

Tata Communications (TCL): Addressing Enterprise Challenges with Multi Cloud Connectivity

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Background: An enterprise context

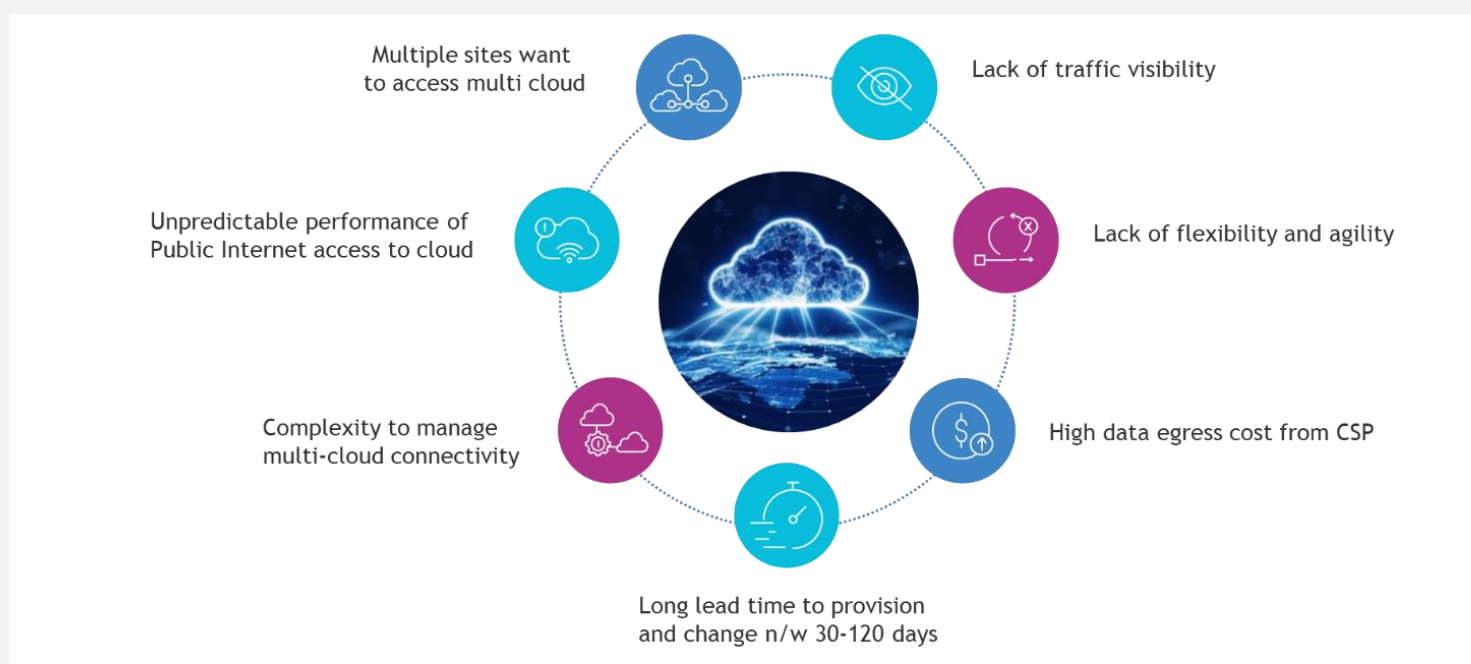
The increasing use of hybrid cloud and multi cloud driven by digital businesses has become a common trend. Many enterprises now rely more on the Internet than multiprotocol label switching (MPLS) VPN to connect users to clouds but might find network performance issues in certain circumstances. Enterprises are using software-defined cloud interconnect (SDCI) solutions to connect their data centers to public cloud service providers. However, one of the challenges with cloud interconnecting is the lack of traffic visibility when data moves from the data center to the cloud. This is because the cloud is no longer consolidated in a single data center location, and it is way more expansive than that. Also, there is a lack of flexibility and agility because a mesh network is needed to connect multiple branches to multiple clouds.

High data egress cost refers to the charges imposed by cloud services providers such as AWS or Microsoft on the volume of outbound traffic from their platforms. Egress costs are typically high for high traffic volumes. Together with the mesh network mentioned above, managing these costs

and complexities becomes challenging in multi cloud connectivity.

Traditionally there are several challenges in connecting branches to clouds and among clouds. From a performance perspective, enterprises face challenges with unpredictable performance when using Internet VPN to connect branches to the cloud. Internet VPN is not the most effective solution when multiple sites need to access multiple clouds. Critical applications relying on the Internet for connectivity encounter several challenges. For instance, limited VPN bandwidth poses a major hurdle for branch users relying on broadband or Internet access to connect to the cloud. Additionally, network unavailability becomes a major issue if the broadband network experiences downtime and requires extended mean time to repair, resulting in service unavailability until the next business day. Lastly, from a cost perspective, cloud providers charge enterprises for hourly usage, egress data, virtual public cloud (VPC) and other resources, leading to significant egress charges over the Internet.

Figure 1: Challenges of Traditional Cloud Connect



Source: Tata Communications



Briefing Notes

Senior management from TCL briefed ISG analysts on the recent developments in the IZO™ Multi Cloud Connect solution, which aims to address the aforementioned challenges prevalent in the market. The complexity of enterprise networks often restricts connectivity from branches to data centers and further to the cloud while lacking performance guarantees.

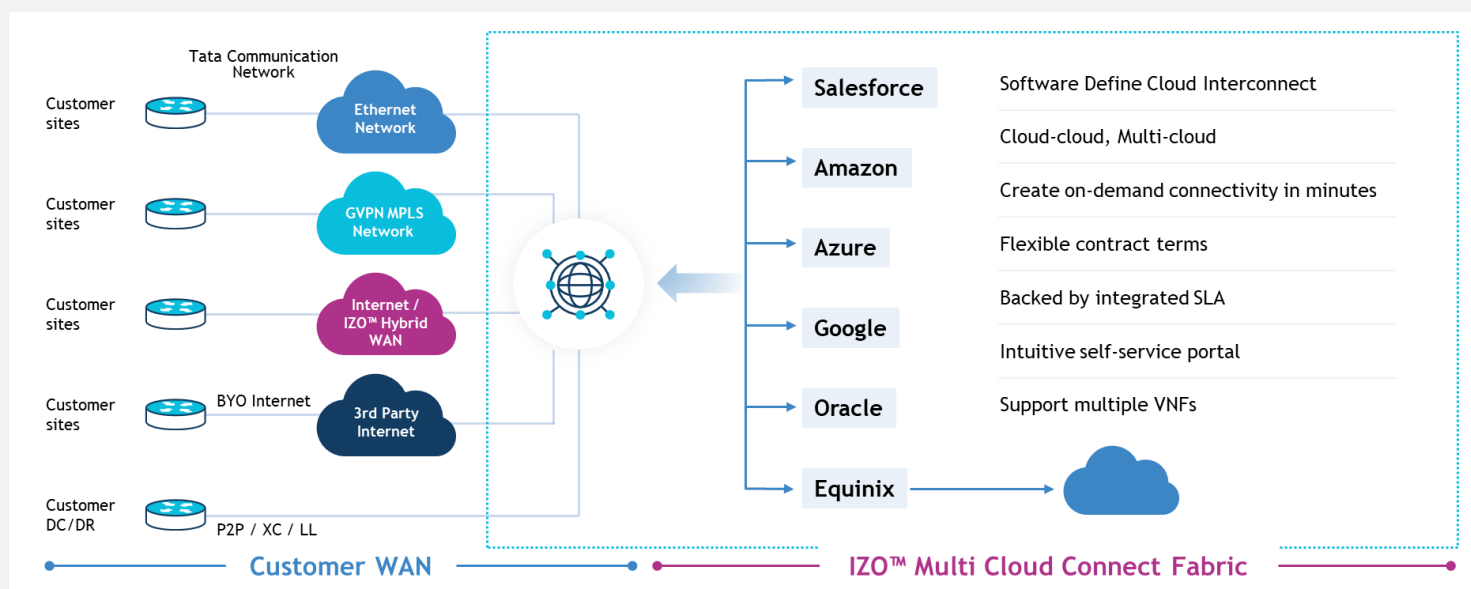
Enter IZO™ Multi Cloud Connect – Seamless UX, enhanced user experience, and zero egress cost

TCL addresses the challenges mentioned above with its IZO™ Multi Cloud Connect, delivering a fully managed underlay and overlay solution with predictable performance. The IZO™ Multi Cloud Connect solution facilitates cloud-to-cloud, data center-to-cloud, and premises-to-cloud connectivity, offering an end-to-end SLA reinforced by automation. Most cloud connect providers provide connectivity from the data center to the cloud and do not always facilitate the branch to the cloud connectivity. The IZO™ Multi Cloud

Connect is a one-stop shop, delivering connectivity requirements from the branch to the data center the connection of multiple customer sites using different network services such as TCL ethernet and the cloud covering overlay and underlay. TCL also offers on-demand near real-time multi cloud connectivity, enabling enterprises to spin up virtual hubs and cloud bandwidth as required. With IZO™ Multi Cloud Connect, customers have a single point of contact for end-to-end connectivity, enhancing the UX, simplifying cloud connectivity operations and reducing the TCO.

As illustrated in Figure 2, the left side illustrates services, GVPN MPLS services. TCL employs IZO™ Internet WAN to connect customers from branches to hub locations, ensuring predictable performance from the customer's end to the hub location. TCL also supports bring your own Internet (BYOI) if customers prefer their own Internet service to connect to the hubs. However, TCL cannot guarantee end-to-end performance for such arrangements. Customers can also establish point-to-point connections from their data centers to TCL hubs. The service offers customers a self-service portal which enables them to manage design, initiate orders, perform inventory mapping

Figure 2: TCL's Digital Fabric Connecting Customers from Branch to Multiple Cloud Locations



Source: Tata Communications



and upgrade or downgrade bandwidth in minutes. This enables near real-time pay-as-you-go charging options and allows TCL to charge customers for the higher bandwidth on a daily basis. For instance, if higher bandwidth is required on a specific day, TCL charges for the higher bandwidth for that day. Additionally, the company offers automation of virtual network functions (VNFs) for features such as virtual routers or virtual SD-WAN in its hub location. Customers are then charged based on their usage. Alongside on-demand connectivity, TCL provides performance visibility through utilization reports and threshold alerts, helping customers monitor and analyze their network performance. Depending on customers' requirements to upgrade or downgrade, TCL connects to cloud providers over AWS, Microsoft, Google, IBM, Salesforce, Oracle and Alibaba.

Readily deployable use cases for enterprises to leverage

TCL has identified three typical use cases that enterprises can leverage. The first use case focuses on on-demand cloud connectivity, enabling seamless connections between different clouds or within a cloud environment. The second use case involves connecting the data center directly to the cloud, which is particularly useful for customers with data centers such as in Equinix seeking private connectivity. The third use case covers end-to-end connectivity, including branch offices, where customers can use TCL's Internet, MPLS or other networks to connect the branch to the data center. This enables cost optimization and facilitates the connection of databases from the data center to the cloud while addressing bandwidth and network complexity challenges for higher throughput. TCL enables on-demand provisioning and low latency to support end-to-end connectivity.

Major value propositions

TCL's IZO™ Multi Cloud Connect offering presents four key value propositions influencing customer adoption. The offering ensures end-to-end reliability and predictable performance from the branch to the hub and the cloud. This integrated solution is a testament to this proposition, which enables the connection of virtual devices (underlay and overlay) to the cloud, while deterministic routing improves latency by up to 60 percent in cross-region connectivity scenarios. The TCL SLA guarantees 100 percent uptime when using a dual port configuration, with a track record of achieving 100 percent availability in the last 12 months (2022). This data point is used to back up the reliability and predictable performance.

TCL's comprehensive and scalable cloud connectivity is driven by Layer two and Layer three connectivity (Ethernet and MPLS) and can accommodate high-bandwidth requirements, including site-to-site to site-to-cloud connections. Maintaining the desired throughput with Internet Protocol security (IPSec) restrictions is sometimes a challenge. However, TCL has effectually delivered IPSec connections to its own network and the cloud, scaling connections up to 100 GB per second.

TCL offers on-demand bandwidth activation within minutes, connecting to the cloud and its Multi Cloud Connect node, which is conveniently located 2 to 3 milliseconds away from major cloud providers. Also, the pay-as-you-go consumption model allows customers to benefit from daily billing, with high-bandwidth consumption on specific days billed differently from regular usage. Lastly, TCL provides performance monitoring and analytics through utilization reports and threshold alerts.



Conclusion

TCL has emerged as a leader in combining cloud scalability with cutting-edge communication technologies. Its IZO™ Multi Cloud Connect solution offers a comprehensive, all-in-one approach to on-demand, near real-time multi cloud connectivity, virtual hubs and end-to-end network connectivity from branches to data centers and the cloud, across underlay and overlay. This solution enhances UX when accessing cloud applications

and increases agility in meeting business requirements. The simplified operations also reduce the TCO. The company leverages its expertise in cloud technology to address common connectivity challenges enterprises face through use cases that can be easily utilized. TCL's focus on CX makes it a preferred provider for many enterprises.



About the Author



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Avimanyu Basu is a Senior Lead Analyst specializing in cross-vertical research focusing on disruptive innovations and convergence technologies aligned with digital transformation of enterprises. Avimanyu authored studies focusing on digital disruptions and its influence on engineering service providers along with several blogs. With almost 8 years of experience in market research and consulting, Avimanyu has provided strategic recommendations to both public and private sector clients across Europe, Middle East and Asia Pacific. Prior to ISG, Avimanyu has worked with Frost & Sullivan, Infiniti Research and Zinnov in a number of assignments involving competitive benchmarking, market sizing, market penetration and segmentation.



TATA COMMUNICATIONS



Headquarters

Mumbai, India



Revenue

US \$2.6B (2022)



Industry Groups

Telecommunications



Markets

North America,
Europe and
Asia Pacific



Network Services portfolio

SD-WAN, cloud
services, security





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