Cisco Executive Blog – Liz Centoni, SVP and GM, Cloud, Compute and IoT
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When Apps are from Mars and Infrastructure is from Venus, how do you accelerate your Hybrid Applications?

Fact. The numbers of apps worldwide will double in 2020.
Fact. 50% of the apps today will be re-factored and become more distributed.
Fact. Inter-app dependence will increase by 250% in the next 12 months.
Fact. IT downtime costs North American organizations $700 billion per year and it requires IT orgs to spend 43% of their time troubleshooting.

And so, more than ever before, the silos between Application and IT teams' hurt modern businesses like yours – at the topline as well as the bottom-line.

On one hand, the complex, distributed nature of modern applications from the edge to the cloud (and everything in the middle) makes it difficult to root-cause the source of a poorly performing application. While on the other hand, blatant overprovisioning of infrastructure capacity (whether its on-prem or cloud) for "peak scale" leads to gross underutilization … because for 364 days in the year, you're NOT running at peak. Add data gravity limitations, containers, a myriad of opensource components, and the idiosyncrasies of every cloud in the sky – you're looking at 25hrs a day, just to keep the lights on.

There's a better way.
It starts with Cisco's commitment towards enabling a "**closed-loop operating model"** between IT and App Ops teams**.** Using common vocabulary, common tooling, and sharing datasets between application and infrastructure health, we're enabling IT teams to have a real-time view into application performance and correlating that with the infrastructure resources needed. This assures application performance and security while maximizing resource utilization

Today, we're proud to announce 3 powerful software additions to our portfolio that enable this new operating model:

- Cisco Intersight Workload Optimizer: Application-aware automation for on-prem and public cloud infrastructure
- Cisco AppDynamics Experience Journey Map: Discovery of the most critical moments in the customer experience to maximize ROI
- HyperFlex Application Platform: Ready-to-consume on-prem Kubernetes as a service platform driven from the cloud

Here's what that does for our customers that are industry firsts:

Preventive maintenance: near real-time troubleshooting
It starts with the **Visibility** AppD provides into the application topology. Simultaneously, Intersight does the same for the infrastructure assets, whether they are on-prem and/or in the cloud. Intersight then integrates and correlates these myriad datasets – like from AppDynamics, from virtualization tooling, e.g. vCenter, and from infrastructure assets – to derive **Insights** into performance and cost. Intersight

then takes **Action** in real-time to optimize the infrastructure, dynamically enabling a full stack closed-loop system from your enterprises' business logic to your apps all the way to DIMMs on a server or links on a network. It's a modern toolkit for hybrid cloud operations that spans public cloud, datacenter, and the edge enabling operational simplicity, full stack visibility, proactive troubleshooting, and remediation.

Not just pay-as-you-grow, but unpay as you shrink
As applications start spanning the public cloud and on-prem, Cisco Intersight integrates datasets on topology, costs, performance, and utilization from both places through API calls and integrations. It then drives analytics against these to find the optimal point at which application performance is assured while costs and infrastructure overprovisioning is optimized. This optimization may be affected by automation of workload placement, scaling of on-prem assets, changing the instance type for cloud assets, and so forth. Finally, we have a system that dynamically morphs itself to the needs of applications – growing, shrinking, and flexing to be always just right – no more, no less.

Going mainstream with containers
Modern applications are increasingly being developed in a container framework, so we've developed a fully curated container platform that's 100% upstream Kubernetes-compliant, comes without a V-Tax, and is built on our elastic Hyper Converged Infrastructure platform, HyperFlex. The HyperFlex Application Platform (HX-AP) is designed to take the hard work out of K8's and make it as easy as deploying an appliance. We integrate the Kubernetes components and lifecycle manage the operating system, libraries, packages and patches you need for K8's. Plus, we manage the security updates and check for consistency between all components every time you deploy or upgrade a cluster. We then enable IT to deliver a Container-as-a-Service experience to developers – much like they are used to getting in the public cloud.

Finally, all of these are delivered as a SaaS service through Intersight. Which means you don't have to manage the management system.

Delivering insight and proactive optimization
While some vendors provide visibility into applications or visibility into an individual tier of physical or virtual infrastructure, Cisco is the **first** to bridge all three layers with insight and proactive optimization.

With Cisco Intersight Workload Optimizer, we're delivering visibility up to the app and down though all the layers of the stack to the individual components inside the server. With HX-AP we're delivering a platform for application modernization to break down the barriers between traditional and modern cloud native workloads through a v-tax free, cloud managed, future proofed architecture and appliance.

And what's more – your Application and Infrastructure teams are not pointing fingers at each other … and can go to lunch together more often!

For more information, visit our website at: www.cisco.com/go/intersight.