The Evolution of MPLS to Hybrid WAN Services

## Hybrid WAN services evolve to SD-WAN

Summary

In brief

Ovum provides research and insight on enterprise services, including global WAN services and the emerging hybrid WAN services such as SD-WAN. MetTel has recently introduced two new offers and asked Ovum to share WAN trends and insight from recent customer research, as well as insight on the industry trends and customer expectations from these new services.

Ovum view

Ovum has performed surveys with large-enterprise customers in the past year and has had numerous briefings with many of the providers trying to address the enterprise customer demand for new hybrid WAN services. Providers are just starting to introduce software-centric network services to satisfy the need for greater flexibility, increasing deployment of cloud services, and other enhanced features (see Figure 1). While hybrid WAN services are not new, what is new is the trend of customers looking for these new features, a comprehensive managed solution, and the emergence of technology that helps manage hybrid WAN network services that support dynamic, on-demand features and automation. Customers should expect new service offerings from many providers in 2017. Although some customers might consider implementing some of this software, fully managed solutions will be available, and they will be very cost competitive.

Figure 1: Expected customer benefits from software-defined networking

What are the most important benefits that SDN could provide to your organization?
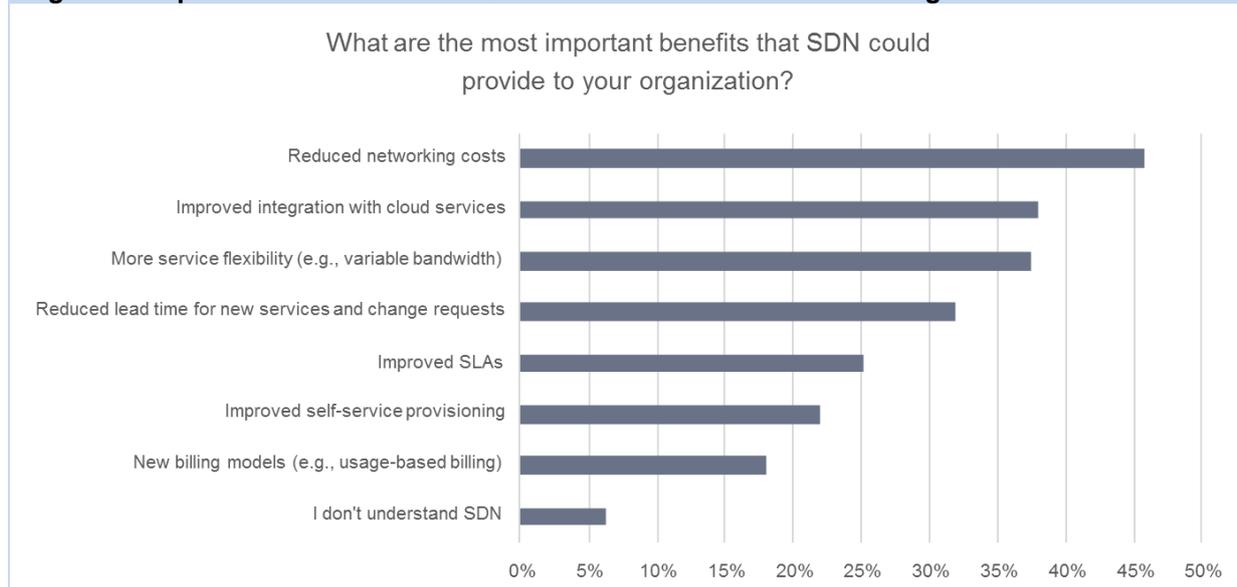
Source: Ovum

Key messages

- Customers are starting to look for more cost-effective connectivity and doing more with less, so it's not surprising that reducing network costs is a high priority for any fully managed hybrid WAN solution.
- Service flexibility and integration with cloud services are also driving demand for a new WAN alternative while improving application performance.

- Simplifying the network services environment and running new applications are key parts of customers' expected benefits.
- Improved self-provisioning and new consumption models are part of most customers' requirements.

Trends leading to new hybrid WAN services

Addressing bandwidth growth and flexibility

The demand for bandwidth and the flexibility to increase and decrease bandwidth in more real time has created the need for network services that allow use of both business internet services and software that enables this flexibility. End users' increasing use of Internet applications, including social media such as Facebook, Twitter, and chat services, has created a huge demand in network usage. The network buyer struggles to keep up with demand and control costs, which has led to more customers moving to business broadband alternatives. This has also led many customers to purchase ISP services from local, rather than national, providers.

Changing perception of MPLS services

Customers have historically preferred MPLS services as a staple of corporate private networks for internal traffic. The reliability and security of MPLS has been proven to be its common attributes that customers value and have been willing to pay for. But during the past five years, the cost of MPLS, along with the introduction of new network technologies, has enabled some very viable alternatives in performance and reliability at a lower cost. Many may argue that MPLS is the gold standard in corporate networking, but with new technology, increasing bandwidth demand, and cost containment, customers have been using other network services as part of their hybrid WAN strategies and getting more comfortable with these new alternatives. In the US, there are also some customer concerns about the legacy copper-based local access services that are underlying MPLS services, which may have to be replaced in the future. Ovum has seen some customers move toward a hybrid WAN strategy and start to replace MPLS services.

Expanding use of blended networks and providers

Hybrid WAN services are not new, and neither is using multiple services and providers on a per-site basis. Many of the trends mentioned here are not isolated trends but a combination of factors that cause customers to look for new managed solutions. Customers have been using MPLS as their primary corporate connectivity with other network services, such as business internet, and sometimes using cellular wireless service for backup. Especially in the US market, there are many alternatives by network type and providers that can offer the full array of these services. But not all sites have the same choices, so identifying and selecting the mix of blended networks and providers is much more complex than it used to be. This creates an opportunity and a challenge for many customers to vet, select, and install a reliable and manageable blend of network services.

Reducing the complexity of WAN services

Along with the numerous expanded options of network services and providers and the task of creating the right blend of services comes increasing complexity of the selection, provisioning, and ongoing

maintenance of hybrid WAN services. Customers want more simplicity to know what services are available from which providers and what equipment is required on a per-site basis. The network blend may differ by type of site, geographical location, and applications riding on the network at each site. Part of the overhead of implementing hybrid WAN services is the complexity that comes with a variety of configurations, numerous providers, and changing end-user requirements. This situation calls for increasing use of standardization of implementation and additional managed services to assist.

Increasing need for availability and improving performance

Application performance and the increasing need for network availability are other primary factors driving customers' need for a network solution that provides performance for business-critical applications as well as the best-effort requirements of many public internet applications. Point-of-sale traffic must have top priority, while customer Wi-Fi traffic would have a much lower priority. But customers are also seeing the need for close to 100% availability for those mission-critical business applications. Having multiple network services in a hybrid WAN service offering provides inherent redundancy and availability if implemented and managed properly. Ovum has seen many customers benefit from the high availability and performance from the use of properly configured and managed hybrid WAN services.

Hybrid WAN evolution to SD-WAN

Emergence of software-centric network technology

Network technology has changed in the past few years with the introduction of both software-defined networking and network functions virtualization. These emerging technologies, along with cloud and virtualization, have provided a powerful platform for network providers and managed service providers to implement flexible, feature-rich versions of hybrid WAN services and led to the recent introduction of many SD-WAN services as part of the evolution of hybrid WAN services.

Impact on hybrid WAN services

SD-WAN is the byproduct of this new technology combined with existing network services and is expanding hybrid WAN services today. Providers are introducing packages of hybrid WAN solutions as a fully managed service that allows customer visibility, flexibility, and control, with many new features on the near-term roadmap. Hybrid WAN services also include the use of business internet and 4G wireless services in many of these packages. MPLS service is still part of most implementations but no longer the star or primary network ingredient.

Emerging value-added services

As mentioned, along with the mix of network service types and providers, the new technology platform will also enable new value-added services like WAN optimization, application performance, dynamic routing, and security. These services are part of the first wave of innovation being offered with most hybrid WAN and SD-WAN providers' initial roadmaps in 2017. Ovum expects many of these offers to have these valued-added services available fairly quickly in 2017.

What customers should expect

2017 will be the year of many new hybrid WAN and SD-WAN launches from traditional and nontraditional network service providers, not only in the US but globally. Customers may be confused by the introduction of so many SD-WAN offers by so many providers. Again, hybrid WAN services are not new, but with the technology available today, customers will need to spend some time reviewing service options, evaluating the providers thoroughly, and determining which providers have the experience, knowledge, and staff to provide all the expected benefits to address the business requirements at the appropriate application performance your end users need.

The ability to monitor, dynamically control, and proactively manage application performance with more granularity will be one of the subtle byproducts of the new hybrid WAN and SD-WAN offers. Many customers quickly realize how powerful this capability can be once they experience the ability to "micro-segment" their traffic by application, end user, or location and create some automatic configuration that can be programmed into their network performance. This capability can greatly enhance the end user's quality of experience.

Ovum expects to see smaller, more innovative providers launch and deploy many of these solutions faster than the traditional network providers.

MetTel hybrid SD-WAN overview

Two distinct service offers

SD-WAN + MPLS

SD-WAN + MPLS is one of the more standard implementations for new hybrid WAN offers and allows customers to continue to use MPLS along with other network services. Most early adopters of SD-WAN services are using this type of configuration. Many customers have contractual agreements with MPLS services, and this allows the use of those existing services while enjoying some of the benefits and feature-rich capabilities of SD-WAN.

Figure 2: MetTel SD-WAN + MPLS
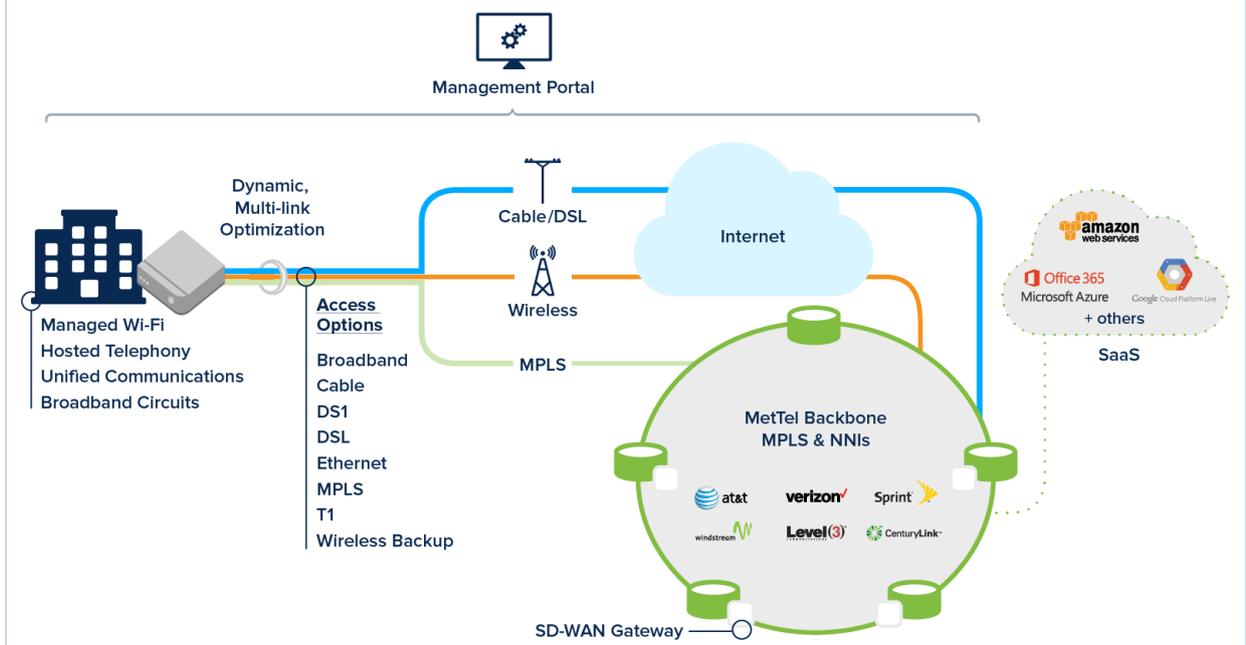
Source: MetTel

SD-WAN as MPLS replacement

Emerging as one of the common implementations that uses SD-WAN as a replacement for MPLS service is this configuration, which typically uses business internet services from two providers at each location to provide full redundancy and reliability. By leveraging many of the SD-WAN features and capabilities, customers are enjoying the cost benefits but also have seen improved performance.

Figure 3: SD-WAN as MPLS replacement
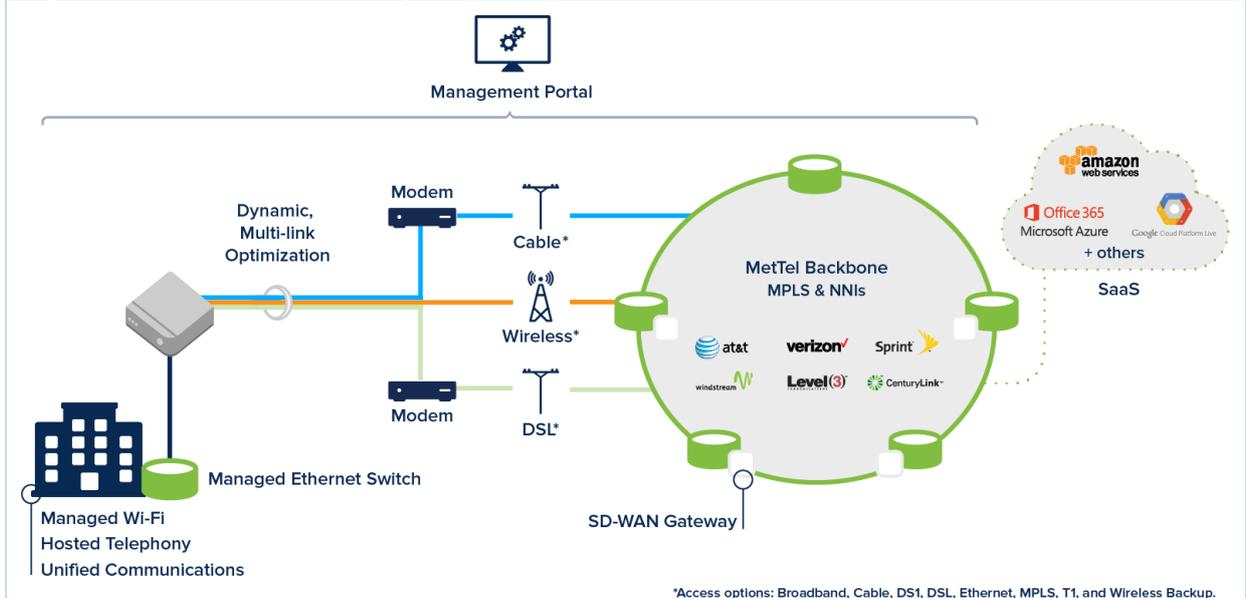
*Access options: Broadband, Cable, DS1, DSL, Ethernet, MPLS, T1, and Wireless Backup.

Source: MetTel

MetTel Background

Managed network sourcing/solution expertise

MetTel has been providing services to US enterprise customers for more than 20 years, and it has strategic relationships with all of the major US network providers and technology vendors to provide nationwide communication services. It leverages these relationships and integrates technology to provide a simple, consolidated, fully managed offer even in a complex, multivendor environment. Its experience working in this multivendor environment and knowledge of the US market and services puts it in an ideal position to be the managed service provider that can select, configure, and maintain the complexity underneath hybrid WAN and SD-WAN solutions.

Service management model

In addition to its deep knowledge and years of experience working through carrier and wholesale relationships, MetTel has been recognized as a technology leader in integrating its back office and systems with many of the largest providers in the US to provide a single, consolidated portal to its customers. This portal investment allows for the required visibility, flexibility, and control inherent in any complex managed service model. Its customer service model and staffing provide a high standard of customer service that many of its customers have acknowledged. This combination of strong provider management, technology integration, disciplined process, and customer service culture allows MetTel to provide its customers with a high level of customer service.

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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