ADLINK
Leading EDGE COMPUTING

SD-WAN Solution

Next Generation Corporate Network, CloudWAN Platform

Joint release by
ADLINK Technology
AppEx Networks





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ADLINK's CSA-7400 Carrier-Grade Cyber Security Platform Helps AppEx Networks Build a Smart and Efficient CloudWAN Platform

Origin of SD-WAN

SD-WAN stands for Software-Defined networking (SDN) in a Wide Area Network (WAN). It is a service based on the application of SDN technology in WAN scenarios. Such services are used for connecting corporate networks, data centers, Internet applications and cloud services over a wide geographic region.

Against a backdrop of cloud computing, mobile applications and enterprise globalization, an increasing number of real-time applications (distributed collaboration, teleconferencing, remote desktops, payment systems, telemedicine) must now communicate between multiple nodes. Any problems such as disconnections and slow browsing will amplify user dissatisfaction and lead to lost transactions. The emergence of SD-WAN not only solves the problems of network instability and the high cost of dedicated links, but can also satisfy the real-time performance requirements of these applications. SD-WAN integrates the functionality of routers, firewalls, deep packet inspection (DPI) and WAN acceleration so that applications can be managed and monitored by businesses in a meaningful manner.

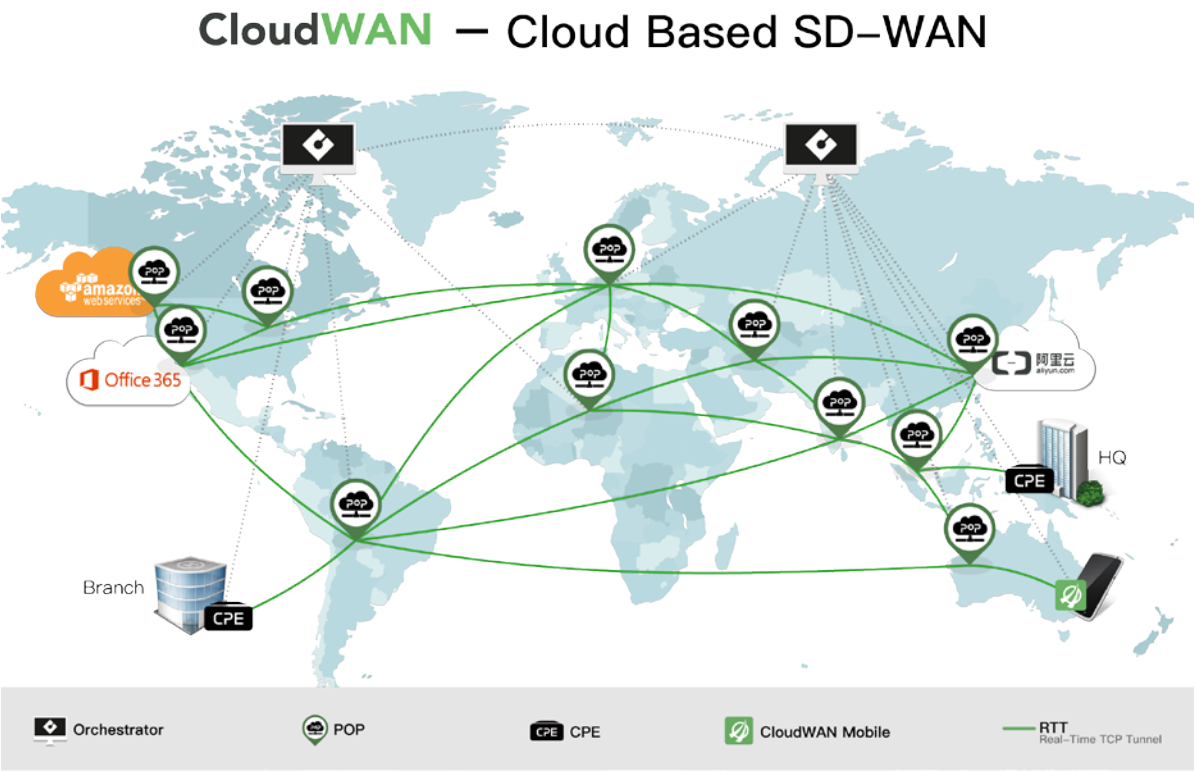
Advantages of SD-WAN

- **Improved connectivity of enterprise WAN:** Edge networking devices can be connected to manage network connections such as the Internet. Dedicated link/MPLS then select network links in an intelligent manner based on latency, jitter and throughput.
- **Improved connection reliability:** The high-quality private network operated by SD-WAN vendors features multi-router optimization and redundancy. As long as there is at least one usable path between two points there will be no disruption to application traffic. The total redundancy of the network ensures the reliability of the connection.
- **Flexibility and rapid delivery:** A reliable network connection can be quickly set up when a business project is activated. The network service can be closed again at the end of the project. Any business with an Internet connection can be immediately connected to the SD-WAN network.



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AppEx CloudWAN: The Next-Generation Corporate Network



AppEx Networks offers an SD-WAN service, CloudWAN. The name CloudWAN is based on the fact that its services are provided through popular public clouds used by the industry. No matter where the user is in the world, if they have even a basic Internet connection then they can gain access to the high-quality service provided by AppEx.

User traffic is broken down by AppEx CloudWAN for distribution. Dedicated links with low-latency are used for a small number of applications that have very high requirements on immediacy. The traffic for most other applications is optimized by WAN before being transmitted over the Internet. This is the basic hybrid network of SD-WAN. CloudWAN's unique Real-Time TCP Tunnel (RTT) transmission optimization technology and global dynamic router optimization can improve the quality of the connection in most scenarios so that it rivals or even surpasses MPLS/dedicated links. Users not only enjoy very high quality data links but also significant cost savings.

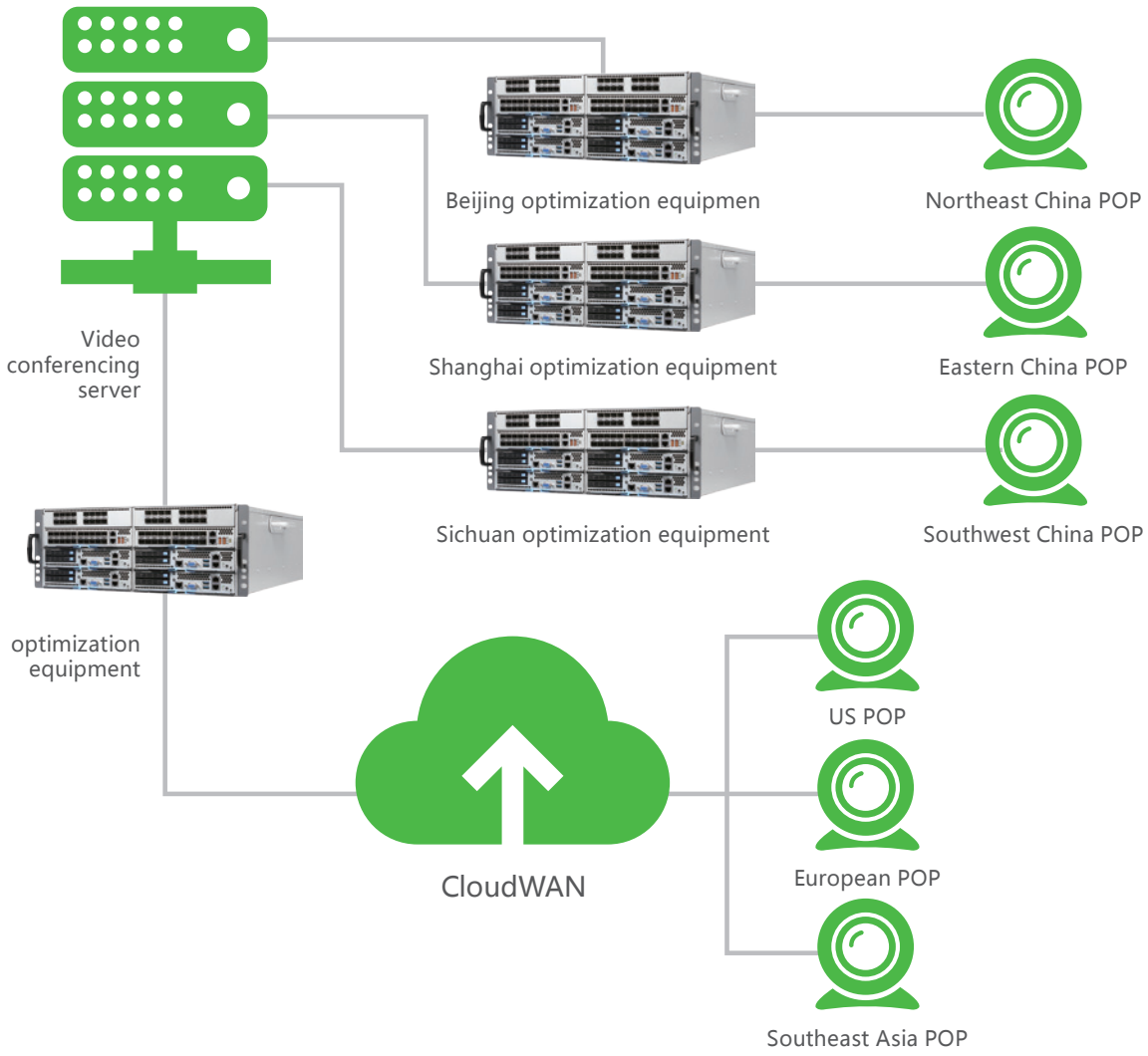
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CloudWAN Powered by ADLINK's CSA-7400 Cyber Security Platform

The ADLINK CSA-7400 is a next-generation high-performance carrier-grade COTS data communications platform. High-speed links with dual redundancy are established between computing nodes via switching nodes to provide up to 800G of front-panel I/O. The CSA-7400 supports hot-swapping of key system components to ensure continuity of operations making it particularly well suited for use with next-generation high-performance SD-WAN equipment.



ADLINK CSA-7400



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CloudWAN Optimization through Collaborative High-Performance Computing

CloudWAN is a software-defined WAN. To provide users with more effective transmission optimization services, high-speed virtual channels must be set up between points-of-presence (POPs) to overcome transmission bottlenecks in the Internet and eliminate packet loss over the physical links. ZetaTCP unilateral WAN optimization technology is used to guarantee the efficiency and reliability of data transmission through virtual tunnels. To overcome problems such as long buffer times and freeze frames when videos are played in a WAN environment, special optimization techniques are used by CloudWAN for real-time applications such as live streaming and video conferencing. A variety of security encryption algorithms are also offered by CloudWAN to choose from as required. The CSA-7400 supports four compute nodes with dual Intel® Xeon® E5-2600 v3/v4 processors or Intel® Xeon® Scalable processors in 4U rack space. High-density parallel processing is supported for better packet processing performance and especially with 64Bytes small packets processing provides CloudWAN's ZetaTCP, video optimization and encrypted transmission with massive computing power.

Carrier-Grade Design Guarantees High Availability of CloudWAN

CloudWAN's central console must be able to control and manage links from different operators at the same time and allocate bandwidth in a reasonable manner for data transfers. Visualization and continuous monitoring of data traffic are supported. Automatic adjustment of mainboard links guarantee 99.99% availability until manual repairs are made. Carrier-grade high availability is achieved by CSA-7400 through power supply redundancy and hot swappable components. Real-time out-of-band monitoring of all modules through IPMI is also supported. The switch boards are designed for redundancy and support load balancing management based on 5-tuple group. A different load weighting can be assigned to individual CPU nodes. Automatic elimination of faulty nodes is supported during load-balancing to ensure reliable processing of data flow. CloudWAN is therefore a distributed platform with centralized management and automatic failover between the primary and backup links.

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Flexible IO Configuration

CloudWAN POP nodes must provide global coverage and be able to adapt to changing deployment environments and leading public cloud service providers around the world so that fast and agile network connections can be established between businesses and public clouds. The modular I/O design of the CSA-7400 allows users to combine different I/O cards to create a custom configuration with the required interfaces and bandwidth. Support for high-speed 100G/40G or up to 72 10G interfaces means CloudWAN can be adapted to handle complex external links and different traffic requirements as necessary. The CSA-7400 also comes with the management middleware PacketManager which integrates switching, thermal management and hot-swapping management functions. The simplification of the deployment process greatly shortens time-to-market for customers' products.

> AppEx CloudWAN is a next-generation enterprise network service platform based on SDN and WAN optimization technology. It provides users with optimization services for enterprise group networks, cloud connections and SaaS access. More than 300 POP nodes have now been deployed globally. Smart dispatching of network-wide resources through the central controller provides business with a high-speed network that spans the globe. Media optimization gateway equipment based on ADLINK's CSA-7400 hardware is one of the core components of the CloudWAN service platform. It significantly improves the transmission efficiency and stability of users' video conferencing traffic. The service is particularly popular among customers because it ensures smooth video conferencing. The CSA-7400 platform is reliable, modular and supports hot-swapping so it greatly reduces our operation & maintenance workload. It has also won us the trust of our customers.
>
> Young-Tung Wang, CEO of Beijing AppEx Networks

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About ADLINK

ADLINK leverage its advanced edge computing solution to promote cross-industry Data-to-Decisions applications. ADLINK provides an extensive range of modules as well as Industrial IoT platforms designed for general or specialized markets in vertical industries such as automation, network and communications, healthcare, transportation, and defense. Our products include industrial mainboards, blades, chasses, modules, gateways, systems and point-to-point solutions. We also offer a wide range of measurement & testing products, touch computers and custom displays. Most of the products are ruggedized with support for wide temperature ranges, shock and vibration.

ADLINK is a Premier Member of the Intel® Internet of Things Solutions alliance and is also actively involved in a number of standardization organizations. ADLINK is a global enterprise that can provide localized services. We are headquartered in Taiwan with production centers in Taiwan and Shanghai. We have R&D and integration business centers in Taiwan, China, United States and Germany. We also have an extensive worldwide sales and support system.

For more information, please visit ADLINK

https://www.adlinktech.com/en/Network_Security_Appliance.aspx

About AppEx

AppEx Networks is a provider of SD-WAN (Software-Defined Wide Area Network) solutions and services. Founded in 2006, AppEx is headquartered in Beijing with network and transmission optimization algorithm R&D centers in Silicon Valley, USA. AppEx offers global services that are now used by over 1,000 customers including a number of Top 500 enterprises.

AppEx CloudWAN is a next-generation enterprise network service platform based on SDN and WAN optimization technology. It provides users with optimization services for enterprise group networks, cloud connections and SaaS access. More than 300 POP nodes have now been deployed globally. Smart dispatching of network-wide resources through the central controller provides business with a high-speed network that spans the globe.

For more information, please visit AppEx

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