

# Software-Defined WAN for the Enterprise

Deploy and manage any WAN using  
policies built on business intent



## Business Challenges

Two fundamental shifts have occurred in the past decade which have changed the way applications are deployed and managed: cloud computing and the availability of low-cost, high performance Internet connections. I/T organizations deployed robust MPLS-based private WANs to provide secure connectivity from remote offices worldwide to a small set of corporate data centers where applications were hosted. However, these legacy network architectures present a series of debilitating limitations when attempting to migrate to cloud computing or take advantage of commodity Internet connections for remote office high availability or performance.

With a legacy network architecture, application traffic is sent from the remote office to servers in the data center over MPLS private WAN connections. While these networks set the standard for security, they are also an order of magnitude more expensive than standard Internet broadband or cellular connections. Further, cloud-hosted and software-as-a-service (SaaS) applications do not reside in the data center, and often, a direct path to the Internet from the remote office would provide better performance and substantially lower cost.

I/T organizations have become accustomed to managing networks by configuring a series of fragmented, fragile, and sometimes non-interoperable features on low-level networking devices. Businesses today are demanding that the inherent complexity be reduced or eliminated in favor of company-wide policies that map to intent rather than elements that only seasoned veterans understand. Policies today map to IP addresses, ports, queues, and interfaces, where they should map to applications, networks, sites, and profiles for performance, compliance, and security.

With cloud applications becoming the new normal, I/T also needs a way to see end-to-end performance and availability for every application and network, whether it is deployed in the data center or in the cloud. While numerous, mature solutions exist as an add-on to the network, these require additional software, servers, and agents to meet the full spectrum of visibility needs, and often lack when dealing with applications that could use a variety of network links or have applications deployed in the cloud.

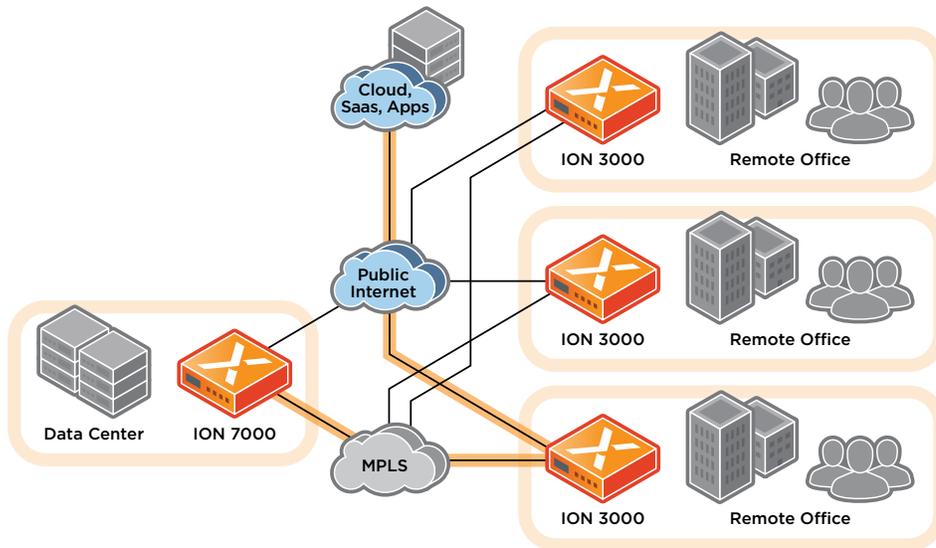
Networking must change to accommodate the new normal of cloud applications.

WHILE NUMEROUS, MATURE SOLUTIONS EXIST AS AN ADD-ON TO THE NETWORK, THESE REQUIRE ADDITIONAL SOFTWARE, SERVERS, AND AGENTS TO MEET THE FULL SPECTRUM OF VISIBILITY NEEDS, AND OFTEN LACK WHEN DEALING WITH APPLICATIONS THAT COULD USE A VARIETY OF NETWORK LINKS OR HAVE APPLICATIONS DEPLOYED IN THE CLOUD. CLOUDGENIX SD-WAN PROVIDES CLOUD-DELIVERED MANAGEMENT WITHOUT REQUIRING THESE ADDITIONAL COSTLY COMPLEXITIES

## Introducing Cloudgenix SD-WAN

CloudGenix Software-Defined WAN (SD-WAN) is the industry’s most complete solution for customers that want to build hybrid networks consisting of MPLS private WANs and commodity Internet connections for cloud application adoption, remote office high availability, application performance, and end-to-end visibility. Powered by CloudGenix Instant-On Networks (ION) devices deployed in locations where visibility and control are desired, CloudGenix SD-WAN allows you to create policies based on business intent rather than a series of fragmented networking features, enables dynamic path selection using the highest performing network, and provides visibility into performance and availability for applications and networks.

A secure application fabric, AppFabric, is established amongst all ION devices, creating a virtual private network (VPN) over every WAN link. Policies are defined that are aligned with your business intent that specify performance, compliance, and security rules for your applications and sites. ION devices will automatically choose the best WAN path for your applications based on business policy and real-time analysis of the application performance metrics and WAN links.



**FIGURE 1:** CLOUDGENIX AUTOMATICALLY SELECTS THE BEST PATH ACCORDING TO POLICY, WAN HEALTH, AND APPLICATION TRANSACTION PERFORMANCE METRICS.

## Benefits

The CloudGenix SD-WAN solution provides a wealth of benefits for your business.

### IMPLEMENT A SOFTWARE-DEFINED WAN

CloudGenix ION allows you to take advantage of a diverse set of WAN transports including MPLS, LTE, and broadband to build a secure, unified, high-performance, highly-available hybrid WAN for your enterprise. With CloudGenix ION, WAN paths are dynamically selected based on policy and real-time performance measurement while configuration of complex routing protocols and fragmented networking features are virtually eliminated.

### CONFIDENTLY DEPLOY CLOUD AND SAAS APPLICATIONS

CloudGenix ION allows you to meet the performance and availability demands that are required when deploying cloud and SaaS applications, including remote office WAN high availability, bandwidth, and consistent latency. With CloudGenix ION, the best path for your cloud and SaaS applications is used, including direct Internet connections, unburdening your private MPLS links while improving end-user performance.

### REDUCE REMOTE OFFICE INFRASTRUCTURE

CloudGenix ION can help reduce the number of devices required in remote offices by replacing routers and zone-based firewalls. Any WAN link with an Ethernet connection can be connected directly to the CloudGenix ION; any WAN link with a non-Ethernet connection will require a modem or equipment from your provider to directly connect to the CloudGenix ION. Along with reducing remote office hardware, management and operational costs are reduced.

### UNIFY POLICIES ON BUSINESS INTENT

CloudGenix allows you to configure policies for performance, compliance, and security based on business intent rather than low-level network characteristics. By defining policies according to application, sites, and networks, risks of misconfiguration or misinterpretation, commonly encountered when configuring routers and firewalls, is avoided completely. With CloudGenix ION, you can move closer to a software-defined enterprise.

### REDUCE DEPENDENCY ON PRIVATE MPLS WANS

CloudGenix ION allows you to take advantage of diverse WAN transports in the remote office and data center, including broadband and LTE. By integrating these transports and defining application policies for performance, private MPLS links can be reserved for internal applications while Internet connections can be used for cloud and SaaS applications. Further, Internet

BY INTEGRATING THESE TRANSPORTS AND DEFINING APPLICATION POLICIES FOR PERFORMANCE, PRIVATE MPLS LINKS CAN BE RESERVED FOR INTERNAL APPLICATIONS WHILE INTERNET CONNECTIONS CAN BE USED FOR CLOUD AND SAAS APPLICATIONS.

links can be used as primary or backup VPN connections between sites. With CloudGenix ION, your dependency on private MPLS WANs is reduced, creating an opportunity for substantial cost savings.

#### UNDERSTAND NETWORK HEALTH AND USAGE

CloudGenix ION continually monitors the health and performance of your WAN links within each site and can be viewed within the CloudGenix cloud management portal. With visibility into usage by WAN link type, overall link health, link-level statistics (bandwidth, loss, latency, jitter), top applications, and concurrent flows, you can quickly see how your WAN links are performing and glean actionable insights.

CLOUDGENIX MONITORS HEALTH AND PERFORMANCE OF WAN LINKS AND APPLICATION TRANSACTIONS TO AUTOMATICALLY SELECT THE PATH THAT WILL PROVIDE THE BEST USER EXPERIENCE

#### GAIN INSTANT VISIBILITY INTO APPLICATION PERFORMANCE

CloudGenix ION dissects application flows to measure key performance indicators for dynamic path selection and visibility into application performance. CloudGenix provides visibility into the elements contributing to application response time, overall application throughput, quality and health, and transaction statistics. Visibility into these metrics helps understand how applications are performing and identify the root cause of performance issues for data center and cloud applications alike, eliminating finger-pointing.

#### SEE FOR YOURSELF

SEE CLOUDGENIX IN ACTION FOR YOURSELF!  
VISIT [WWW.CLOUDGENIX.COM/TRIAL](http://WWW.CLOUDGENIX.COM/TRIAL) TO REGISTER FOR A NO-RISK FREE TRIAL TODAY.

#### ABOUT CLOUDGENIX

CloudGenix provides a software-defined WAN solution with AppFabric technology that enables you to build a global WAN based on business policies for application performance, compliance, and security, across all sites and users. Unlike router-based solutions, CloudGenix AppFabric allows you to define top-down global policies based on business intent rather than fragmented bottoms-up configuration changes based on technical implementation. With CloudGenix, you can easily integrate heterogeneous WAN connections for any site, take advantage of cloud and SaaS applications, improve visibility for app performance and SLAs, and dramatically simplify network operations.