SD-WAN and Multi-Cloud: The Dynamic Duo

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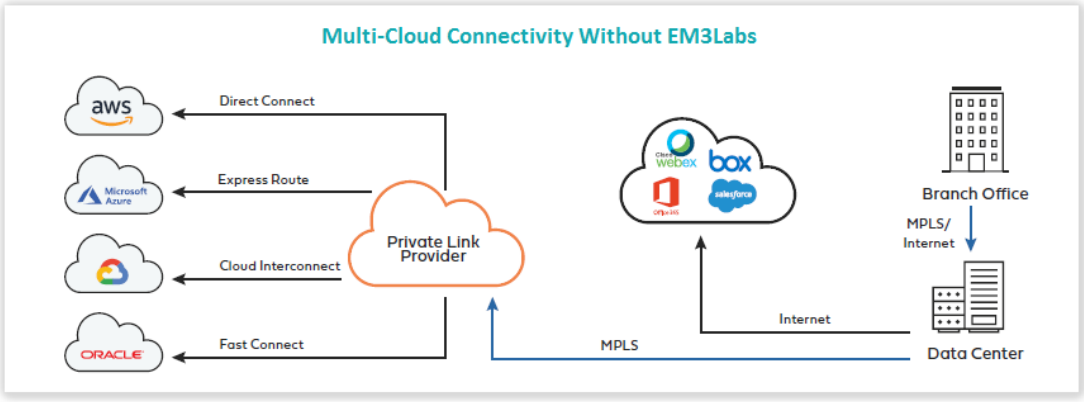
Price or performance? Security or scalability? Storage or computational power? Public or private? When it comes to cloud services, organizations have a plethora of choices, and rightfully so. As more and more applications come online by the second, no single cloud provider can meet their diverse operational requirements. is where a multi-cloud strategy shines. Distributing cloud assets, applications and resources across several cloud environments eliminates the possibility of a single point of failure, delivers better availability, offers more autonomy and a higher tolerance to deal with uncertainty.

However, to stitch together their public, private, hybrid and SaaS clouds in a multi-cloud architecture, enterprises can no longer rely on the traditional hub-and-spoke networks, which were designed for fixed site-to-site VPN connections in an era when applications used to sit nicely in corporate datacenters.

In a multi-cloud world, this model doesn't facilitate direct access to cloud resources from individual branches, and the conventional data backhauling makes it difficult to route traffic rapidly and securely. Application performance also plunges as a result of unnecessary hopping and inefficient bandwidth utilization.

Ultimately, MPLS networks are woefully inadequate in dealing with the sheer volume and variety of traffic that traverses modern enterprise networks. e consistent surge of WAN traffic signifies that enterprises must continually invest in expensive and difficult-to-scale bandwidth, and the continued shift to cloud-based traffic means WAN managers are now tasked with backhauling and managing expensive hardware for optimization and acceleration.



The following business scenarios faced by EM3Labs customers demonstrate how a managed SD-WAN solution can solve common multi-cloud connectivity challenges.

The Challenge

When a global leader in power tools manufacturing, an S&P 500 company, began redesigning their WAN strategy, they knew they had a herculean task at hand (Customer I). With 400+ locations on MPLS and custom ERP applications like JD Edwards, the company needed a solution that could accelerate their SaaS applications globally without causing any operational disruption. With branch offices in some of the most remote regions globally, covering the last-mile was also a high-priority.

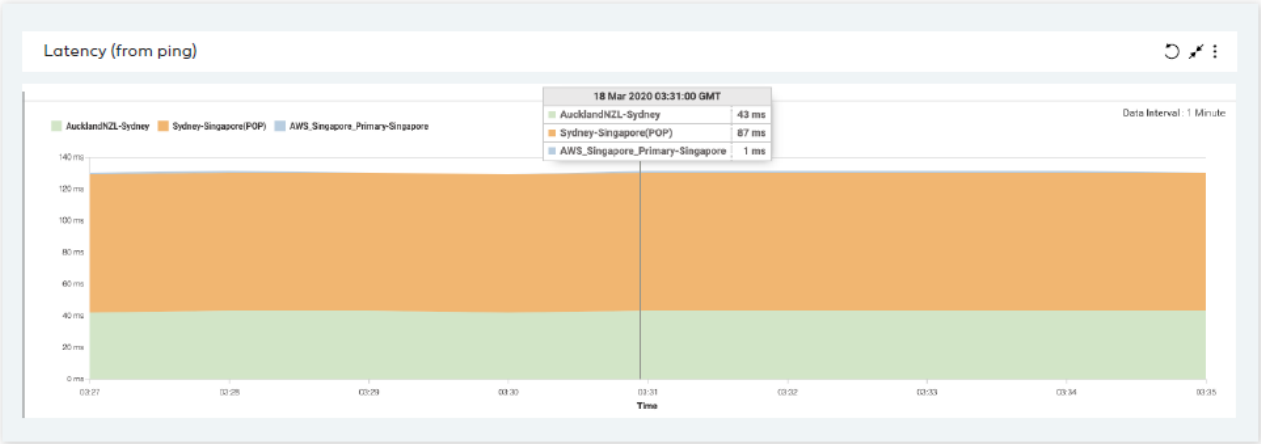
Another EM3LABS customer, an American manufacturer of stored energy solutions for industrial applications with regional headquarters in Europe and Asia and operational sites across 100+ countries, was in dire need of a network overhaul (Customer II).Their previous provider had failed to scale along their rising SaaS requirements that started with Office 365 (O365) and included multiple other planned rollouts. The lack of network standardization was also negatively impacting O365 performance for employees in Europe and the US.

In a similar scenario, a British multinational medical equipment manufacturing company, was experiencing performance issues with their Amazon Web Services (AWS) instance (Customer III). The patchy internet and MPLS network were stretching thin trying to keep up, while visibility and management became a growing concern. The company wanted to modernize their approach and add intelligence to their network for streamlined O365 and AWS access.

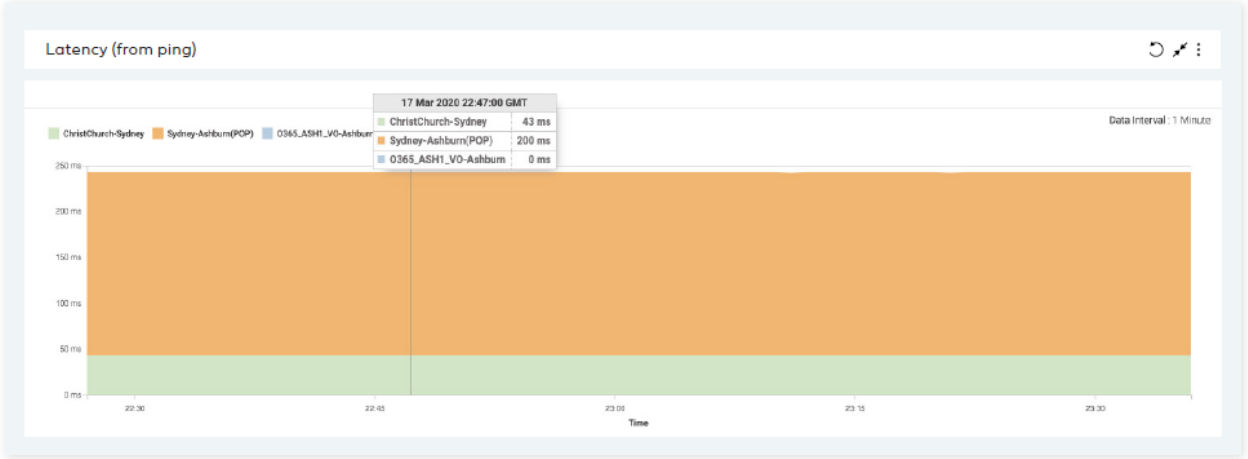
The Solution

EM3Lab's multi-cloud ready architecture connects any application to any cloud – public cloud providers, SaaS providers, or partner clouds – to deliver a consistent, reliable experience across the globe. Below are the results the above customers experienced after deploying EM3Labs.

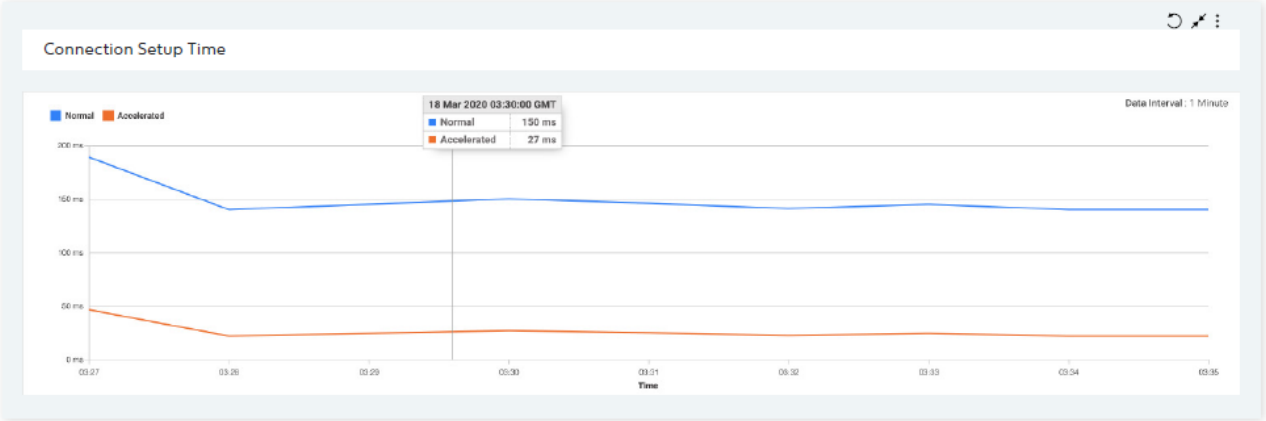
1. Stable core latency between AWS Singapore instance and a private site in Auckland, NZ. (Customer III)



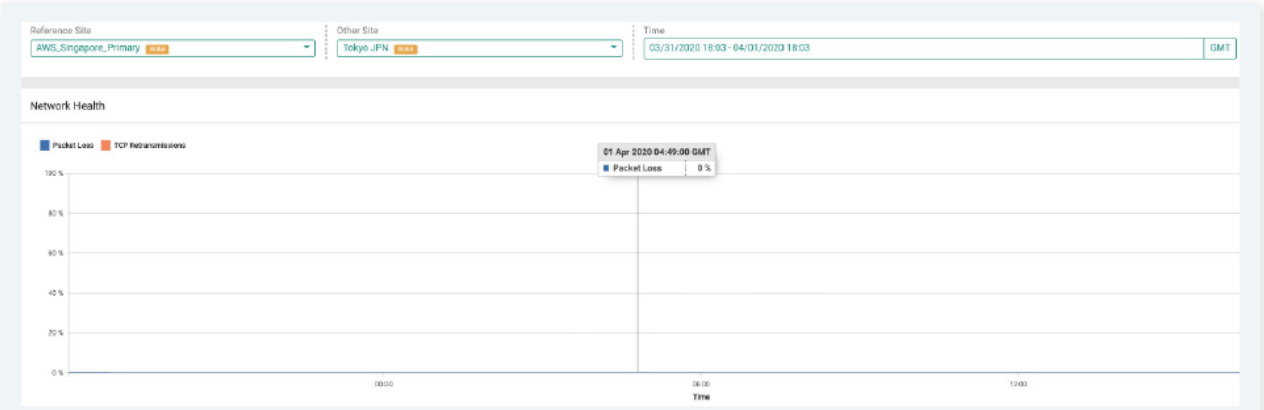
2. Stable core latency for O365 between Christchurch, NZ to Ashburn, U.S. (Customer I)



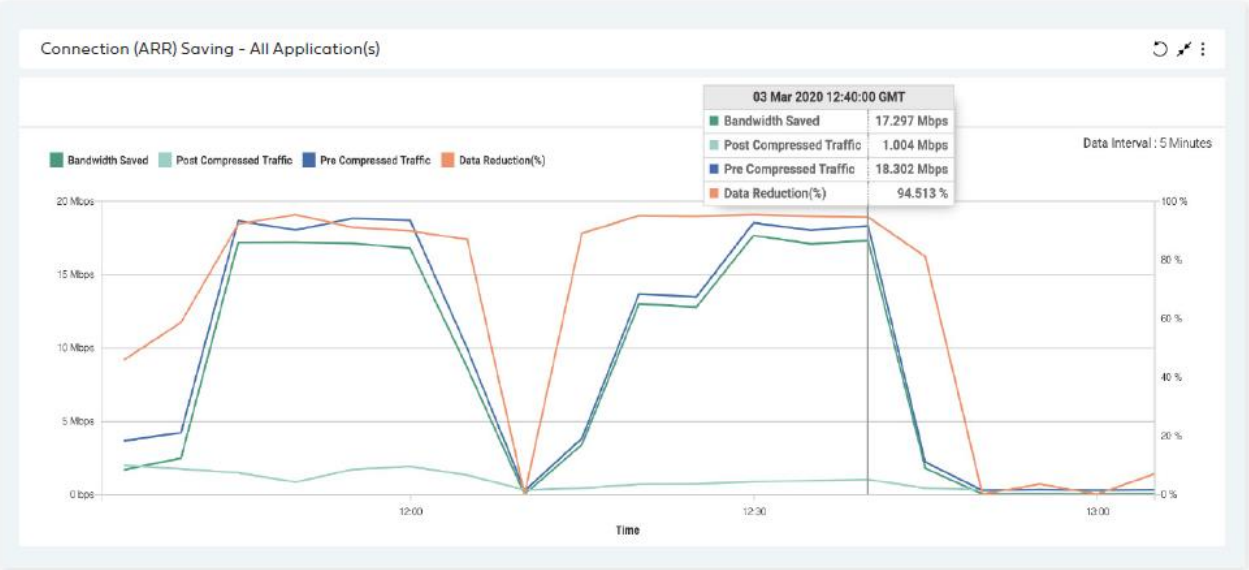
3. Up to 6X faster TCP Connection Set-up time between a private site in Auckland, NZ and AWS Singapore instance. (Customer III)



4. 0% packet loss between AWS instance in Singapore and a site in Tokyo, Japan. (Customer II)



5. Up to 95% data reduction and an increase in application performance by up to 20X. (Customer II)



How It's Done: EM3Labs and Multi-Cloud Connectivity

EM3Labs's fully managed multi-cloud connectivity solution provides fast and cost-effective means for connecting to the most widely used IaaS or SaaS providers. The solution is built from four main components: the EM3Labs Network Access Point (ANAP), a global private network of 30+ PoPs, the MyEM3Labs cloud reporting and configuration portal, and direct routes to leading IaaS and SaaS providers.

ANAP

EM3Labs Network Access point (ANAP) is a cloud-managed and porvisioned device.

Private Network

Private Layer 2 Links from top service provider worldwide, connecting 30+ PopS located on 6 Continents.

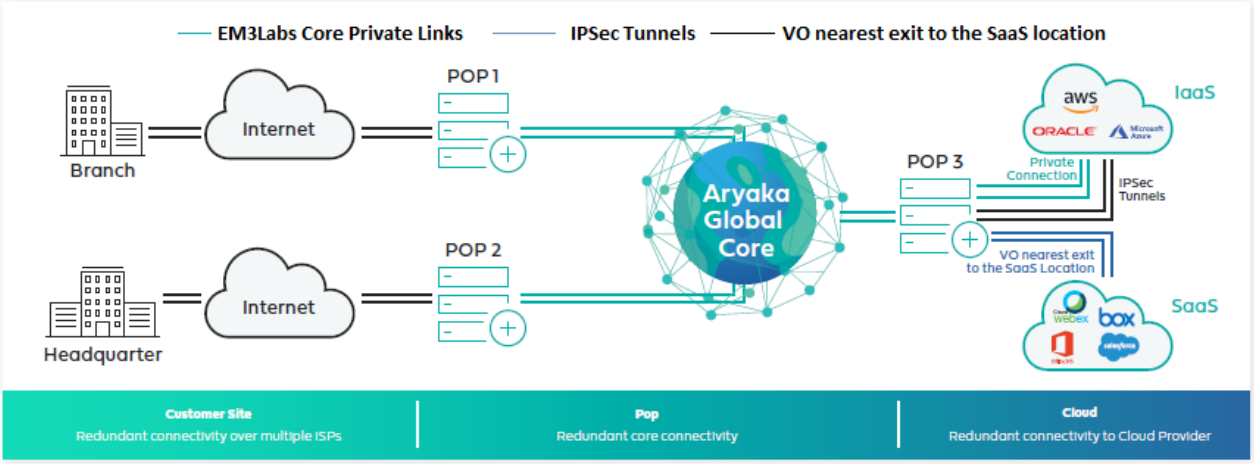
My EM3Lab

Self-service Customer and partner portal for centralized configuration, management and reporting.

Direct Connectivity

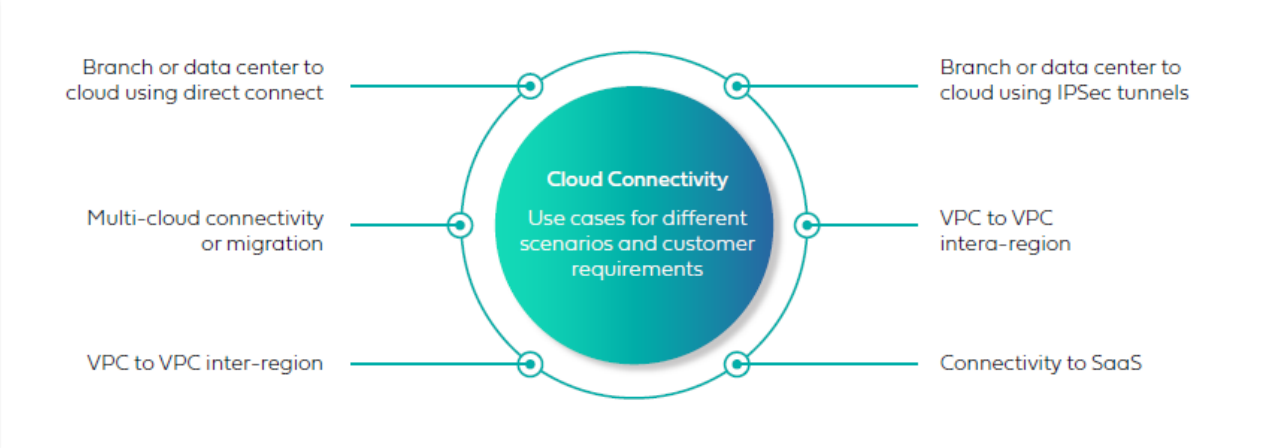
Directly Connectivity to leading IaaS/PaaS providers and co-located access to SaaS Providers.

The solution caters to the needs of both IaaS as well as SaaS rollouts. While IaaS connectivity is addressed using private connections (e.g. AWS Direct Connect, Azure ExpressRoute) or IPSec tunnels, SaaS connectivity and application performance is addressed using EM3Labs's unique Virtual Office (VO) solution.



A VO is just what it implies. Instead of a physical site, it is virtual, handing off traffic from the EM3Labs PoP to the nearest SaaS entry point. The customer's SaaS traffic thus traverses the EM3Labs backbone from the edge to a SaaS co-location point, ensuring optimal application performance.

EM3Labs's cloud connectivity solution can be used in a variety of deployment scenarios be it IaaS connectivity, SaaS connectivity, application performance acceleration, or multi-cloud connectivity.



Conclusion

Just as you cannot pair a V8 engine with a horse cart, relying on the network of yesteryear to leverage the technology of today is a recipe for failure. While cloud services continue to waive off the overhead of building, maintaining and upgrading physical infrastructure, they need to be backed by a robust network that support their performance. To stay competitive, organizations will need to continue to adopt cloud applications and modernizing their networks is a critical first step in doing so.