

# INDUSTRY INSIGHTS

Members Only Monthly Report (page 1 of 2)

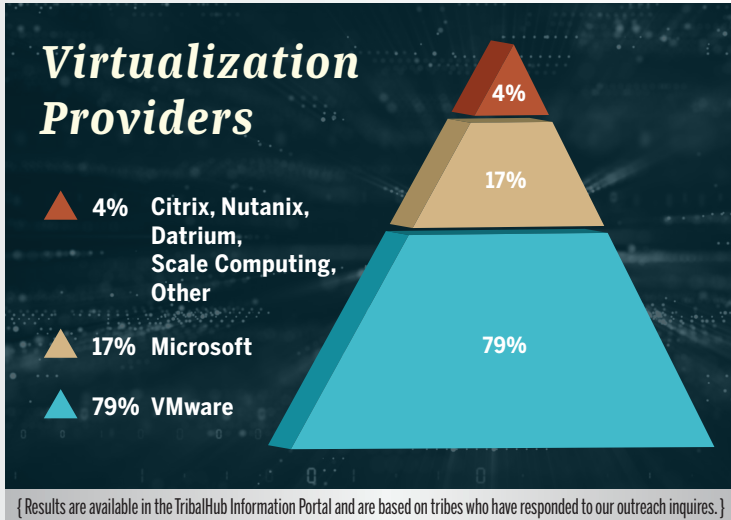
## Virtualization

### Insider's Insight from TribalHub's Executive Officer, Mike Day



Virtualization has significantly changed the computing and network management landscape for most organizations over the last ten years. The days of dozens of single purposed servers and devices cluttering data centers has been replaced by a few larger servers and devices capable of running dozens (or more) functions faster, easier to manage, less costly and providing easier redundancy.

Technology teams for Organizations can reap benefit. Creating new virtual servers and environments in an existing virtualized environment can take minutes compared to days of work building and configuring new physical servers. Assigning resources like processing power and storage space become powerful tools. Now your most critical applications and services can be assured of getting priority to system resources whenever they need them. The ability to recover from a system failure in a properly configured and redundant virtualized environment is also significantly faster than in a non- virtualized environment.



Most tribal environments have implemented some form of virtualization and are realizing the benefits of this type of product. What typically started in the data center with application and database servers has now expanded to networking devices and storage configurations. The next step for most tribes is considering the value of virtualizing some or all of their desktops and deciding how virtualization will work with any planned cloud computing strategies.

Keep in mind that like any technology, virtualization is not always the best solution for specific environments and processes. In some cases, virtualization can introduce greater complexity and unnecessary costs. Before implementing or expanding virtualization, you should carefully consider the total return on investment (ROI) of virtualization. That should include minimally, hardware, software, maintenance, on-going support, replacement costs, compatibility concerns and change management. If you would like assistance with your virtualization strategy our TribalFocus team and our network proven partners are available to assist. Simply contact me at [mday@TribalHub.com](mailto:mday@TribalHub.com).

*The results shown in this graph should come as no surprise. VMware has been a market leader in virtualization products and was the primary choice for all early adopters of virtualization - typically starting in the data center. More recently, a number of competitors have started to chip away at the VMware dominance with products that are more competitive in their capabilities*

### How are other tribes utilizing virtualization?

The **Paskenta Band of Nomlaki Indians** is a federally recognized sovereign nation located in Northern California and lies between Red Bluff, California, and Stoney Creek, California, west of the Sacramento River.



This tribal community consists of over 150 tribal members, a 2,000-acre reservation near Corning,

California, the Rolling Hills Casino, two health clinics and multiple other enterprises.

TribalHub sat down with Chad Henderson, IT Manager for the Paskenta Band of Nomlaki Indians to discuss how this tribe utilizes virtualization technology at their Rolling Hills Health Clinics (Red Bluff and Corning), both of which provide medical and dental services to residents in their region.

The virtualization products currently in use are VMWare V6.5.x and Dell Wyse PCOIP which are used to virtualize their AD and Domain servers, desktops, and database servers. Mr. Henderson's team moved to virtualization in approximately 2018, they have moved to a hyper- converged infrastructure and they chose to move in this

direction because of the lower long-term hardware costs for physical desktops and physical server hardware, essentially it was easier to manage and maintain. They run 0365 cloud services that use virtualization.

Compared to traditional computing and network infrastructure virtualization has benefitted their organization by making the remote support of systems much easier to accomplish. It has also made system-wide upgrades (such as OS upgrades) much easier and faster to push out. When asked if his team had any plans to expand the use of virtualization in the next year, Mr. Henderson said "That has yet to be determined but if feasible for other projects/locations, yes".

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### How are other tribes utilizing virtualization? (continued)



The TribalHub team reached out to Christopher M. Abel, Director of Information Technology at the **Citizen Potawatomi Nation** to inquire about the virtualization products in use at his location. The Citizen Potawatomi Nation is headquartered in Shawnee, Oklahoma.

With over 35,000 tribal members they currently operate two health clinics, two tribal casinos, own approximately 14,000 acres of tribal land, multiple tribal enterprises and offer a variety of services to their tribal members.

Citizen Potawatomi Nation utilizes VMWare for its virtualization infrastructure. They have adopted virtualization infrastructure for nearly all of their server hardware and software needs including application, database, and network services. They chose to embark upon their first virtualization project in approximately 2013 and chose to work towards virtualization because they wanted to be able to consolidate space in their server rack infrastructure due to having a small amount of space to work with. This had the added benefit of less power requirements, smaller network footprint, performance, and ease of management. Disaster recovery also played an extremely large part in their move to virtualization and SAN storage infrastructure. They do not use any cloud services that specifically use virtualization at this time.

Compared to traditional computing and network infrastructure, virtualization has benefited their organization through the ease of management and centralized reporting. It's given them the opportunity to audit their systems and software to a level they hadn't been able to before.

Mr. Abel's organization has considered investing in virtualized

desktop infrastructure and that might become a project for this next year. At this time they are not moving forward with any projects targeted at virtualized hyper-converged infrastructure.



**Wyandotte Nation** is a federally recognized tribe headquartered in Wyandotte, Oklahoma. With over 6,000 tribal members, the Wyandotte Nation operates its own Tribal Police Department and Tribal Court, 3 gaming facilities, a Healthcare & Wellness Center and includes tribal lands spanning across 20,800 acres.

TribalHub reached out to Gary L. Morrison, Jr., Director of Information Technology at the Wyandotte Tribe of Oklahoma to find out what virtualization technology the tribe is using. Their current virtualization products include VMware vSphere and vCenter Server and they are using these products for application services and database services. They first moved to virtualization in 2013 and chose to move in this direction because of the ease of administration and improved disaster recovery. At this time no cloud services are being used. Mr. Morrison said the benefits of virtualization compared to traditional computing and network infrastructure include them being able to run many more virtual servers than would be financially possible if they were using physical hardware for each server system. This would mean in a physical topology they would either be combining multiple services onto a single server, which can greatly complicate administration, or they would have to decide not to bring some products in house. At this time, they virtualize any component where it is supported and they plan to continue to expand their use of virtualization- they may even expand into their end-user side.

At their last refresh cycle, they did consider hyper-converged systems but opted against going that route due to increased cost and complexity vs stand-alone virtual hosts.

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Is your organization currently seeking consulting and management services? TribalFocus can help! We offer a network of partners that have the knowledge and experience to transform your organization and the ability to get it done. All of our resources understand tribes, tribal government, tribal enterprises, and tribal gaming. Whether you are looking for an assessment of your operations, need project management, want a strategic plan, require a thorough compliance review, have a new build or expansion, or whatever the need - TribalFocus is ready to assist.

#### Service areas include:

- Technology
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- Innovation
- Security

Reach out directly to our knowledgeable consulting team at [contactus@TribalFocus.com](mailto:contactus@TribalFocus.com) for more details.

### Keeping Your Tribe Safe: Iron Mountain Government Solutions



With 574 distinct federally recognized

Native American tribes maintaining sensitive proprietary information and irreplaceable historical records, the issue of secure, reliable data storage and backup is critical. So how can tribes protect their information without sacrificing the need to keep it readily visible and available? Tribal governments must establish a formal records and information management program...and Iron Mountain can help.

#### Iron Mountain partners with tribes to:

- Establish an information management framework to address risk management, retention, compliance and disposition
- Enable continuous monitoring for asset visibility and compliance
- Enforce access controls to establish identity and access management practices that meet tribal requirements
- Implement full information lifecycle strategies including capabilities for inbound and outbound paper and tape record storage and retrieval services; long-term archiving and preservation; pick-up of newly created records; digitization of records; and disposition services including accession and archival destruction

For more information, contact [Gary.Evans@ironmountain.com](mailto:Gary.Evans@ironmountain.com) or visit [www.ironmountain.com](http://www.ironmountain.com)