

CLOUD -FIRST GOVERNMENT NETWORKS ACCELERATE DIGITAL TRANSFORMATION

Federal governments are migrating IT infrastructure, applications and services to the cloud to reduce costs and accelerate the pace of innovation. Cloud initiatives help government agencies increase operational efficiencies, accelerate application deployment, and tightly align recurring expenses with evolving capacity and workload demands.

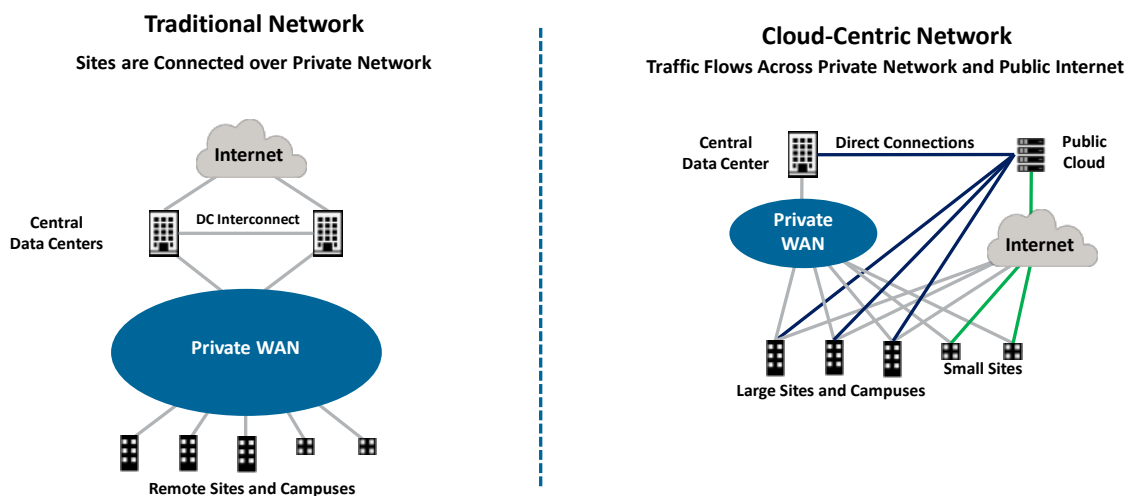
Forward-looking agencies are implementing cloud-based applications and on-demand services to improve workforce productivity, collaboration and mobility, and scale data analytics, AI/ML and IoT programs. Leading cloud providers like Microsoft Azure and AWS meet stringent government compliance and reliability requirements, and offer isolated clouds, engineered to support secure information and workloads.

The Challenge: Ensuring Fast, Reliable And Secure Connectivity

Historically, most government applications were hosted in central data centers or colocation facilities. Campuses and remote sites were interconnected over private networks, and most application traffic was confined to the private network, over which the IT organization had tight control.

The cloud fundamentally reshapes network traffic flows, introducing a variety of performance, security and service quality challenges for system architects. In the new model, applications and services are hosted in public and private clouds, as well as in traditional data centers, and application traffic often flows outside the private network, beyond the control of the IT organization.

Traditional government networks designed to support conventional applications and IT services aren't well suited for the cloud-first era. System planners must rearchitect networks to meet the increased performance, agility and resiliency demands of the cloud-centric world.



The Solution: 128T Session Smart Networking

The 128T Session Smart Networking solution is an advanced, service-centric networking solution that takes SD-WANs to a new level. Ideal for next-generation cloud-centric government networks, the solution provides fast and agile WAN connectivity with unmatched economics and simplicity. The 128 Technology solution eliminates the inherent inefficiencies and cost constraints of traditional networking products and legacy SD-WAN solutions, and meets stringent government security, reliability and performance requirements. Key advantages include:

- **Economics** - The 128 Technology solution is a fully software-based solution that runs on commercial off-the-shelf servers for ultimate economics and choice. Unlike with a traditional service function chaining approach, the 128 Technology solution performs multiple logical network functions (e.g. router, stateful network firewall) in a single virtual network function (VNF), significantly reducing CPU and memory requirements.
- **Scalability** - The 128T Session Smart Networking solution supports up to triple the number of routers per head-end and delivers up to four times the hardware performance of alternative solutions.
- **Security** - 128 Technology's pioneering Secure Vector Routing provides strong security without the overhead of traditional encryption protocols like IPsec, GRE or VXLAN. Deny-by-default (zero trust) routing, Layer 3/4 DoS/DDoS protection, payload encryption, and NAT and VPN functionality protect applications and infrastructure against data loss and malicious attacks.
- **Compliance** - 128 Technology solutions are FIPS 140-2 compliant, and are certified by ICSA labs for network firewall and PCI-DSS compliance.
- **Availability** - The 128 Technology solution provides continuous connectivity without requiring expensive hot-standby tunnels like traditional routing or legacy SD-WAN solutions. In the event of a link failure or network outage, the solution seamlessly redirects traffic over an alternative path without disrupting sessions or impairing application performance.
- **Visibility** - Unlike alternative solutions that encapsulate all dataflows into a single overlay tunnel, 128 Technology's tunnel-free architecture gives network administrators full visibility into individual dataflows, so they can efficiently monitor end-to-end sessions, track KPIs and troubleshoot problems. Zero-touch setup and single-pane-of-glass, remote management simplify deployment, and ongoing administration and operations.
- **Performance** - The 128 Technology solution supports a variety of WAN optimization features, traffic steering and QoS functions, and session-aware routing capabilities, along with a tunnel-free architecture to ensure high performance and service quality for diverse applications and services.

The 128 Technology Solution Eliminates Network Cost and Complexity

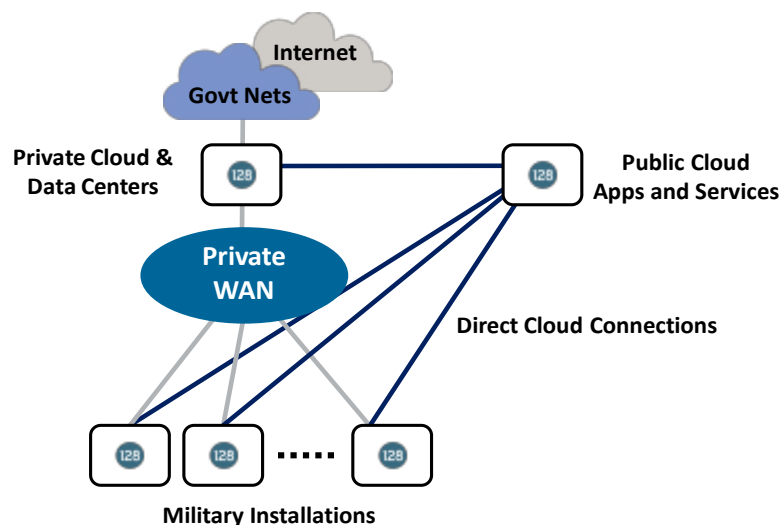
Requirement	Traditional WAN and Legacy SD-WAN	128T Session Smart Networking
Simple, low-cost platform	Discrete routers and security middleboxes add cost and overhead. Legacy SD-WANs require expensive servers to support multiple dedicated VNFs.	128 Technology consolidates all network functions onto a single VNF that runs on inexpensive COTS servers. Plug-and-play installation streamlines rollouts.
Strong security and compliance	Tunnel overlays safeguard data privacy, but limit visibility and control, and impair performance.	Secure Vector Routing protects data privacy, while enabling granular traffic management and visibility. 128 Technology solutions are FIPS 140-2 compliant, and certified by ICSA labs for network firewall and PCI-DSS compliance.
Application-specific service assurances	Tunnel overlays inhibit traffic management and prevent application-specific SLAs.	Fine-grained traffic management and application-aware routing enable application-specific, policy-based SLAs.
Continuous connectivity	Idle hot-standby tunnels are costly and inefficient.	Multi-path session migration provides cost-effective protection against link failures and ISP outages. Server load balancing provides BC/DR for critical applications.
Optimal performance over low-speed links	High-overhead tunneling protocols squander bandwidth and impair the performance of delay-sensitive applications.	Secure Vector Routing minimizes protocol overhead. Lossless application delivery optimizes bandwidth utilization and boosts application performance.
Visibility	Tunnel overlays inhibit visibility and control.	Tunnel-free architecture provides visibility into individual dataflows, enables end-to-end session monitoring and troubleshooting.

128 Technology In Action – Fast, Secure And Reliable Cloud Connectivity For 150+ Military Installations

128 Technology helped a U.S. DoD Military Department modernize its global data network to support an extensive cloud migration initiative encompassing 150+ military installations. The 128 Technology solution provides agile, secure, reliable access to a leading FedRAMP-compliant public cloud using the cloud provider's direct connectivity option. The prime contractor selected 128 Technology after evaluating a number of potential solutions including using IPsec, GRE or VXLAN tunnels for secure virtual connections.

128 Technology's tunnel-free, Secure Vector Routing provides strong data protection without the overhead of traditional encryption protocols like IPsec, GRE, or VXLAN. (Secure Vector Routing reduces protocol overhead by 30% - 50% when compared to other encryption protocols.) The solution's comprehensive session optimization capabilities boost service quality for diverse dataflows, ensuring superior end-user experiences and satisfaction. The session-aware routing fabric extends all the way to the cloud, adapting in real-time to ensure high service quality for elastic compute services and dynamic workloads.

The 128T Session Smart Networking solution helps the organization contain expenses and simplify operations by consolidating technology, centralizing management and gaining detailed visibility into key performance metrics and troubleshooting data. The solution's built-in network management capabilities let network administrators efficiently monitor end-to-end sessions, and isolate and resolve issues. The 128 Technology solution supports industry-standard performance monitoring APIs so the organization is able to leverage their existing monitoring platform without making any expensive customizations.



128 Technology Next-Gen Military Network

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ABOUT 128 TECHNOLOGY

At 128 Technology we help our customers radically reinvent their digital futures based on a new model for virtual networking called Session Smart™. Session-smart networking enables enterprise customers and service providers to create a service-centric fabric that's more simple, agile, and secure, delivering better performance at a lower cost. Whether your enterprise is moving your business to the cloud, modernizing the WAN edge, seeking more reliable unified communications or pursuing an industrial internet of things (IIoT) initiative, session smart networking re-aligns networks with digital transformation initiatives.