extending the coverage of managed sd-wan to mobile workforce and iot devices

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the challenge

Digital transformation of the Enterprise is accelerating with many businesses deploying SD-WAN powered networks as the foundation for their operations. For many this has included upgrading the connectivity linking their branch locations and the extension of their WAN into the public and private clouds where their new IT systems and applications are located.

The benefits of these new generation WAN deployments have been cost savings due to the deployment of more cost-effective IP transport services and an improvement in the agility and consistency of the networking that links their branch employees to the IT systems they need to perform their roles. What has been missing in this refresh has been the ability to incorporate the businesses mobile workforce and to integrate any Internet of Things (IoT) assets that are being deployed.

Traditional wide area networking was focused on physical branch connectivity and IT system availability to business employees inside the branch location. For employees 'on the move', that work offsite from the businesses physical branch premises their access has been based on a different set of network controls. These controls may include separate network authentication and network paths to the same IT systems that branch employees' access, and a differing set of management tools inside the IT organization to manage and monitor their access. For many their business devices are truly mobile, always connected to the cellular wireless network via public IP mobile broadband. As such there is an IT need to implement more stringent security and device management layers to protect the company's data over these less trusted networks.

There are solutions in the market to achieve this based on additional software (apps) loaded on the device to create encrypted Virtual Private Network (VPN) connections from the device to a centralized VPN terminator and on to a dedicated set of authentication and security functions before access is granted to the internal IT systems however these add complexity, cost and often inconsistencies in access control policies.

There is a similar situation for mobile broadband attached Internet of Things (IoT) devices, they too require secured access to the corporate IT assets however many of them they are not based on widely deployed mobile device operating systems like IOS and Android, so require proprietary (non app based) networking solutions to provide the VPN encryption and connectivity.

Nuage Networks from Nokia™ and Asavie™ have collaborated to offer an innovative managed SD-WAN service that encompasses enterprise branch, cloud, mobile workforce and IoT assets into a single, policy managed network service.

The solution combines the agility, elasticity and automation of the Nuage Network's Virtualized Services Platform (VSP) with the performance, efficiency and scalability of Asavies' Software Defined Edge (SD Edge) technology to extend the managed SD-WAN service reach to any mobile broadband attached employees and IoT assets.

This joint solution helps Communication Service Providers (CSPs) who offer managed SD-WAN services to offer fully end-to-end enterprise data services that can incorporate their fixed, mobile and telco-cloud platforms together as a seamless networking fabric.

The result is higher utilization of existing network capabilities, seamless service delivery to the enterprise across both fixed and mobile, and the integration of your value-added services into a single, all-encompassing customer service.

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the solution

Nuage Networks SD-WAN 2.0 is the industry's leading managed network connectivity solution for enterprises pursuing their digital transformation. With Nuage, SD-WAN Communication Service Providers (CSPs) can allow enterprise IT managers to quickly connect physical branch, public/private cloud and SaaS services whilst providing the customer with a 'single-pane-of-glass' from which, using policies, they can manage security and access to applications and data across the enterprise network.

The solution now integrates Asavie SD Edge, ensuring that any mobile users in the enterprise can be effortlessly connected to all enterprise applications, across private and public cloud and Software as a Service (SaaS) environments. The solution will ensure that enterprise users have a consistent and secure connectivity experience using any device, whether in the office or on the move.

For enterprise IT managers deploying a managed SD-WAN based on Nuage Networks technology the solution will provide seamless end-to-end virtualized network visibility and control, via centralized policy management across physical branches, the public and private cloud environments, SaaS offerings and mobile and IOT devices.

It will also provide managed communications service providers with a new and innovative way to connect their fixed and mobile broadband networks to their telco-cloud platforms and deliver to enterprises as a fully integrated, end-to-end managed network service.

Extending the WAN to mobile and IoT devices

The managed SD-WAN service is extended to enterprise mobile workforce and IoT assets over a private Access Point Network (APN) over a mobile broadband service. The Asavie SD Edge reduces the complexity of the interworking by allowing the CSP to setup a single, one-time, APN for the managed SD-WAN service with IP network slicing per enterprise performed in the SD Edge / SD-WAN service platform. This delivers full multi-tenancy without the complexity and overheads associated with setting up a new APN per enterprise.

The devices are authenticated onto the APN via their industry standard, and globally unique IMSI:IMEI (subscriber and device information) and authorized for the specific managed SD-WAN service instance of their enterprise.

By using a private APN and moving IP address management into the SD-WAN service, the IoT and mobile device footprint on the public Internet is significantly reduced, which minimizes the risk of Internet generated denial of service attacks. As the device is authenticated onto the SD-WAN service via trusted credentials (centrally managed by the enterprise as part of the service) there is no requirement for additional VPN apps on the devices. By virtue of successful authentication, they are then fully policy managed by the SD-WAN service and are permitted to connect to any internal IT resources based on their specific business, application and security policies.

conclusion

By combining the Nuage Networks from Nokia SD-WAN 2.0 solution set with the mobile broadband attached device management functionality of the Asavie SD Edge we have created the industry's first managed SD-WAN service solution that seamlessly connects branch, cloud, mobile workforce and IoT devices into the same enterprise network.

For the enterprise this will allow them to further enhance their digital transformation programs by seamlessly and securely connecting mobile broadband attached devices to enterprise clouds and applications without the hassle of using VPN clients on their devices. The result is that with your managed SD-WAN service enterprise IT teams will benefit greatly from using the same centralized policy and control for mobile access as the rest of the enterprise systems and devices located in the cloud or at the physical branches.

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