Hybrid WAN Services emerging as a viable network option

Customers now going beyond MPLS-based services

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Summary

In a nutshell

Business customers have relied on MPLS-based VPN service as their primary connectivity for their private networking needs for many years now. Ovum now sees an emerging trend of alternatives that can complement or replace MPLS-based VPN services. The growing use of Ethernet, Internet, and wireless network services has now become part of the corporate network mix and demand for connectivity has created hybrid WAN services as a very viable network option.

Ovum view

Ovum has seen enterprise-focused network providers start to develop and offer reliable, robust options to complement MPLS-based VPN services for private and public network connectivity options. Customers are demanding a mix of network services beyond MPLS-based VPN service. Ovum has tracked global network contracts for large enterprise customers for many years and, over the last five years, has seen this hybrid WAN service trend start to emerge.

- The estimated contract value of hybrid WAN services within large contracts has gone from 6% in 2011 to over 30% in 2014 and Ovum expects this to exceed 60% in 2016.
- The total contract value (TCV) of managed private network (MPLS-based VPN) service has remained flat while the growth of other bandwidth and connectivity services has grown by 68% CAGR over this period.
- Cloud and IT services connectivity has grown by 52% CAGR and Ovum expects that to exceed 75% growth in 2016.

This validates the trend towards hybrid WAN services on both the demand and supply side (providers). Bandwidth requirements have been increasing for many reasons and IT budgets have always been under pressure. Enterprise customers in the US and globally have been demanding alternatives to the more expensive MPLS-based VPN service as end users dramatically increase their use of Internet-based applications.

On the supply side, Ethernet and Internet-based network services are becoming more available and are less costly than MPLS-based services. Additionally, service providers are investing in new network technology (SDN/NFV) which is transforming networks into more intelligent, software-centric, and agile resources for connectivity and value-added services.

Hybrid WAN services do not require new technology but the transition to a more intelligent network infrastructure will provide more flexibility, features, and control of hybrid WAN service options in the future. As customers transition to cloud-based services and critical workloads move to the cloud, finding the appropriate connectivity alternatives for businesses applications that are more flexible and agile becomes more critical. Hybrid WAN services are emerging as a viable network connectivity option to meet these requirements.

Key messages

- MPLS-based VPN services are still a major element of corporate private networks but hybrid WAN service provides a more cost-effective complement.
- Internet, Ethernet, and wireless services are credible and reliable options for corporate use for most applications.
Providers are starting to develop a variety of managed hybrid WAN services that can include multiple network services with additional value-added services. Customers will see cost savings from the implementation of hybrid WAN services as they use lower cost bandwidth for non-critical applications. Application performance, reliability, and disaster recovery features improve with hybrid WAN services. Providers’ investment in SDN/NFV network enhancements will only increase the hybrid WAN service options and increase additional services and flexibility. Cloud service connectivity: Workloads moving between data centers, the public, private and hybrid cloud configurations, plus the increasing use of cloud-based services all mean that hybrid WAN services will provide customers with the necessary dynamic and flexible connectivity.

Hybrid WAN solutions

Customers have different requirements but there is a growing requirement for a fully managed service with multiple network services including direct Internet access (DIA), Ethernet-based services, and MPLS-based VPN services to multiple locations. 4G LTE wireless services have also become common for both primary and back-up connectivity. Below are some of the common elements of a hybrid WAN solution:

- Public Internet broadband network service
- Primary and back-up IP Sec service over the public Internet
- Managed router and switch hardware at each store
- Managed Wi-Fi service with public and private access for internal use and customer access
- Cellular 4G LTE service for back-up service
- Management of the multiple network providers for each site.

Hybrid WAN services can include some or all of these services – and all of them managed by one provider with one agreement to simplify the purchase, installation, and ongoing management. With hybrid WAN services, there is not a “one size fits all” solution, as enterprise requirements and network availability will vary but Ovum is seeing some standard options become available. The diagram below shows three common scenarios of hybrid WAN service options.
Internet service has become an acceptable, good enough option

The increase of "best-effort applications" (Web browsing, social media, etc.) continues to drive demand for Internet bandwidth. At the same time, the performance of Internet network services has become acceptable and cost-effective for many enterprise applications or smaller branch locations as a back-up to the MPLS-based VPN service. Providers are now able to include additional value with security, performance, and quality of service (QoS) features. Load balancing and bandwidth optimization are common features now. Burstable services are also available which creates flexibility for many enterprise customers that have high usage periods or large data-file-transfer needs on an ad hoc or temporary basis. Additionally, many customers have been using Internet services but have been adding them to MPLS-based VPN services or wireless for diversity.

Enterprise customers are demanding integrated network connectivity

Customers want a simplified solution that includes different network service types including MPLS/VPN, Internet, Ethernet, and 4G/LTE wireless services. These services can come from many providers but customers want one provider to integrate and manage the WAN solution and also have just one service contract that meets the required application performance and reliability. As more and more workloads move to cloud-based services, network connectivity needs to be just as agile and flexible as the workloads that it supports. IT infrastructure has been virtualized and moved to the cloud so customers now expect the same to happen for network connectivity. Although bandwidth is increasing dramatically for many best-effort applications, these are non-critical applications that do not require MPLS-based VPN private networking. Using Internet or wireless services for additional bandwidth or as back-up services has become common. Therefore, a managed hybrid WAN service supplied by a single provider is a compelling offer.
New network technologies are enabling a robust hybrid WAN offer

Basic hybrid WAN services have been available as a managed WAN option with existing technology for years from many providers using traditional network services and equipment. Hybrid WAN services do not require a radically new architecture or equipment as many service providers use high-end routers (e.g. Cisco iWAN equipment) to create a hybrid WAN service. 4G LTE is now available in all major markets in the US. Ethernet service is also available in all major US markets with increasing backbone and local access speeds. Service providers have been developing new intelligent, dynamic network infrastructure platforms that will enable more intelligent network services, combined with new equipment and a mix of value-added services that will fuel a new breed of hybrid WAN services. Customers will still be able to keep their existing network services (e.g. MPLS-based services) but can now supplement or integrate them into an improved hybrid WAN service option that will provide improved performance, reliability, and flexibility.

Lower your total cost of ownership (TCO)

Deployment of hybrid WAN services provides an overall lower cost of ownership for total network connectivity by using lower-cost network services for non-critical applications and reducing dependence on MPLS-based services. For example, take a network that consists of 70 locations with T1 MPLS-based VPN service with an average monthly cost of $52,000. By replacing a network of this size with a fully managed hybrid WAN solution, one provider was able to offer 15Mbps with 4G/LTE for only $35,000 per month. This results in a 33% cost savings and the available bandwidth per site could increase 10 times (15Mbps from 1.5T1). The 4G/LTE service would be available for disaster recovery and back up.

Key benefits of hybrid WAN services

Below are just a few of the key benefits of hybrid WAN services:

- Lower total cost of ownership through combining new hardware and broadband network options.
- Improved reliability with multiple network service types integrated into one logical, managed WAN service that can offload an MPLS-based VPN service, allow load balancing across all services, or divert best-effort application traffic to lower-cost network services.
- Increased reliability with network service or service provider diversity integrated with the dynamic, agile features of hybrid WAN services.
- Improved application performance by using load balancing and a broader use of quality of service levels.
- Value-added services (e.g. security, application performance) are easier to deploy, and more cost-effective with most of these services available on demand.
- 4G LTE wireless, Ethernet, and Internet services can easily be added and integrated as primary or back-up connectivity options.
Conclusion

Hybrid WAN services are emerging as a very viable option to either complement or replace the use of MPLS-based VPN services. Enterprise customers are now seeing many attractive hybrid WAN service options being introduced. The emergence of hybrid WAN services is being fueled by the growing coverage and availability of Internet, Ethernet, and wireless network services. The improved performance, availability, and cost benefits of using this mix of services is what is really driving customers to consider a hybrid WAN service option (as per the example detailed above).

Ovum expects to see a growing adoption of these services as customers start to realize the flexibility and improved price performance of using the wider mix of network services to match variable business requirements, offer a variety of enterprise applications, and improve the network performance, all of which lead to increased business productivity. Most customers prefer to have a hybrid WAN service as a managed service from a single provider.

Appendix

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Ovum Consulting

We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Ovum’s consulting team may be able to help you. For more information about Ovum’s consulting capabilities, please contact us directly at consulting@ovum.com.

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