

SASE: Trustgrid vs SD-WANs

Trustgrid is a cloud-native network-as-a-service platform to support distributed applications from the edge to the cloud.

Overview

Branch office connectivity remains the predominant use case for today's SD-WAN providers. With average deployments of just a handful of branches, mostly managed by internal staff and with limited support for public clouds, SD-WAN is, at best, a head start to the cloud-native, network-as-a-service offering required for modern SASE solutions.

Networking

All software-defined networking products leverage similar architectures separating control plane from data plane with auto-configuring tunnels from on-premise to cloud or data center. The similarities of SD-WAN to a more full featured network-as-a-service solution end there.

Trustgrid differentiates from SD-WAN providers by:

- **Supporting Vendor To Customer Connections.** Connecting from a SASE provider's multi-tenant cloud infrastructure to customer environments introduces numerous challenges.
 - **Overlapping subnets:** Overlapping private subnets (RFC1918 subnets) must be accommodated with NAT. Trustgrid connectivity creates a virtual networking fabric that can efficiently optimize NAT translations for ease of management at scale.
 - **Non-standard IT infrastructure:** On-premise, branch office, and private cloud deployments are very different from the standardized world of public cloud and large enterprise. The flexibility of Trustgrid's connectivity platform accommodates non-standard and unpredictable local network configurations.
- **Cloud-Native Networking.** Networking delivered from the cloud is very different from branch office or WAN.
 - **Network automation:** Routing is centrally automated from the cloud to enable multi-tenant infrastructure that reduces latency and increases availability.
 - **Support for global points-of-presence (POPs):** Trustgrid's cloud-native networking enables use of both public cloud networks and private networks to minimize the need for capital intensive collocation of POPs.
- **Zero Trust Network Access (ZTNA).** Trustgrid's support for both agent and agentless ZTNA integrates user access into the same virtual networks used for hybrid cloud and SD-WAN access. This support is identical in branch office or work-from-home scenarios.

Security

SD-WAN offers legacy network security architectures and limited integration to security services other than traffic routing. Trustgrid was designed from day one with zero trust network security principles and advanced security integration capabilities.

- **Identity Integration.** The platform delivers zero trust access in coordination with an organization's identity provider, but also contains the ability to issue certificates for network devices with its cloud-native certificate authority (CA).
- **Advanced Integrations.** Trustgrid's API-first approach to management enables easy integration of Trustgrid's networking and application deployment capabilities into leading cloud and on-premise security solutions.

- **Traffic Routing.** With support for Layer 3 through 7 traffic routing and proxying Trustgrid can deliver network traffic to the appropriate security services in cost and latency optimized deployments.
- **Network Detection and Split Tunneling.** Trustgrid supports network detection capabilities at each Trustgrid node of encrypted traffic using SNI, host and IP information. This enables allow/deny lists for split tunneling of known good traffic that minimizes global bandwidth and compute costs for secure web gateway (SWG) services.
- **Cloud PKI and mTLS.** Trustgrid's cloud-native PKI is used for all device authentication and authorization eliminating the need for pre-shared keys and enabling mTLS encryption of all traffic.

Platform Architecture

SD-WAN products were purpose built to solve a networking problem. Trustgrid was purpose built to solve the needs of application providers deploying and connecting software in public cloud, private cloud and on-premise - a perfect fit for modern SASE architectures.

- **Edge Compute.** Trustgrid's EdgeCompute supports deployment and management of Docker containers on Trustgrid Nodes in the cloud, private cloud, or at the edge. Trustgrid's EdgeCompute is ideal for security service deployments in a global POP architecture.
- **Side-By-Side Management:** Trustgrid's CI/CD pipelines provide identical support in the cloud, on-premise and at the edge. These advanced automation tools can be extended to support side-by-side deployment of applications in POPs or at the edge that are not appropriate for containerization or other supported deployment models.
- **Edge API Integration.** API gateways at the edge enable advanced node management functions to be performed directly on the node for unique capabilities.

Cloud

First-class support of public cloud environments is still not consistent among various SD-WAN providers. Trustgrid supports the major public cloud environments (AWS, Azure, Google, and Oracle) with the deepest integration to AWS.

- **Public Cloud Support:** Offering full support of Trustgrid Nodes in public cloud environments.
- **Native High Availability:** Natively supporting high availability without the use of external scripts or code to monitoring the Nodes
- **Integrated with AWS:** Tight integration with AWS services such as CloudFormation, CloudWatch, IAM, and more.

Managed Services Automation

SD-WAN was never built to be delivered as a managed service and often relies on 3rd party providers to deliver on its promises. Automation of common management tasks is rare which drives high total cost of ownership when deployed at scale. Trustgrid has offered a fully managed infrastructure from day one assuming the responsibilities of configuration, management, and support from our customers.

- **OS and Application Patching:** Trustgrid automates the deployment of patches and updates to the Trustgrid Nodes at the OS and application level with support for blue/green methodologies and a robust fail-safe architecture to eliminate common challenges.
- **Management:** The daily burdens of support and maintenance across a network of thousands or ten of thousands of nodes is eased with high levels of automation provided through Trustgrid's cloud-delivered management tooling.
- **Compliance:** When third party providers offer managed services to high compliance industries, Trustgrid's SOC 2 Type II certified compliance is the gold standard to sail through vendor due diligence requirements.