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**Essential Elements for a  
Successful  
Global SD-WAN Deployment**



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# Ten Essential Elements for a Successful Global SD-WAN Deployment

William Arthur Ward, the noted writer of inspirational maxims quipped, “The pessimist complains about the wind; the optimist expects it to change; the realist adjusts the sails.” A pertinent glimpse into the facets of human nature.



In fairness, our complaints are well-grounded in acknowledging that mobility, cloud, SaaS, and IoT, make it impossible for traditional networks to meet the needs of today’s expanding network perimeters. However, we can be very optimistic about the changing direction of network infrastructure. There is a radical, digital transformation upon us, that supports new and diverse customer-driven initiatives.

Fortunately, there are the many realists, adjusting to these changes and meeting them head-on, by deploying managed SD-WAN as part of their digital transformation initiatives.

## Global connectivity requires a new approach



While the pessimist forecasts doom, and the optimist sits with fingers crossed, Technology Source provides Global Managed SD-WAN built for the realist who rolls up their sleeves and finds a way to make it work.

Here are ten key elements that Technology Source has identified and implemented in Global Managed SD-WAN. Each one of these elements are critical for ensuring successful application performance with global connectivity.

## 1. SD-WAN technology architecture

SD-WAN simplifies the way enterprises configure remote locations, and improves performance and reliability, with cost-effective delivery of applications over the WAN. Technology Source works with dozens of Global Managed SD-WAN providers including those who are powered by VMware® SD-WAN by VeloCloud™, the technology and market-leading software, and leader in the Gartner Magic Quadrant for WAN Edge Infrastructure. When choosing a technology solution, it's hard to go wrong when selecting the best in the industry.

Technology Source providers offer a cloud-native orchestration platform that centralizes programmable control over applications, network elements and bandwidth resources. Based upon business policies, Technology Source providers mitigate network performance problems, by proactively and intelligently prioritizing and routing diverse traffic across multiple circuits. This improves application performance and avoids network congestion and failures.

## 2. Private global managed network

The right Global Managed SD-WAN provider delivers the service over a fully-managed layer 2 Global Private Network (GPN). Our providers are backed by a single-provider global SLA. GPN replaces the inherent unreliability of long-haul public Internet, to reduce latency, packet loss, jitter and more.

Technology Source providers GPN provides unimpeded, reliable and fast connectivity within the United States, and between the U.S. and countries throughout the world. The right providers are advancing global connectivity to a new level, taking down connectivity barriers that formerly challenged national and multinational enterprises.

### 3. We're solving long distance problems, including:



- ✓ Packet loss
- ✓ Latency
- ✓ Jitter
- ✓ Quality of service (QoS)
- ✓ Inefficient peering relationships
- ✓ Over-subscribed networks
- ✓ Regulatory restrictions within geographic locations

The right provider's Global Managed SD-WAN includes everything enterprises need to deliver applications reliably and fast, anywhere on the planet.

## 3. Flexible network deployment options

With the right provider, your organization gains a managed hybrid network that combines Global Private Network and last mile public Internet. This unique network architecture enables the highest level of flexibility to mix and match global connectivity.

- Complete edge-middle-edge connectivity via GPN Tunnels, combines the power of SD-WAN with the reliability of GPN - a resilient, fully-meshed, layer 2 network, backed by a single-provider global SLA.
- Hybrid architecture combines GPN for international connectivity, with Over-the-Top (OTT) Dynamic Multipath Optimization (DMPO) Tunnels utilizing public Internet, for domestic and regional connectivity.



### Managed Hybrid Network

## 4. PoPs geographically distributed across the world

Technology Source partners your organization with Global Managed SD-WAN that is run over GPN, some with 18 current and planned strategically located PoPs throughout the United States, Europe and Asia-Pacific, Australia, Africa and South America. The right provider's PoPs service regional edge locations, to deliver optimal application performance. All PoPs within the GPN communicate with each other to ensure network traffic is sent to the most optimal and closest PoP to the users.

The right provider's PoPs are fully-meshed, to provide a failsafe and highly resilient network that ensures reliable and consistent global connectivity. These PoPs directly connect branch offices and data centers, to cloud applications, compute resources, and virtualized services.

### 5. **Replace or augment expensive, capacity-constrained, rigid MPLS networks**

For decades, organizations have contended with expensive and rigid traditional networks. The increasing complexity of network resources and equipment has made WAN infrastructure cumbersome and challenging to control and adapt. Making dynamic changes, and manipulating network resources to support multi-clouds, rapid deployments, and on-demand bandwidth, has become difficult at best.

### Cloud Native & S/W Driven

supported by an orchestration service layer that automates network behaviors to support business objectives. Technology Source works with the providers to transform expensive, complex and rigid legacy networks, into simplified, cost-efficient, agile and performance-driven business solutions. Our customer engagements enable a business-driven network that matches business requirements.

### 6. **A powerful orchestration and management platform**

Technology Source strives to work with providers who offer cloud-native management and orchestration platforms to automate provisioning and configurations, and dynamically scale and adapt to business opportunities around the world. The right provider enables visibility into your entire global network, with centralized monitoring and configuration (with read/write access).

Ensure you select an SD-WAN provider whose orchestration is a multi-tenant, multi-segment architecture, that gives enterprises the protection and flexibility they need to manage diverse business requirements. The orchestrator provides deep granularity and control, with real-time monitoring and analytics, and one-click service provisioning for all edge-enabled locations.

### 7. **Global direct connectivity to multi-clouds and SaaS**

Directly connect to cloud applications over global SLA-backed network to GPN PoPs closest to cloud providers. Technology Source ensure our providers include built-in support for AWS Direct Connect, Azure Express Route, Google Cloud, Oracle Fast Connect, and many others.

Cloud services simply become another edge location to our provider's global network, similar to a data center. Cloud connectivity and applications are accelerated, optimized, secured, monitored, and controlled, automatically through the SD-WAN orchestrator.

### 8. Highly available, dedicated connectivity to-and-from locations within China

If your organization is doing business in China, work with our provider's GPN for a robust presence with PoPs strategically located in Beijing, Singapore, Shanghai, Guangzhou, Wuxi and Hong Kong. This provides reliable, fast, and direct connectivity throughout the Chinese mainland and Hong Kong.

### 9. Global vendor for sourcing, deploying, monitoring, and supporting, last mile connections

Technology Source providers will globally procure any last mile circuit around the world (e.g. Broadband, LTE, DSL, DIA Internet, MPLS, etc.) to the customer premises, as part of our fully-managed, end-to-end solution.



### 10. Proactive 24/7/365 network monitoring and resolution for all connectivity, including 3rd-parties

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Technology Source providers will provide 24/7/365 proactive monitoring and troubleshooting for last mile internet circuits, through their global NOCs, whether provided by our providers, or other vendors.



### The promise of SD-WAN simplicity, flexibility and lower costs

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Global network infrastructure is complicated, time-consuming and resource-intensive. SD-WAN infrastructure comes with substantial long-term costs and resource burdens.

SD-WAN DIY implementations require enterprise IT teams to handle the complexity of designing and engineering a new architecture, either in parallel to an existing network, or as a replacement. There are many time and cost incumbrances for internal IT and other business units. It requires negotiating carrier contracts with multiple vendors, provisioning and deploying circuits, coordinating multiple NOC support organizations, and keeping track of a quagmire of billing issues.

## SD-WAN lifecycle:

### Preparation:

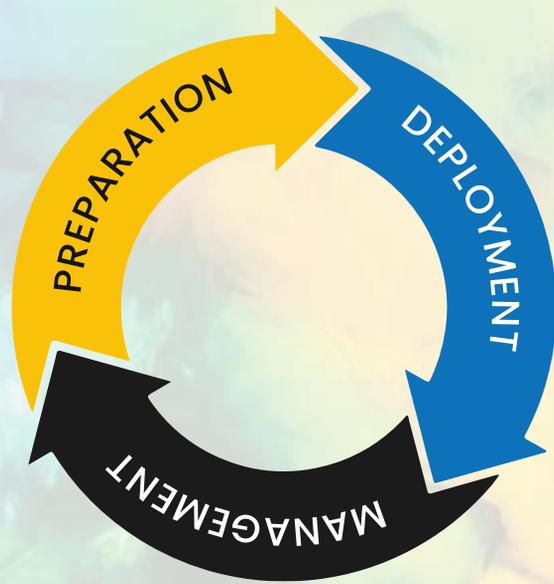
- Strategy
- Planning
- Designing
- Engineering etc.

### Deployment:

- Transitioning
- Integrating SD-WAN components into the WAN
- Locating carriers
- Negotiating contracts
- Provisioning circuits

### On-going management Operations and continual improvements:

- Monitoring
- Troubleshooting
- Resolving issues
- Implementing policy changes
- Adding/removing networks to support locations, etc.



Each phase requires skilled IT staff with diverse disciplines, processes, reporting functions, and specialized systems, tools and applications.

## Ten Essential Elements for a Successful Global SD-WAN Deployment

Technology Source Provider's Global Managed SD-WAN	Enterprise DIY SD-WAN
Technology Source providers offer dedicated global NOC teams monitor, troubleshoot and resolve issues – 24/7/365	IT staff monitor, troubleshoot, and resolve issues with multiple vendor ticketing systems, within limited hours, including time off and sick days, and utilize staff skills as available
Technology Source providers handle tactical and strategic network and IT functions, including logistics, shipping and configuration changes	IT must balance time between tactical network functions, and strategic initiatives that help the business better compete
Technology Source providers procure, deploys, manages, monitors, troubleshoots and supports everything	IT procures, deploys, manages, monitors, troubleshoots and supports everything, while dealing with multiple vendor processes, systems and contacts
Technology Source providers offer a single-point-of-contact, responsible for coordinating, managing, and negotiating all carrier contracts, MSAs, invoices	IT and other internal departments are responsible for coordinating and negotiating all carrier contracts, MSAs, invoices
Costs are consistent and predictable	Cost varies, based upon technology and systems needed, and available staff, hours worked, and variables in filling knowledge gaps
Technology Source provider's global NOCs proactively monitor and resolve problems	IT works with multiple carrier support organizations to find, troubleshoot and resolve problems
Technology Source providers are a single-point-of-contact – no more finger pointing	To get a network problem resolved, IT must locate, coordinate, troubleshoot, and try to determine which carrier is at fault

To deliver on the SD-WAN promise, Technology Source partners with best-of-breed Global Managed SD-WAN providers to eliminate the time, cost, and difficulties associated with managing global networks. Our single-source provider model removes the cost and time required to deal with the array of technologies and business interactions associated with global SD-WAN.

Technology Source's Global Managed SD-WAN providers simplify branch, data center, multi-cloud and SaaS connectivity. They simplify network infrastructure, as a single vendor for SD-WAN and global connectivity and services. The right provider includes planning, designing, provisioning, deploying, monitoring, managing, and 24/7 support, with one bill.

## Ten Essential Elements for a Successful Global SD-WAN Deployment

The providers at **Technology Source** have a robust GPN which bypasses the unreliability of the public internet over long distances, delivering fast and reliable connectivity. This can run concurrent with existing legacy networks, while future-proofing global business connectivity. Our providers become an extension of your organization, achieving optimal and cost-effective network connectivity.

Our process-driven methodologies ensure your WAN flexibly scales on-demand as your organization grows, either organically, or through mergers and acquisitions. We ensure a quality user experience and the best IT experience, with seamless access to on- premises, multi-cloud and SaaS environments.



## Conclusion

By eliminating the WAN as an obstacle, Technology Source Providers empower it to be a channel for business acceleration. Technology Source's providers of Global Managed SD-WAN ensure reliable application performance at scale.

The challenges of SD-WAN may make pessimists of those that have tried managing SD-WAN infrastructure themselves. But those with vision and foresight, adjusting their sails and partnering with Technology Source Providers, are unlocking the power of digital transformation. They are delivering unmatched application performance to users, from any application hosting environment, throughout the world.





### About Technology Source

We are the Sourcing as a Service company with over 500 best-in-class business solutions, and over two decades earning trust around the United States. Technology Source pairs with midsize and enterprise organizations to modernize IT. The vendor selection process is crucial to success. As a trusted business advisor, Technology Source's mission is to help our customers and advisors to win by unleashing the elements of enterprise technology solutions.

