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SD-WAN

SD-WAN has become the mainstream underlying network deployment scheme today within the SASE/SDSA frameworks. The principle of SD-WAN is to build networks around the Internet using MPLS and wireless networks (e.g. 4G/5G, Satellite Constellations) for diversity. There are obvious advantages using the Internet but it also brings new challenges. Routing now happens between Internet sites requiring an overlay network and making IP address control difficult. Multiple paths between sites complexifies routing of IP traffic, and SD-WAN brings little improvement regarding security of the network. In addition deployment of large SD-WAN networks is complex and time consuming.

This is where DDI (DNS-DHCP-IPAM) helps SD-WAN projects by providing: proper IP address plan management, intelligent Application Traffic Management, DNS Security, and rich consolidated IP Data Lake with metadata and automation, all of which contribute to improving resiliency, deployment velocity and user experience.

Solution Benefits

BETTER ROLLOUT CONTROL OF SITES/SERVICES	orchestration of IP management
OPERATIONAL TIME SAVINGS	automate build/run/retire workflows and processes
STREAMLINED SECURITY	aligned DNS security policy enforcement
STRENGTHENED RESILIENCY	traffic routing fully leveraging network diversity
IMPROVED UX & PERFORMANCE	traffic steering based on QoS criteria
SD-WAN VENDOR AGNOSTIC IPAM	aligned with the rest of IP infrastructure

Business Challenges

SD-WAN enables Digital Transformation and federates users on any site from Small Office, Home Office to Corporate premises and Applications on any Cloud, Private, Public and all Hybrid and MultiCloud flavors. The promise of SD-WAN is cheaper and more abundant bandwidth with agility and speed to rollout and reconfigure the network as required by the business needs. But with SD-WAN, routing between sites over the Internet induces overlay routing, requiring a robust IP Address Management for a service that was before bundled as part of the MPLS service offer. The introduction of multiple transport networks between sites, a key feature of SD-WAN,

improves resiliency and capacity/quality based routing decisions to find alternate paths toward a single destination but cannot address the need to find an alternate IP/server/DC to improve or restore connectivity for a given service or application. On the security front, direct access to Internet to avoid backhauling Public Cloud Application traffic (e.g. SaaS) demands local DNS security capabilities to manage Internet local breakouts. Lastly, the management of hundreds or thousands of SD-WAN sites of all sizes significantly increases complexity calling for network automation.

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Main Features of SOLIDserver DDI for SD-WAN

DDI technologies have become a crucial element for organizations moving toward SD-WAN. Being a market leader, EfficientIP's DDI brings the following functionalities:

Accurate dynamic data repository for enhanced control across the network

An IP data lake is fundamental for SD-WAN orchestration. SOLIDserver IPAM offers the "IP source of truth", consolidating data on apps, devices and IP-related information from on-premise, private cloud and public clouds and all other company's sites. This ensures consistency and integrity of the IP address plan to prevent overlapping namespaces and limits overhead to the provisioning and deprovisioning process.

Single viewpoint management for improved efficiency

The solution provides cross-platform capability to manage millions of IP addresses and multi-vendor DNS/DHCP services in a unified and centralized managed platform, aiding resource planning and scalability challenges of SD-WAN infrastructures. Deployment velocity of new sites, apps and services is boosted.

Policy enforcement and app access control for strengthening security

The unified DDI solution enables corporate policy enforcement across the entire SD-WAN infrastructure. In addition, EfficientIP DNS Security provides protection against data exfiltration, behavioral threat detection and improved application access control. Lastly, the solution is able to fuel the security ecosystem with centralized zoning information.

Optimal application traffic routing for improved UX and resilience

Multi-transport networks to connect sites implied by SD-WAN delivers optimal traffic routing for improved user experience, efficiency and security for a single destination. When this destination can no longer provide the service/application or encounters performance issues, EfficientIP's Edge DNS GSLB feature dynamically steers application traffic to the alternate most suitable datacenter based on app health leveraging SD-WAN routing, thus enhancing UX, app over-the-top availability and disaster recovery.

Rich metadata offering powerful end-to-end network automation

The centralized IP data repository, containing valuable metadata, is made available to SD-WAN ecosystem players, enabling end-to-end automation and zero touch network operations. The result is significant time savings and prevention of misconfigurations. IPAM with metadata can be used to plan future extensions on and off the network like new SD-WAN sites, new virtual cloud network or new remote user sites. Tools like SD-WAN orchestrators can therefore plan, execute and test their operations by simply changing metadata values to reflect progress, and results reported in a BI-like dashboard.

Orchestration for fast deployment with SOLIDserver

API-first DDI integrates seamlessly to leading orchestrators and configuration managers to bring deployment velocity of sites, apps and services, leading to faster time to market. The solution is ready to be integrated to an abstraction automation layer in order to ease and speed up DevOps and Infrastructure as Code initiatives.

Key Takeaways

Designing, rolling out, operating and managing your SD-WAN network, securing it against newer network security threats while ensuring resiliency and state-of-the-art over-the-top Application Traffic Management, are new complex tasks for network teams. A DDI solution, offering easy and open integration as well as centralized management, allows enterprises to break from the silo approach and help overcome network complexity. SOLIDserver DDI enables controlled, secured deployment and operations of IP infrastructure and DNS resources across SD-WAN.

SOLIDserver complements SD-WAN network resiliency by providing over-the-top connectivity between clients and their applications wherever they might be located, improving user experience for all applications over the network, thus ensuring your SD-WAN deployment and operations are successful.