Highlights from a recent webcast on data management

OPTIMIZE SOFTWARE DEFINED ON-PREM AND CLOUD DATA INFRASTRUCTURES

Enhance Application Service Delivery, Reduce Management Complexity and Cost

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This is a Digital Dialogue based on a recent Fireside Chat I hosted with Kamal Anand, Vice President of Cloud, A10 Networks. Organizations today are migrating their application workloads to hybrid data infrastructures, spanning from on-premise (on-prem) to public clouds including containers.

Common On-Prem and Cloud App Service Delivery Challenges

IT organizations expect to get the better ease-of-use, rapid deployment, elastic scaling, automation, and increased operational efficiency with their next generation data infrastructures. What organizations don't expect or want are increased complexity, costs, lack of situational awareness insight, or loss of control impacting their application service delivery. Hybrid data infrastructures

including software-defined virtual, container, hybrid and multi-cloud are in your future, don't be scared, be prepared.

Hybrid is a common theme for today's IT environments including application workloads and the data infrastructures that support them. Data Infrastructures are the collection of hardware, software, networking resources, policies, procedures and best practices that get defined to support the business applications that transform data into information services.

For some organizations, the current strategy is cloud first, everything and anything gets relocated, developed or deployed in a public cloud. A challenge is that there is a growing trend of using multiple clouds, as well as gaining situational insight awareness of costs, control, remote access security, privacy, and overall positive application service delivery experience.

Another challenge is the need to support legacy application workloads and their related data infrastructure resources spanning physical, as well as software-defined virtual and containers. New applications are being developed and deployed supporting artificial intelligence (AI), machine learning (ML) and deep learning (DL) along with other analytics. Besides real-time and batch analytics as well as cognitive (ML/DL/AI), new Internet of Things (IoT) services are being deployed among other workloads.

The result for today's IT environments and data infrastructures are:

- Self-service, easy to use, faster, more agile, elastic, efficient and effective
- Increased complexity while supporting more applications and data
- Information services and their data infrastructures are spread across more locations
- Mobile users depend on information services being accessible and available
- Sensitivity to application service disruption and resulting loss of productivity
- Require real-time automated management, repair, and provisioning

Gaining insight, avoid flying blind, find and fix problems

Knowing your application as well as data infrastructure issues along with demand driver challenges enables you to make informed management decisions to address them. Having end-to-end (E2E) situational awareness of user experience, workloads and on-prem as well as cloud resource usage are essential for optimizing application service delivery. Without timely, accurate, E2E insight awareness, you are flying blind with cloud and on-prem data infrastructure as well as the applications they support.

E2E insight means understanding what the user of information services, the result of application service delivery is experiencing, as well as if they are productive. The other side of E2E is knowing how resources are being deployed, consumed and enabling a given level of

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service, along with their cost, efficiency, productivity as well as any overhead.

IT organizations provide the analytics and other insight tools that enable business situational awareness. Now it is time for IT to adopt and use similar technology internally to optimize application service delivery and data infrastructures to boost user productivity and effectiveness.

To avoid flying blind with your application service delivery and data infrastructures:

- Find and fix problems, policy-based automation
- Correlate between resource usage, cost, service delivery, and user experience
- Enable additional telemetry, logging, and metrics for data infrastructure analytics
- Leverage tools that can collect correlate, analyze and assess various log telemetry data
- Know your costs to support a given application to a particular level of service

Boosting performance, productivity and reducing overhead

You have situational awareness along with E2E application service delivery user insight, how do you increase performance, productivity while reducing overhead and expenses? Leverage your insight to enable policy-based automation of recurring everyday tasks from troubleshooting, resource allocation, alignment of appropriate resources to workload demands. This also means contextualizing metrics looking at how application Performance, Availability, Capacity, and Economic (PACE) needs are being met.

Are you allocating excessive resources resulting in higher costs? Are you under-

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allocating resources to cut costs while reducing user productivity? Besides having insight and awareness, start to learn, analyze, forecast and be prepared for growth across on-prem and cloud resources. This also means being able to collect metrics for key performance indicators (KPI) from across on-prem and cloud data infrastructures.

Additional considerations include:

- Find and fix problems, remove complexity and resulting overhead costs
- Avoid merely cutting costs that can result in compromised service delivery
- Leverage KPI and metrics from across on-prem and cloud to learn and influence automation
- Automation is only as good as the policies and data it acts upon

Enabling hybrid on-prem, multi-cloud and container app service delivery

Various software-defined data infrastructure solution stacks, along with public cloud service providers have monitoring, event, and other telemetry logging facilities along with associated analytic tools. Likewise, performance optimization tools, network load balancers, bandwidth optimizers are commonly available with those solution offerings. However, each of those different features and management tools brings their own level of increased complexity in a hybrid environment where they co-exist. This is where hybrid technology tools and software-defined man-

agement solutions that span different solution stacks and service offerings help to reduce complexity overhead and other costs.

Additional considerations for enabling hybrid application service delivery include:

- Look for solutions that reduce complexity vs. those that add overhead
- Adapt to traditional legacy as well as emerging DevOps culture IT environments
- Leverage technologies and tools that provide tight integration with various environments
- Software-defined management tools need to be easy to use, flexible, scalable and cost-effective
- Optimization tools should run on-prem, as software-defined, container or cloud-based

Summary

There are many different challenges facing IT today, so prepare now:

- Get ready for more change, change will continue and at a faster pace
- Leverage technologies that support on-prem, hybrid and multi-cloud environments
- Leverage automation technology where possible and practical