Alcatel-Lucent Enterprise OmniAccess Stellar At-a-Glance

Next-generation Wi-Fi for Enterprises and vertical sectors

Alcatel·Lucent
Enterprise

Table of contents

# Next-generation Wi-Fi for a next-generation world

Across the networking industry, wireless LANs that deliver a combination of enterprise-grade capability and operational simplicity are becoming the new standard for business networking.

Wi-Fi is no longer a nice-to-have; it's a business imperative. Expectations of what it can deliver and how easy it should be to use for mobility are being radically redefined. Previously, it was expected that deploying a wireless LAN within an enterprise would be a laborious, complex and potentially costly task. Now, the goal is to make the process simple and seamless.

The Alcatel-Lucent OmniAccess® Stellar WLAN solution addresses this goal, delivering high-efficiency Wi-Fi with a personal touch. It doesn't lock you into proprietary systems, it provides outstanding performance, and it's simple and cost-effective to deploy and maintain.

The OmniAccess Stellar WLAN portfolio offers a full range of access points including the latest Wi-fi 6/6E and soon to be released Wi-Fi 7 technologies. It embodies all of the state-of-the-art evolutions in wireless LAN networking and is designed with:

• **Simplicity**: High speed Wi-Fi with optimal radio coverage, yet simple to deploy and operate

• **Performance**: Distributed intelligence architecture for high-availability, high scalability and low-latency

• **User-centricity**: Easy to connect to, excellent quality and a secure user experience

• **Secure Internet of Things (IoT) onboarding**: Provides automated IoT classification and connectivity and secure IoT segmentation technology so you can use and deploy your own IoT solutions with confidence

• **Smart analytics**: Wi-Fi Quality of Experience (QoE), customer behavior and location analytics for a superior user experience. Advanced network analytics for proactive service assurance, efficient troubleshooting and root-cause-analysis.

• **Unified management**: Native unified access for LAN and WLAN with cloud-enabled management that guarantees the best Quality of Service (QoS)

• **Evolution**: Built on the latest technologies, innovations and services

• **Low Total Cost of Ownership (TCO)**: No central controller means less hardware, less power consumption, no single point of failure and less maintenance. Additionally, with the management system in the cloud, licenses are sold through a Software-as-a-Service (SaaS) model, and a server does not need to be installed on the customer premises.
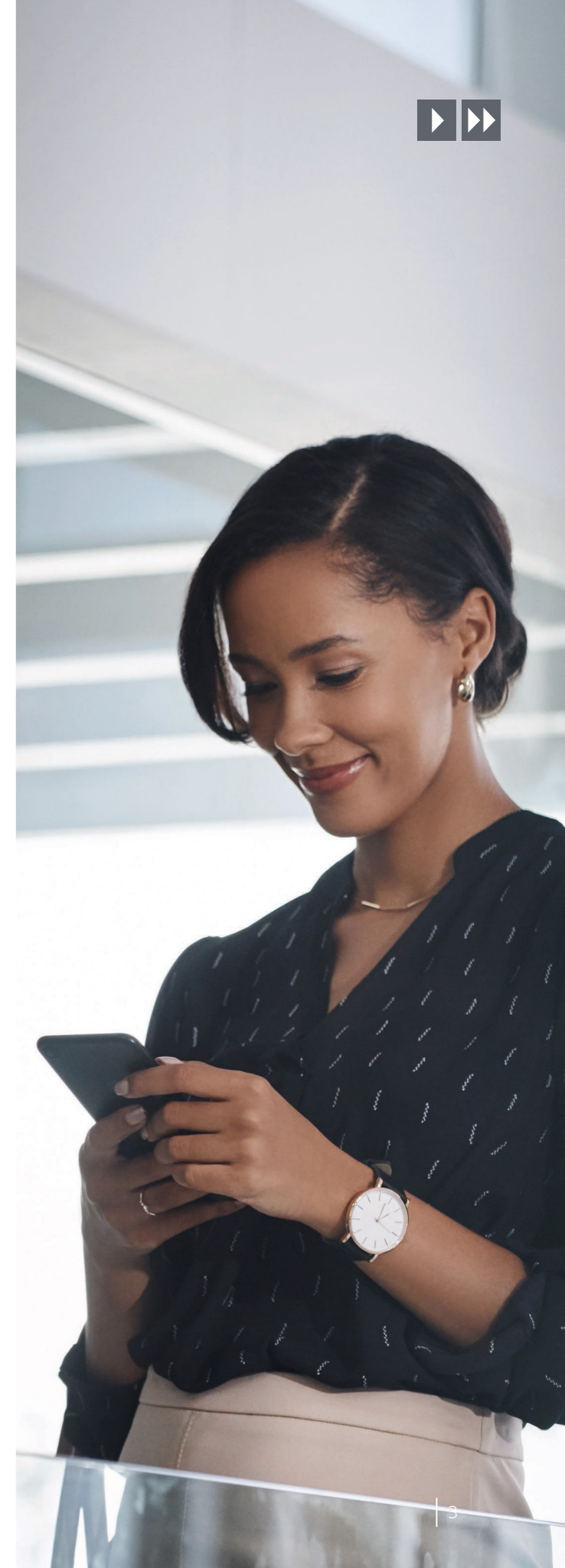
Built for business

Built for superior performance and efficiency

Designed with an innovative distributed control architecture instead of a central controller in the network, OmniAccess Stellar WLAN distributes the intelligence and control among the access points. This enables:

- **Better radio coverage**: With automatic choice of the best frequency and channel, to avoid interference

- **Maximum bandwidth allocation**: Devices can support more clients

- **Superior user experience for each client device**: Automatically connect devices to the highest capacity access points

- **Fast speed**: Even for older devices using fair airtime access

- **More reliable network coverage**: A self-healing network with no single points of failure

- **Optimized QoS**: Automated services that do not impact the user experience

The OmniAccess Stellar WLAN Wi-Fi 6/6E and 7 access points are well-suited for even the most demanding Wi-Fi environments. They outperform in high-density areas, with a large number of concurrently connected devices, and support low-latency, high-bandwidth applications. They also enable lower battery consumption on connected devices, making them a solid choice for IoT deployments.

Built for operational simplicity and flexibility

OmniAccess Stellar WLAN supports flexible deployment models to adapt to every type of customer, from small to medium and large or extra-large installations.

- **Standalone deployment for smaller properties – Wi-Fi Express**: In Wi-Fi Express mode, the OmniAccess Stellar access points belong to an AP group or cluster where one of the access points is designated as a virtual controller for the cluster. The administrator manages the access point directly from a web browser, which synchronises all the access points in the cluster.

  New access points are automatically added, and it's simple to set-up who can have wireless LAN access, when, where and for how long, in a guest management portal. Up to 255 OmniAccess Stellar WLAN access points are supported per cluster.

- **Managed deployment for larger premises – Wi-Fi Enterprise**: In Wi-Fi Enterprise mode, the OmniAccess Stellar WLAN is managed from the Alcatel-Lucent OmniVista® Network Management System (NMS). OmniVista NMS provides a seamless user experience, with centralised and unified management for the LAN and WLAN, through a single dashboard.

  OmniAccess Stellar WLAN implements many network automation and zero-touch configuration capabilities, supported and augmented by the OmniVista NMS, which saves IT staff time and effort. With OmniVista NMS, you can choose either on premises or cloud-based management, delivered in SaaS mode. Both are versions of the same NMS, with the same functionality and look and feel, making it easy for IT personnel to use either version without requiring additional training. With the cloud-based OmniVista NMS, transitioning from Wi-Fi Express to Wi-Fi Enterprise is as easy as starting a subscription.

Built for security and IoT

With the surge in cyberattacks, security has become a critical element for enterprise networks. With that in mind, Alcatel-Lucent Enterprise network infrastructure is designed for exceptional security with features including:

- **Secure access for guests and staff, through the Unified Policy Authentication Manager (UPAM)**: Using centralised, rule-based policies to set access criteria and automatically on-board user devices, for both employees and guests, policy enforcement is set from edge to core in just one click.

- **Unified access across LAN and WLAN**: Users can login in the same manner and with the same profile, regardless of the technology and device they are using, at any time

- **Secure IoT onboarding**: With automatic detection connection and segmentation of IoT devices, which can be easily monitored from a central inventory on a single screen

- **Secure BYOD functionality**: With the employee's ability to manage their own devices and with external database support for authentication

Additionally, OmniAccess Stellar access points are equipped with a dedicated scanning radio to detect interference and rogue APs, without interfering with the Wi-Fi service, and implement advanced security features such as WPA3 encryption protocol, Private Group PSK, Web Content Filtering and Deep Packet Inspection (DPI), among others.

To support the influx of IoT, OmniAccess Stellar provides a multi-standard solution, which natively implements Bluetooth Low Energy (BLE) and Zigbee 802.15.4 wireless protocols, along with Wi-Fi connectivity, enabling a world of use cases in vertical sectors such as hospitality, education and healthcare.

OmniAccess Stellar portfolio

Wi-Fi 7 (802.11be) access points

Wi-Fi 7 marks a significant evolution from its predecessors by incorporating Multi-Link Operation (MLO). This cutting-edge feature enables simultaneous data transmission across multiple frequencies, significantly enhancing network efficiency, performance and reliability while minimizing latency. A key advancement of Wi-Fi 7 is its support for three ultra-wide 320MHz channels, effectively doubling the bandwidth from the previous generation's 160MHz and supporting data rates up to 46 Gbps. These enhancements not only increase the data rate and available spectrum for Wi-Fi services but also reduce network overlap in densely populated areas, thereby improving connectivity and reducing interference. The availability of more high-bandwidth channels boosts the capacity for high-bandwidth, low-latency applications such as high-definition video streaming, virtual reality gaming and remote education, making Wi-Fi 7 a substantial leap forward in wireless technology.

AP1511   AP1521

Indoor Entry-Level	Indoor Mid-Range
• Cost-effective and versatile for all types of enterprises with standard requirements	• Improved Wi-Fi performance for high density environments
• Three radios: 2.4GHz 2x2:2 + 5GHz 2x2:2 + 6GHz 2x2:2	• Three radios: 2.4GHz 2x2:2 + 5GHz 4x4:4 + 6GHz 2x2:2
• Peak throughput: 9 Gbps	• Peak throughput: 12 Gbps
• WAN resiliency with PoE active	• WAN resiliency with PoE active
• Very high data rate with multigig uplinks (1x5GE)	
• Better IoT support with one integrated BLE/Zigbee radio	
• High efficiency with the full range of Wi-Fi 7 features: 46 Gbps speed, MLO, 3x 320MHz channel, 16*16 UL-DL-MU-MIMO, 4096-QAM, RTWT, BSS Colouring, WPA3, MRU, Preamble Puncturing	

Wi-Fi 6E (802.11ax) access points

Wi-Fi 6E extends the features and capabilities of Wi-Fi 6 into the 6GHz unlicensed band and includes support for up to 14 80MHz channels or seven super-wide 160MHz channels. This increases the available spectrum for Wi-Fi service and reduces overlap between networks in dense areas. Access to the 6GHz band means getting rid of the overhead and traffic from legacy devices, and in consequence, having better connectivity and less interference. What it all comes down to is the ability to support more bandwidth-intensive applications. More available high-bandwidth channels means more capacity for high-bandwidth, low-latency applications, such as high-definition video streaming, virtual reality gaming, and remote education, medical consultations and assisted surgeries.

AP1411	AP1431	AP1451
Indoor Entry-Level	**Indoor Mid-Range**	**Indoor High-end Premium**
Cost-effective and versatile for all types of enterprises with standard requirements	Premium mid-range access point for large enterprises with intensive Wi-Fi usage	Outstanding performance for very demanding real-time applications and for high density and high-capacity needs
• Two radios dual band: 2x2 @2.4/5GHz + 2×2:2 @ 5GHz or @ 6GHz	• Three radios: 2.4GHz 2x2:2 + 5GHz 2x2:2 + 6GHz 2x2:2	• Three radios: 2.4GHz 4x4:4 + 5GHz 8x8:8 + 6GHz 4x4:4
• Peak throughput: 3 Gbps	• Peak throughput: 4 Gbps	• Peak throughput: 10 Gbps
		• Higher security with one scanning radio
Better IoT support with one integrated BLE/Zigbee radio		
• Uplink: 2x1GE	• Very high data rate with multigig uplinks (2x2.5GE)	• Very high data rate with multigig uplinks (2x10GE)
• WAN and PoE active/active resiliency with dual uplinks		
• High efficiency Wi-Fi 6E: 9.6 Gbps speed, OFDMA, 8*8 UL-DL-MU-MIMO, MLO, 7x 160MHz channel, 1024-QAM, TWT, BSS Colouring, WPA3		

Wi-Fi 6 (802.11ax) access points

Wi-Fi 6 (802.11ax) was designed to address the growing capacity and IoT efficiency needs of enterprise wireless LAN networks. OmniAccess Stellar WLAN brings integrated Bluetooth®/Zigbee and dedicated Wi-Fi scanning radio technology to Wi-Fi 6 access points, providing a framework for expanded IoT, security and location services.

| AP1301H | AP1301 | AP1311 | AP1321/22 | AP1331 | AP1351 | AP1360 Series |

Indoor					Outdoor	
In-room Wall-plate	Entry-level base	Entry-level premium	Mid-range base	Mid-range premium	High-end premium	High-end
Designed for vertical industries (hospitality, education), branch offices and teleworkers	Best fit for small and medium enterprises with standard requirements	Cost-effective and versatile for all types of enterprises	Improved performance for high- density environments	Premium mid-range access point for larger enterprises with intensive Wi-Fi usage	Outstanding bandwidth and speed for very demanding real-time and high-density needs	Extended connectivity in harsh and outdoor environments
Two radios dual band (2x2 @2.4/5GHz) 1x1GE uplink Wired connectivity for four IP devices (4x1GE, one with PoE PSE) Legacy analog phones installations support (RJ-45 passthrough) Better IoT support with one radio for BLE/Zigbee	Two radios dual band 2.4/5GHz (2x2) WAN resiliency with two uplinks (2x1GE)	Two radios dual band 2.4/5GHz (2x2) WAN resiliency with PoE active/ standby backup (2x1GE) Wired IoT connectivity	Two radios dual band 2.4/5GHz (4x4 @5GHz, 2x2 @2.4GHz) WAN resiliency with PoE active/ standby backup Higher data rate with Multigig uplink (2.5GE+1GE)	Two radios dual band (4x4 @2.4/5Ghz) WAN resiliency with PoE active/active Very high data rate with Multigig uplinks (2x5GE)	Three radios dual band 2.4/5GHz (4x4 @2.4Ghz, 8x8 @5Ghz L, 4x4 @ 5Ghz H) WAN resiliency with PoE active/ active Very high data rate with Multigig uplink (2x10GE)	Two radios dual band 2.4/5GHz (4x4 @5GHz, 2x2 @2.4GHz) Higher data rate with Multigig uplink (2.5GE) Wired IoT connectivity and power Long-distance backhaul (SFP port)
		Higher security with one radio dedicated for RF scanning Better IoT support with one radio for BLE/Zigbee				
	High-efficiency and security with the full range of Wi-Fi 6 features: OFDMA, UL-DL-MU-MIMO, 1024-QAM, TWT, BSS Coloring, WPA3					

Wi-Fi 5 (802.11ac) access points

The Wi-Fi 5 (802.11ac) standard was designed to address the growing demand for throughput and high-speeds in enterprise wireless LAN networks. Wi-Fi 5 is a suitable solution for enterprises that do not foresee a huge increase in the number of users, IoT devices and real-time applications in the short term.

Stellar WLAN offers a few models designed to meet the specific requirements of customers for whom Wi-Fi 5 technology suffices.

AP1201	AP1231/32
Entry-level wave 2	High-end
Cost-effective, IoT enabled, for all types of enterprises	Improved performance for high density requirements
Two radios dual band 2.4/5GHz (2x2)	Three radios dual band 2.4/5GHz (4x4 @2.4GHz, dual 4x4 @ 5GHz)
One 1xGE uplink	WAN resiliency with two uplinks
IoT support with a BLE/Zigbee radio	High data rate with Multigig uplink (1xGE + 1x2.5GE)
	IoT support with a BLE radio

Next-generation Wi-Fi for next-generation industries

Keep healthcare safe and connected

Today, healthcare providers are juggling a huge increase in digital demand across the entire patient care pathway, from appointment bookings and consultations to tests, surgeries and outpatient care and monitoring. With OmniAccess Stellar WLAN, clinicians benefit from faster, more reliable and secure connectivity. The solution supports multiple access points, managed from a single interface, and it lets clinicians check and update patient medical records without leaving the patient's side. According to industry experts, 78% of healthcare experts believe that mobile health solutions can increase the satisfaction level of patients, and 75% of healthcare experts say mobile health technology minimizes costs[1].

While digital plays a huge role in enabling better patient outcomes, it also puts a considerable strain on networks, not only in the volume of data and network traffic, but also in the number of connections that collectively pose a potential security risk. Healthcare organisations hold masses of personal patient data. And every new, smart connected device creates a new gateway for a potential cyberattack. Reliable, secure and high-performance Wi-Fi is required to deliver the connectivity that clinicians and patients are demanding but also the integrated security to keep data safe.

With the OmniAccess Stellar WLAN solution IoT segmentation and Network Access Control (NAC) capabilities, healthcare organisations not only get simplified deployment and configuration but also a dramatically more secure zero trust network architecture. Hospitals can run a clinician network exclusively for devices used by doctors and nurses; a security network for surveillance cameras, access control and intrusion detection; and a guest network for patient and visitor use, among others, all on the same network infrastructure. If any network element is compromised, an attack can be contained to that network segment.

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1 TechReport - 30 Amazing Mobile Health Technology Statistics

[2023 Update](https://techreport.com/statistics/mobilehealthcare-technology-statistics/)

Hospitality delivers next-gen guest experiences

When was the last time anyone took a trip without a mobile device? Today, almost 90% of guests carry not just one but two or more devices. Do you know that digital transformation in the hospitality industry concentrates all key staff applications onto a smartphone?

The OmniAccess Stellar WLAN solution proposes fast, reliable, secure Wi-Fi, and Voice over Wi-Fi to all types of hotels looking to differentiate themselves. The core architecture "mesh" as well as the internal algorithm allows high bandwidth, high density of connections and flexibility in deployments as well as equipment add-ons to cover the needs of the hotel, such as large events, indoor or outdoor events, or activities in a single or multiple buildings.

Internal captive portal and social login options are available, as well as the ability to integrate with external captive portals implemented by the hotel property. Hoteliers can select the one that best fits their requirements and needs.

But it's not just guests who need high-performance Wi-Fi; hotel staff need to be connected wherever they are on-premises to offer a customer experience that stands out from the competition. The buildings need reliable Wi-Fi and a connected hotel that can deploy automated rooms, and apps that control lights, shutters and door locks — all with wireless connectivity.

IoT onboarding is secured automatically via profiling with segmentation to avoid the exposure of the entire network to new IoTs. Since staff properties need high performance and autonomy in operations, upcoming ALE AI tools will allow onsite staff to be alerted, monitor and act in real-time to issues like network congestion, loop detection and other events, with one tap on their smartphone,. Keeping staff mobile, productive and secure wherever they are on the hotel grounds requires intelligent access points and the ability to tailor user policies seamlessly. With the OmniAccess

Stellar WLAN solution, guests and employees can roam the premises without compromising their connectivity. Among the top concerns for hotels today are payment and data security. The OmniAccess Stellar WLAN solution is designed with exceptional resilience and security controls, enabling hotels to deploy and manage secure guest and internal networks through the same access points. OmniAccess Stellar WLAN enables automatic onboarding of user devices and IoT devices to support automated rooms as well as improve the experience in other areas of the hotel, including casinos, fitness centers, restaurants, stadiums and amusement parks. As well, guests can access private network capabilities to manage their multiple devices with total security and privacy.

Transportation makes next-gen connections

From rail to road and from sea to air, the traveler experience has become an important element in the decision-making process in the transportation sector. Wireless connectivity plays a huge role in boosting that experience. From status updates sent to a traveler's mobile device to automated ticketing, check-in, safety and security, travelers are used to being able to connect from almost anywhere, and this must extend into the transportation experience.

Smart connected machines, such as automated ticketing kiosks, are maximising efficiencies and improving the traveler experience. Transportation staff are becoming more mobile and better connected, while lone workers, such as maintenance crews, can benefit from improved protection with extended WLAN connectivity.

However, the demand for connectivity is maxing out traditional network infrastructures — and it is only growing. Connectivity must be reliable, secure, high-performance and mobile to meet staff requirements and deliver the end-to-end, connected experience that customers and travelers expect. With the OmniAccess Stellar WLAN solution, travelers and visitors can connect wherever they are around the station, airport or port. Staff can also stay connected as they move around, keeping them safe and productive.

Transportation networks exchange masses of data from signaling systems to traveler connectivity and apps, staff devices and connected machines. And every new app, personal device or IoT deployment creates a new gateway for a potential cyberattack. With OmniAccess Stellar WLAN solution's IoT segmentation capability, transportation organisations get simplified deployment and configuration plus dramatically more secure network architecture to protect against cybercrime. Using a secure, simple, distributed environment, separate contained network areas can be created that are only accessible by compliant devices. For example, travelers and staff have separate networks. Connected machines and security systems can be kept on separate networks too, in case of compromise. In addition, the OmniAccess Stellar WLAN distributed architecture ensures a low cost of ownership and supports the growth of WLAN and adoption of new Wi-Fi technologies without needing to replace any part of the existing infrastructure or add more hardware.

WLAN powers next-gen energy and utilities services

WLANs have become a crucial technology in the energy and utilities sector, facilitating enhanced connectivity and productivity in the field.

One key application of WLAN in the energy and utilities sector is the remote monitoring and control of equipment and systems. This enables real-time data collection and analysis, allowing companies to enhance operations and increase efficiency.

Another significant application of WLAN in this industry is asset management. Through the use of WLAN-enabled devices, companies can track the location and condition of assets such as power lines and transformers in real-time. This leads to more effective maintenance planning and asset optimisation.

However, there are risks involved in using WLAN in the energy and utilities sector, with cyberattacks being a major concern. As more devices and systems are interconnected via WLAN, they become susceptible to hacking and data breaches, potentially compromising sensitive information and disrupting operations. Companies in this industry must implement robust cybersecurity measures to safeguard their networks from these threats. Taking proactive measures to mitigate these risks is essential to ensuring the security and efficiency of operations.

The OmniAccess Stellar WLAN solution provides the capacity to handle high volumes of data and network traffic as well as a large number of connections through high-performance Wi-Fi access points designed for tough environments. These access points offer connectivity with cybersecurity protection tailored to the specific needs of energy and utilities organisations.

In addition, the IoT segmentation capability of the OmniAccess Stellar WLAN solution streamlines deployment and configuration, reducing operational costs. OmniVista, ALE's powerful remote management tool, makes network management easy and efficient, day to day.

Public sector and citizens benefit with high-efficiency Wi-Fi for all

The citizen experience is an essential consideration as government organisations roll out public sector services. Capabilities such as secure, responsive services, improved emergency response systems and wireless connectivity play a huge role in improving that experience. From air quality alerts to real-time wayfinding signage, connectivity from anywhere must extend into the government experience.

Smart connected devices, such as sensors in roadways, and monitors that automatically track variations in water or power usage, maximise efficiencies and improve the lives of citizens. Public employees in government offices are more mobile and better connected, while workers in the field, such as maintenance crews, are better protected with extended wireless connectivity.

The OmniAccess Stellar WLAN solution delivers enterprise-grade connectivity with operational simplicity and manageability that's efficient, secure, simple and affordable. OmniAccess Stellar WLAN's innovative distributed intelligence control provides a highly scalable and efficient public Wi-Fi service, which guarantees the access of citizens and visitors to the city digital services and the Internet, bridging the digital breach for the most unfavoured sectors of the population. And, with ALE, a tailored solution can be built to suit any government organisation looking for Wi-Fi services.

The OmniAccess Stellar WLAN is designed to enable automatic onboarding of smart and IoT devices to enhance the connected government experience across the spectrum of public sector services. With OmniAccess Stellar WLAN, government employees and the public can connect within the proximity of public buildings or campuses. Officials can stay connected and safe as

they move around. All OmniAccess Stellar WLAN solution elements, from access points to users to IoT devices, are managed with a unified management platform through a single dashboard.

However, with every connection and every IoT device, the network becomes susceptible to potential cyberattacks. With the OmniAccess Stellar WLAN IoT segmentation capability, public sector organisations get simplified deployment and configuration as well as a secure network architecture to protect against cybercrime. Using a secure, simple, distributed environment, separate contained network areas can be created, only accessible by compliant devices. For example, different departments can have separate networks. To prevent networks from being compromised, connected machines and security systems can be kept on separate networks.

Education demands next-gen Wi-Fi now

The education industry has been expanding the way they deliver classes for some time now, and students have been adapting to new ways of learning. Blended learning and 1:1 learning programs have been implemented to enable students to learn anywhere, anytime. A mix of traditional class-based techniques and personalised, digital schooling has opened a new world of education tailored to students' individual requirements.

Teachers and lecturers alike rely on robust, reliable Wi-Fi across their campus to access the full range of teaching tools available to them. And, in higher education and universities, the standard of available digital services can play a major factor in a student's choice of where to attend.

Educational institutions are looking to deliver the connectivity that teachers and lecturers are demanding, as well as the integrated security to keep students safe. Higher data transfer speeds enable faster access to files within the school district network and help with the high-bandwidth

and low-latency needs. The OmniAccess Stellar WLAN solution lets students access learning applications or get online to research subjects wherever they are on campus, using their own devices. And, teachers are empowered to deliver more interactive in-classroom learning experiences.

Education institutions maintain a wide variety of confidential student data. And every new application, personal device, or IoT device deployment creates an opportunity for a cyberattack. With OmniAccess Stellar WLAN solution's IoT segmentation feature, education establishments benefit from simplified deployment and configuration as well as a significantly more secure network architecture.

Using a secure, simple, distributed environment, separate contained virtual network areas can be created that can only be accessed by compliant devices. This means instructors, staff and administrators can have a separate network from students; policies can be used to limit P2P or other

irrelevant site access from the student network; and IoT devices like HVAC, POS terminals, CCTV and building access controls can be kept on a separate network, ensuring a compromised section won't affect other areas of the network.

OmniAccess Stellar WLAN offers a choice of entry-level, mid-level and high-end access points that can grow with your needs and is designed to enable automatic onboarding of user devices and IoT devices to support the connected learning experience, wherever people are on the campus.

OmniAccess Stellar WLAN provides architectural simplicity so that it can be managed by small IT teams and does not require too much of the school resources. It provides application visibility and web content filtering to make sure each user category accesses the content adapted to their needs. And it provides unified secure access to ensure a smooth and secure learning experience.

Summary

The Alcatel-Lucent OmniAccess Stellar WLAN brings an unparalleled experience for connectivity, coverage and performance to modern IoT-connected enterprises across all industries. It enables the next-generation digital enterprise that demands business agility, seamless mobility and secure IoT-enabled infrastructure, empowering business transformation through continuous innovation. It enables people to work together and communicate more effectively, while ensuring network security.

The OmniAccess Stellar WLAN portfolio of Wi-Fi 7, Wi-Fi 6/6E and Wi-Fi 5 access points makes tomorrow's diverse digital workspaces highly reliable and efficient.

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