technologies that might benefit your business.

What MSPs need is an efficient, open format retention and recovery solution that incorporates a true Multi-Tenant and Multi-Tier architecture. This design helps providers manage customers with global sites and branch offices. It delivers the billing and reporting information MSPs need. The architecture facilitates keeping policies, users, and information separated for each customer. A more "MSP-focused" solution would efficiently support the distributor and reseller channels.

A solution optimized for providers would enable them to automate provisioning and simplify workflows. Fewer employees who can still deliver high quality, reproducible results, means satisfied customers and cost savings for the business.

This White Paper will discuss some of the areas where backup solutions are failing to serve the Managed Service Provider marketplace. It will describe the impact these solutions have on a provider's business. It will also introduce an innovative and breakthrough model that was designed for MSPs from the ground up. This model helps providers operate their businesses more efficiently, perform critical long term data retention and recovery operations with full flexibility, and achieve profitable economies of scale.

1 Retrieved April 10, 2017 from: http://blogs.perficient.com/microsoft/2015/06/microsoft-azure-named-leader-in-public-cloud-storage-services/

2 Retrieved March 20, 2017 from: https://www.forbes.com/sites/louiscolumbus/2016/11/20/analytics-data-storage-will-lead-cloud-adoption-in-2017/#37b2588f7e7

3. The Challenges of Traditional Solutions

3.1 Limited Multi-Tenant/Multi-TierSupport

A system that doesn't support both Multi-Tenant and Multi-Tier capabilities can create real hardships for MSPs. Employees will spend more time administering multiple clients. Implementing customer-specific policies and ensuring that they're followed requires continual oversight. Without Multi-Tier functionality, a provider who is servicing a distributor that is servicing multiple resellers, will find it burdensome to grant separate permissions to distinct users.

3.2 Creating and Managing Tiers, Policies, Users, and Permissions

Using available tools, MSPs will spend a significant amount of time creating and managing: tiers, policies, users, and permissions. One reason is that these applications are usually administered through a standard User Interface (UI). A UI doesn't lend itself to automating recurring processes and tasks.

A full REST API, on the other hand, would enable an MSP to automate:

- New site creation
- Policy settings
- Creating new users and much more

Since most backup solutions don't offer a full REST API, this is an area that's ripe for improvement.

3.3 Managing Retention for Global Deployments is Difficult

Managing retention for customers with global installations spread across multiple sites and datacenters creates several problems for MSPs if they're using a standard backup solution. These systems typically rely on Master, Central, Command or Communication Servers. This architecture can introduce single point of failure issues and cause performance bottlenecks.

When a provider tries try to move data to primary or secondary storage areas, the media server has to be told explicitly where the data needs to go, and for how long. Factor in a global installation that could be spread across multiple sites, customers, and data centers, and the process can quickly become unmaintainable.

Other tasks such as adding new systems and sites, managing virtualization and micro services, and dealing with dynamically changing infrastructure add complexity and overhead to a provider's business.

3.4 New Technologies are Expanding Options for MSPs

The very structure of an MSP's business often exceeds the capabilities of traditional and modern backup solutions. The exciting news is that there are breakthrough technologies quickly becoming available that were specifically designed to support the MSP industry.

These solutions are innovative because they incorporate a native Multi-Tenant and Multi-Tier architecture. This architecture makes it simpler and more efficient to create and manage: tiers, policies users, permissions, and meet regulatory requirements.

Administering data retention and recovery services for global deployments shifts from an almost unmanageable process, to one that is seamless, efficient, and effortless.

Moving data to different geographically separated servers and cloud-based datacenters is easier, and recovery, in the event of a problem is fully supported.

These newer applications incorporate a full rest API so MSPs can automate otherwise manual processes. Automation lowers personnel requirements, generates consistent, reproducible results, and decreases human error.

These solutions also deliver the billing and statistical reporting that MSPs need. They allow providers to serve more clients while simultaneously delivering better security. They can positively impact profitability and reduce risk for MSPs.

4. Intelligent Data Retention and Recovery - Aparavi Software

One of these Intelligent solutions is APARAVI Software. APARAVI is hardware agnostic meaning you're not tied to any proprietary system. True Multi-Tier/Multi-Tenant capabilities are architected into the application. It will take less time and effort for MSPs to administer multiple clients. And there's more flexibility to implement policies than ever before.

4.1 The Triple Tier Architecture

APARAVI employs a, "triple tier architecture" that allows for limitless expansion and scaling. The three tiers are:

- Platform
- Appliance
- Agent

The Platform contains the configuration for policies, usernames, authentication, client definitions, tenant definitions, statistics, API interface, central UI, and other things needed to manage data retention and movement for both the Agents and Appliances.

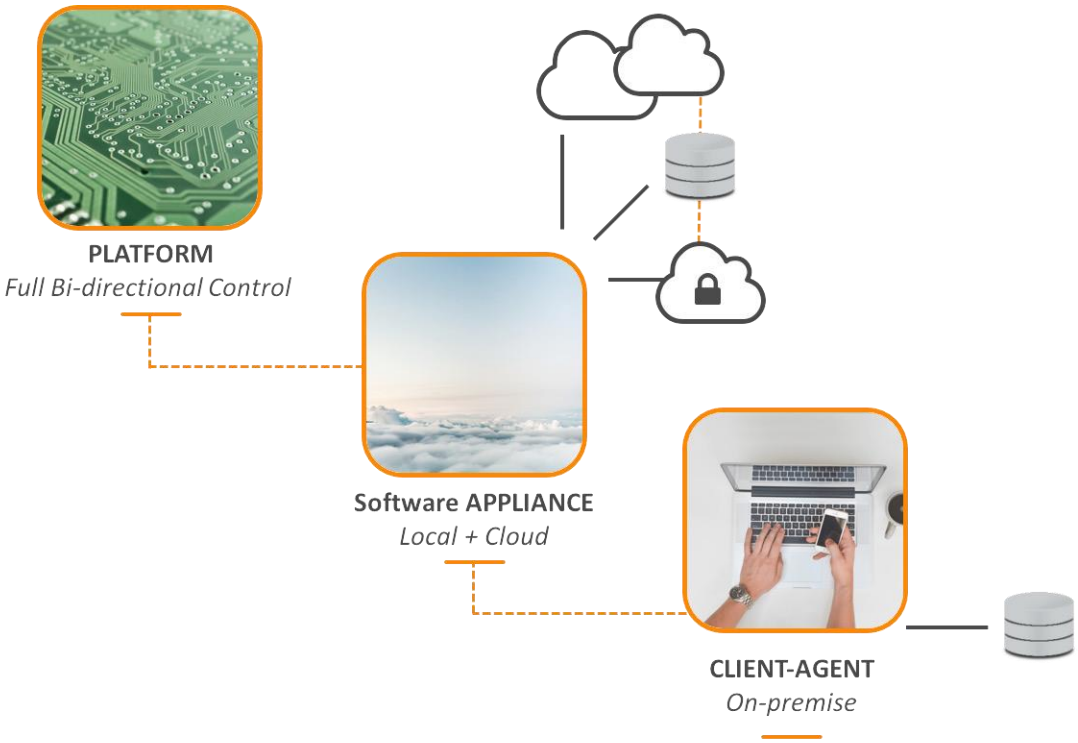
The middle tier is the Appliance. The Appliance always connects to the Platform; Agents connect to the Appliance. The Appliance's primary purpose is snapshot data storage, retention and routing. As the data from the Agent's snapshots are

transferred to the Appliance, that data can then be offloaded to another location or cloud such as a S3 compatible storage device.

The final tier is the Agent. It's installed on the endpoint where you want to secure data. Data is protected in two places:

- At the Agent, via local Checkpoints
- When data is sent to the Appliance (snapshots)

Because the Agent never directly communicates with the Platform, it's immune to connectivity and failover issues.

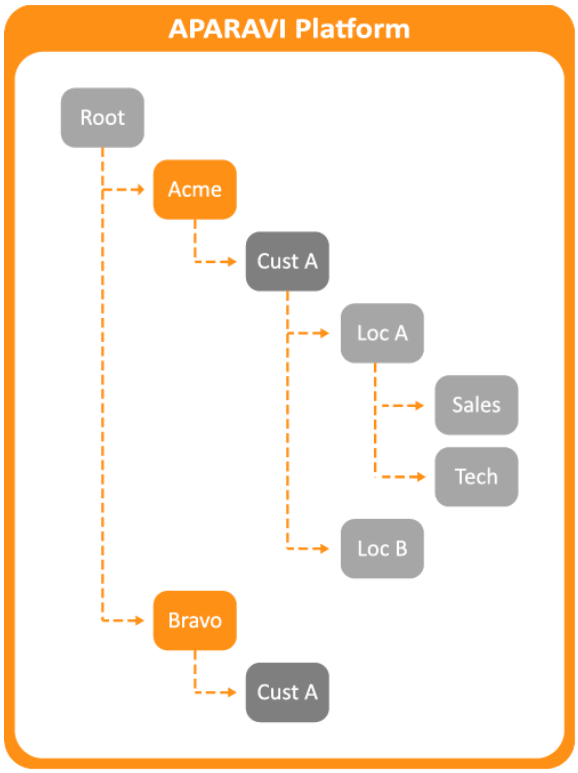


4.2 The Benefits of True Multi-Tier/Multi-Tenant

APARAVI allows completely different top level tenants to all "live" within the same Platform. For example, APARAVI.acme.com and APARAVI.bravo.com can be on the same Platform. The clients, Appliances, Agents, users, and all the statistics and billing data, however, will be completely separated.

Administrators and users visiting APARAVI.acme.com will have no knowledge of any activities of the administrators and users visiting APARAVI.bravo.com. Even if there were a client named Charlie on APARAVI.acme.com, there could be another user named Charlie on APARAVI.bravo.com with the exact same login credentials. Data would be completely siloed.

Another way Multi-Tenant capabilities serve MSPs relates to the distributor and reseller channel. If an MSP has a distributor serving a reseller, with another reseller underneath that company, security is still maintained. Each tier is separated and specific permissions can be granted to different users.



4.3 A Better System for Policy Implementation

At each level or tier, a separate, distinct policy can be implemented or inherited from the tier above. For example, when a new Appliance is registered to the Platform, it's placed in a container. The container can be a tenant, client, or folder. The policy in effect for that container will be the default for the new Appliance.

When Agents are installed and connected to an Appliance, whatever policy is in effect for the Appliance will automatically be in effect for that Agent. This ensure that any new machine automatically protects critical data, as an MSP you can rest assured that every new agent deployed is protecting exactly what it needs.

4.4 Simpler Customer Installs

APARAVI employs a unique installation and registration model that is similar to the way Netflix® allows access by multiple devices. An Appliance reaches out to the Platform, and gets an activation code. This code enables the user to login to the Platform and activate the Appliance. Once the Appliance is activated, all Agents that are connected to it, or any new Agents that subsequently connect are automatically activated and able to be managed through the Platform.

4.5 Automation via a Full REST API

Leveraging a full REST API is one way MSPs can gain measurable efficiencies through automation. With APARAVI, everything you can do through the UI, you can do through the API. Activating newly installed Appliances, renaming Agents, creating users, setting policies on containers, and a variety of other jobs can be seamlessly managed.

4.6 Deploying New Systems and Sites...Effortlessly

Adding new systems or sites in an age of DevOps, virtualization, micro services, and constantly-fluctuating infrastructure is a real challenge for MSPs. Agents must be manually configured, backup jobs setup, permissions granted, schedules configured, old retired services/locations/servers removed, and all the jobs associated with them stopped.

APARAVI tackles these challenges head on. Deploying a new piece of infrastructure, for example, starts by installing the APARAVI Agent. The Agent is preconfigured to connect to an APARAVI Appliance, which is already configured and activated to attach to a Platform. As soon as the Agent comes online, the policy is live. Should you need to implement a new policy, that can be performed through REST API calls.

5. Summary

Managed Service Providers have unique business requirements that are not well served by traditional and modern backup solutions. APARAVI software is a breakthrough technology designed specifically to help MSPs administer long term data retention and recovery for global deployments.

The application incorporates true Multi-Tenant and Multi-Tier features that improve manageability. It simplifies policy implementation and administration. New customer setups can be performed more quickly and ongoing maintenance is easier.

Data movement and retention are seamless and efficient. The solution provides opportunities to automate routine tasks, and reduce manual effort. Its open architecture gives MSPs more flexibility.

There's never been a better time for better data retention and recovery software:

> *"Business/data analytics and data storage/data management (both 43%) are projected to lead cloud adoption in 2017 and beyond. 21% of organizations are predicting data storage/data management apps are a high priority area for their organizations' cloud migration plans in 2017."* [3]

With APARAVI, MSPs now have a viable way to lower personnel costs, increase service quality, and achieve profitable economies of scale.

Please contact us today to setup a demonstration environment and learn how APARAVI can help efficiently manage your client's data retention and recovery needs.

6. APARAVI Software Description

APARAVI is the software platform that provides a secure policy-driven, easy to integrate, open format solution, because we believe in zero button data retention. A software solution that is without the limitations of the box. Built for hybrid and cross cloud compatibility with open data retrieval.

3 Retrieved March 20, 2017 from: https://www.forbes.com/sites/louiscolumbus/2016/11/20/analytics-data-storage-will-lead-cloud-adoption-in-2017/#37b2588f7e7a