

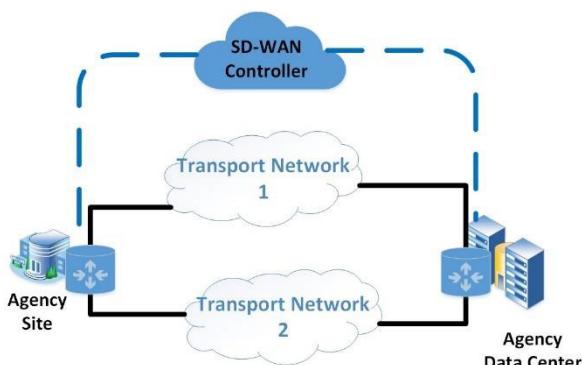
# Software-Defined Wide Area Networking (SD-WAN)

## Use Case Highlights

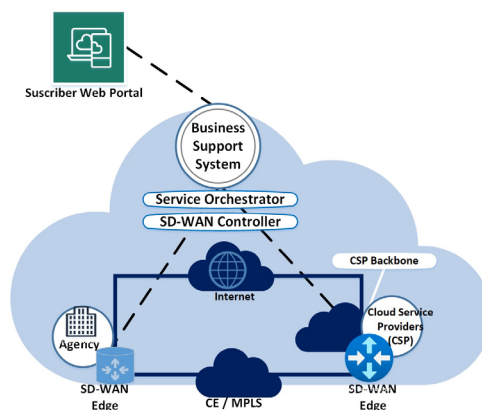


- Software-Defined Wide Area Networking (SD-WAN) is a virtual network architecture that decouples a centralized control function from the network transport.
- An increase in the use of enterprise applications increases bandwidth needs that require services to be scalable and agile enough to meet periodic surges which are transparent to the end-user.
- SD-WAN allows Agencies to migrate away from hardware-based management to software-based technologies for greater flexibility, optimized traffic flow, and improved security and policy enforcement.
- SD WAN consists of three layers; The application layer, overlay network, and underlay network.
  - Applications layer is where systems, services, and the policies that drive and protect them are applied.
  - Overlay network is where the software management tools are used to make adjustments in a virtual environment which allows these changes to be made remotely and in real time.
  - Underlay network is the actual physical network where the connections, routers, and switches are configured.
- Implementing SD-WAN positions an Agency better enable modernization such as cloud architecture, Zero Trust Architecture (ZTA) and Trusted Internet Connection (TIC) 3.0, mobility, and remote users.

SD-WAN Topology



SD-WAN Logical Diagram

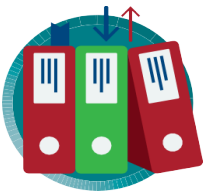


## Business Value



- Provides network agility to meet current and future organizational demands for a reliable and flexible network. The orchestration of network management reduces the complexity of operations and offers greater flexibility, which improves performance by allowing for more efficient operations.
- Can significantly lower network management costs with centralized control and orchestration. The orchestration of network management reduces the complexity of operations and offers greater flexibility, which improves performance by allowing for more efficient operations.
- Enables agency cost avoidance savings of up to 44% for large, 42% for medium, and 33% for small agencies as determined in a GSA savings analysis

## How to Get It



- Available using the Enterprise Infrastructure Solutions (EIS) Contract
- SD-WAN Service (SDWANS) is a new addition to EIS; the service highlights include:
  - Fully managed by the provider
  - Available option for the customer agency to co-manage with the provider
  - Do-It-Yourself (DIY) with internal information technology (IT) and EIS labor and equipment
  - Hardware or software/virtual equipment options

## Recommendations



- Consider Managed, Co-managed, or a DIY SD-WAN deployment for the right fit
- Utilize Ethernet transport for data centers and campus environments, Multiprotocol Label Switching (MPLS) for sensitive applications, and Broadband Internet for low risk applications and increases in bandwidth
- Agencies should consider starting with a pilot, then a limited deployment, before a full deployment
- Utilize GSA tools to implement SD-WAN
  - [SD-WAN Overview and Ordering Guide](#)
  - Quick-start solicitation templates to modernize agency networks
  - Solicitation Assist Tool - assists agencies in writing solicitation documents



### For more information

Contact your designated GSA representative at [www.gsa.gov/nspsupport](http://www.gsa.gov/nspsupport) or call (855) 482-4348.



### Contributors

General Services Administration (GSA)  
 Java Productions, Inc. (JPI)