

Hybrid solutions to next generation IT challenges

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As companies expand globally, the complexity of building their corporate networks increases. Even major global carriers cannot effectively reach everywhere, and few if any businesses have the necessary size, resources or desire to deal with a great number of local service providers around the globe. As a result, even large companies increasingly rely on major carriers with established relationships with top-notch local service providers to piece together hybrid networks, mixing and matching technologies as needed, to guarantee quality connectivity everywhere.



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The technology demands of global enterprises based in Asia have become increasingly complex in recent years. High-definition video conferencing, collaborative applications and workflows, server / desktop virtualization – applications that were almost unheard of five years ago, are increasingly becoming 'standard' requirements. Data volumes are now measured in terabytes and business leaders expect their telepresence system to work flawlessly when hosting executive meetings that can include attendees from Dubai, São Paulo, Manila, Hong Kong, Taipei, London or Singapore.

Global reach from Asia to challenging international markets is also an increasingly regular requirement, with many international organizations now needing to trade effectively in markets that previously were under little consideration. Middle East and South America are seen as lucrative commercial growth opportunities for many Asian-based organizations, and reliable

intra-Asia connectivity into remote sites in Vietnam, China, India and Philippines are increasingly critical. From a telecoms perspective however providing assured connectivity to these locations can be a daunting process.

Hybrid solutions are emerging as the only viable way to deliver an agile, highly tailored set of services to each type of location in a global network. Hybrid means selecting the best mixture of telecoms services, including high-speed Ethernet, mid-range MPLS/VPLS and business-grade ADSL/SDSL, and even local ISP broadband / 3G / WiMAX services. By doing this an enterprise can tailor the solution at each location to fit the available budget, and deliver the required level of bandwidth or functionality.

The challenge

For global enterprises, working through the array of technology and provider options

available in the global market is a real challenge. Many global enterprises in Asia that have found themselves needing to deploy network infrastructure in India, China, and Vietnam, as well as in wider international markets in South America, Africa or Middle East have initially turned to their traditional carrier partner to service all of their new requirements. This is a compromise approach - a single provider is used because the alternative of dealing separately with many local providers is seen as too much additional work.

However, this compromise approach rarely generates the real business benefits that the enterprise is looking for. Global enterprises require a flexible network to scale to changing business requirements, whether it be increasing or decreasing bandwidth at a specific site, moving sites, or adding additional global locations on the network, which single providers struggle to deliver. On the other hand, local providers are usually

the first to market with innovative, cost-effective solutions and have the resources on the ground to support them. At the local and regional level there are huge numbers of suppliers that can provide their portion of an international solution, in isolation, better than any global provider.

Only a few very large global enterprises can afford to take full advantage of this approach directly. Some large organizations operating in higher-margin industries have developed globally distributed in-house IT and vendor management teams who can support the range of contracts, languages, SLAs, helpdesk processes and service review meetings that come with trading with many local and regional providers. This approach, however, is prohibitively costly and requires major investment in skilled personnel, network infrastructure and processes required.

Hybrid solutions

The other option available to the enterprise is to work with a provider who delivers the network as a hybrid solution. As global enterprises increasingly demand high-bandwidth connectivity into more emerging markets, we are seeing a global trend for global providers to try and supplement their own network infrastructure with local partner providers. This enables these providers to expand their network capabilities to encompass these new and challenging geographies. However, the management of the interconnection and relationships with these partners is not the traditional core business of these companies.

Enterprises should therefore look to identify providers that have a proven track record, and that utilise processes and systems specifically built to support the management of these multi-vendor global networks. Instead of the traditional global carrier approach, what is needed now is a hybrid approach to the design of global WANs - through identifying the best local, regional and global underlying suppliers to source connectivity from multiple partners and providers across the world. By using an extensive and reliable VPLS backbone network to aggregate this traffic and provide very high-speed transit between each region of the world, the company can deploy a solution, selecting the best-of-breed supplier for each location on the network. This way, they can integrate the solution under a single contract for clients, backed by a single SLA. This creates a flexible solution, enabling the customer to easily change bandwidth requirements by site, move and/or seamlessly add on additional locations to the network.

Solutions explored

Let's look at this hybrid approach in greater detail, taking the example of a typical large enterprise in the manufacturing sector that has 20 sites spread across Asia, 15 in Brazil, 13 in China, five in the US and ten in Germany. For a major global carrier, this network profile is extremely challenging. There may be a network-to-network interface (NNI) agreement with a provider in Germany that gives access to their points-of-presence (PoPs), but this solution may be three times the price that the German provider would charge locally. The 15 sites in Brazil may be connecting back to one or two PoPs, raising serious questions about the performance of the network in the event of a failure. Fault ownership issues can arise, inconsistency in service levels between carriers can appear, and lengthy delays in troubleshooting even simple network problems can easily happen.

So what is the best strategy to approach a network requirement like this? Under the hybrid model, the managed network service provider would select the best underlying provider in each of these markets, and then integrate each market's provider into a global backbone network to seamlessly deliver network traffic from one region to another. In the event of a fault, the manufacturing customer need only have a single point of contact with the overall service provider. To deliver a cost-effective network to 13 locations in China - the only viable option is to use an in-country supplier such as China Telecom or CPCNet. Brazil is a well developed market, but still somewhat difficult to procure networks due to numerous regulations that determine which providers can sell each technology; nonetheless there is a wide range of Ethernet, leased line and DSL technology available from a range of national suppliers such as Embratel or Telefonica. Using this approach, the best option can be identified in each country, but the key is to have in place processes and systems specifically built to support the management of these multi-vendor global networks as an integral part of the provider's overall global network.

Tracking the market

Realizing the limitations of traditional, static network offerings, and in many cases due to significant customer pressure, a number of the large global carriers are slowly starting to consider hybrid solution capabilities.

Lack of choice in terms of carrier or technology partners in specific emerging markets is often crippling. Global carriers

are simply not able to move quickly enough, either to sign up new partners or to expand their product portfolio. The next five years will see an explosion of choices in emerging markets using a range of wireless and Ethernet technologies from a multitude of providers - many in the emerging markets of Africa, Asia and Middle East. It will be years before these are available to purchase directly from global carriers.

The successful delivery of true hybrid solutions requires entirely different business models, management systems, market knowledge and support organizations. Many of the global carriers looking to use hybrid approaches are still geared towards maximizing the traffic passing over their own network assets and bridging the gaps in their own offerings via partners where necessary. A pure hybrid network approach builds on integrating local carrier services wherever the enterprise customer requirement dictates and having customer-centric service and carrier management models that focus on centralized points of management, regardless of the number or variety of underlying carriers being used.

The demands that enterprises are putting on networks, especially in Asia, are far greater and more complex than ever before. Therefore working with a network provider that is an expert at identifying the most appropriate solutions for every type of location and application is increasingly essential, in order to deliver good-quality high-bandwidth video conferencing, telepresence and other applications for the best end-user experience. A true hybrid model enables organizations to draw from different suppliers, carriers, access technologies and services, resulting in a cost-effective hybrid network with flexible service bundles that allow multinational organizations to quickly respond to evolving business priorities. Having a network with the agility to adapt to changing business requirements is essential. Another important factor to consider is the quality of service assurance that a network provider can offer, along with its ability to proactively identify and propose major new technology changes from appropriate suppliers as needed by the enterprise. Using a best-of-breed approach to design and implement an enterprise's WAN, combined with the benefits of scalability and service efficiencies that a multi-technology, multi-carrier network provisioning strategy brings, will make a significant difference in addressing the significant technology challenges faced by enterprises. ●