

Grandstream eGuide

Vertical Deployment Solutions Brochure



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Grandstream Solutions for Small to Medium Offices

Designing an IT infrastructure that supports the operations of a business and its workers

One of the largest drivers of productivity for a business is how employees collaborate and go about their day-to-day work, not only with each other but also with those outside the organization. A slow Wi-Fi connection, lack of efficient collaboration tools, or a poorly optimized backend network infrastructure are all small issues that compound into wasted time, resources, and money. The technology a company leverages to enable their staff to connect with each other and customers can profoundly impact success. We develop our product lines to offer a wide range of features and capabilities at various price points, allowing the IT team and system integrators to create exactly the solution that a business needs.



SMB Office Product Highlights

With a UCM IP PBX platform, organizations can centralize their calling, video meetings, messaging, and more

Grandstream's UCM platform started as an award-winning on-site IP PBX hardware device and has expanded to a cloud and software IP PBX solution. The UCM6300 series, CloudUCM, and SoftwareUCM all offer unique deployment scenarios that can be taken advantage of depending on the platform. No matter the chosen UCM product, our offerings centralize the configuration and management of a business's voice and video calls, meetings, chat, facility access, intercoms, and more. These platforms come with a suite of comprehensive features that support a truly customized collaboration solution.

If you're interested in learning more about our UCM options, you can download our [UCM Sales Kit here](#).

A wide range of IP endpoints provides the perfect device for any workstation

Our portfolio comes equipped with our GRP carrier-grade desktop IP phones, WP Wi-Fi cordless IP phones, DP DECT phones, and GXV video conferencing phones. All our latest-generation devices are mass-deployment friendly since they can be configured, managed, and diagnosed through our free, cloud-based Grandstream Device Management System platform. With our UCM series, our IP endpoints can take advantage of the ZeroConfig feature, allowing for a plug-and-play operation that automatically assigns a device with an extension when connected to an existing UCM network. Our WP Wi-Fi cordless phones pair well with our GWN Wi-Fi access points, which support a roaming protocol and QoS features for a lossless mobile call experience.

Precise network construction with GWN switches, Wi-Fi access points, and routers

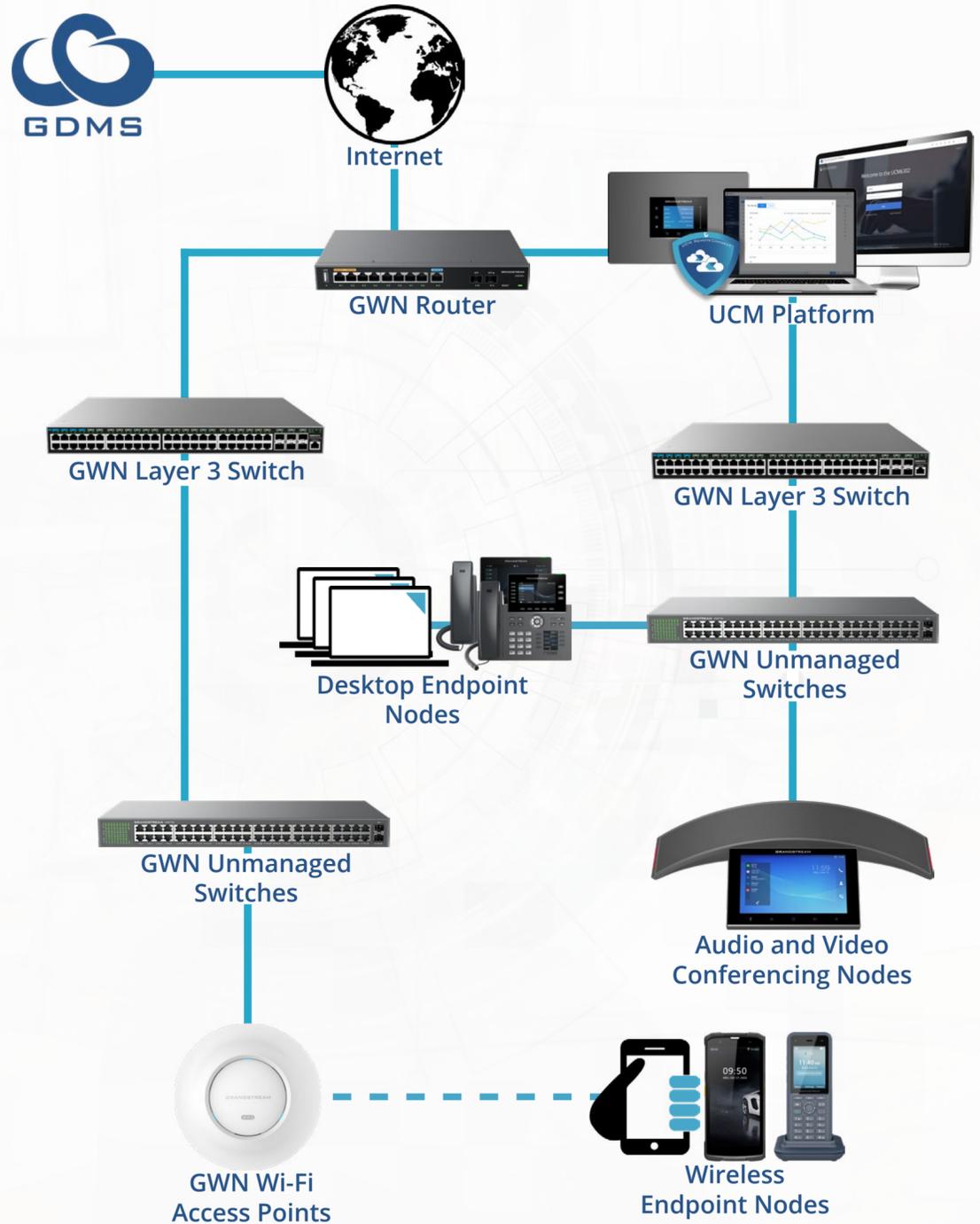
Unified communications and business networks only work as effectively as the backend IT infrastructure on which they are deployed. Grandstream's switch portfolio includes unmanaged, layer 2+, and layer 3 devices with sub-model variants such as aggregation, 2.5G multigigabit, and SFP+ port switches. Organizational requirements such as VLANs, QoS configuration, static/dynamic routing, and advanced security features can vary based on the deployment size and operations, and our portfolio equips you with highly customizable and affordable devices.

Explore switch features and technical specifications through our product search tool, [which you can use here](#).



Small to Medium Offices

Example Deployment



User Benefits

Advanced collaboration with a UCM platform



- A UCM platform serves as the anchor for business collaboration, supporting up to 5,000 users/1,000 concurrent calls, a built-in audio/video/chat/web meeting platform, and customizable call routing using features such as inbound and outbound routes, 5-layer IVR, comprehensive extension assignment, call queues, ring groups, pick-up groups, and more.
- Grandstream Wave is our mobile, desktop, and web application for the UCM ecosystem, providing all users within a UCM network with an application to access their extensions, schedule and hold meetings, instant message/group message, share files, audio and video call, and more.
- UCM RemoteConnect pairs with SoftwareUCM and the UCM6300 series to enable organizations to build a secure and easy-to-manage NAT firewall traversal function for remote workers.

High-performance Wi-Fi networking through GWN access points



- With up to 16 different Wi-Fi access point models to choose from, small to medium offices can create a Wi-Fi environment tailored to their performance needs.
- Wi-Fi 5, Wi-Fi 6, and our new Wi-Fi 7 models are available depending on the deployment. GWN Wi-Fi 6 access points bring OFMDA technology to a wireless network, enhancing the AP's resource allocation and improving performance in higher-density deployments. Additionally, the GWN Wi-Fi 7 access points' Multi-Link Operation (MLO) feature allows compatible devices to connect to two bands simultaneously, drastically increasing performance.
- Bandwidth rules, Quality of Service features, access limits, band steering, and Airtime Fairness are all examples of performance settings that can be configured to keep a business network operating more effectively, even during peak usage times.
- Access point management can be done in the cloud via GDMS, a GWN's built-in controller, or through our free GWN Manager software.

Other portfolio options for a complete SMB office solution



- Grandstream's GCC6000 series are state-of-the-art devices that combine the functionality of 4 products to provide an all-in-one solution. It includes a VPN router, next-generation firewall, IP PBX, and network switch or Wi-Fi access point. With the GCC Series, IT integrators can create and manage wired, wireless, and VPN networks, provide enterprise-grade network security, and utilize a market-leading communication and collaboration platform.
- The GWN7000 series are Multi-WAN Gigabit VPN routers with built-in firewalls that allow businesses to build comprehensive wired, wireless, and VPN networks for one or many locations. Advanced QoS features, application and protocol monitoring through Deep Packet Inspection, and a suite of firewall configurations make these routers a competitive choice for SoHo applications.

2

Grandstream Solutions for Hotels and Hospitality

Empowering Hotel Operations with Innovation and Connectivity

In a modern hospitality environment, rapid collaboration and work operations are vital. It can make the difference between a positive or negative guest experience. Resorts, hotels, and hospitality deployments are unique because of the sheer variety of users within the network. Front-of-house receptionists, restaurant staff, cleaning teams, back-of-house administration, and guests have very different requirements during their time spent within the facilities. Grandstream provides comprehensive solutions that are specifically designed to equip hotels of all sizes, from small roadside motels to complete multi-building resorts; our devices come together to deliver a successful and cost-effective IT and communications infrastructure.



Hospitality Product Highlights

Grandstream's unified communications portfolio enhances collaboration for both guests and staff

From as little as 50 users and 24 concurrent calls up to 5000 users and 1000 concurrent calls, Grandstream UCM solutions can be scaled to fit hotels of various sizes. For hotel guests, the GHP Series of hotel phones features three models within the line. These devices offer wide features and price points that enable hotels to craft room-based solutions depending on their use cases. All Grandstream GHP devices can be configured from the cloud using GDMS, allowing for seamless deployment of hundreds of hotel phones. Each model has a Wi-Fi variant and a white or black color variant, allowing for customized solutions.

Find out more about the features of our GHP hotel phones on our [product page](#).

Wi-Fi access points designed for hotel deployments

Grandstream Wi-Fi access points come with features that benefit both hotel guests and staff. Our in-wall access points, such as the GWN7661E, are a perfect wireless solution for hotel and resort guest rooms. They provide an affordable device for high-speed wireless connections and also feature three 1 Gbps network ports, 2 of which support Power Source Equipment (PSE) capabilities to power PoE-capable devices. Our Wi-Fi access points also support necessary hospitality features such as bandwidth configuration per SSID, captive portals, client configurations, and more.

GWN Wi-Fi access points' captive portals can be deeply customized depending on a hotel's deployment scenario. [Read our blog post](#) to learn more.

Secure and high-performance network switches

Network segmentation and performance within those segments are extremely important in a hospitality deployment. Guests, staff, and facilities all have their own bandwidth needs, and an IT infrastructure needs to be able to intelligently meet those needs even during times of heavy congestion. Our managed switches support critical features such as VLAN segmentation and Quality of Service (QoS) that can be leveraged to allocate network resources to each segment, guaranteeing performance for critical operational functions. Additionally, providing guests with network access always comes with a level of risk, both to the network itself and also to other guests. VLAN segmentation can help protect hotel assets by separating them from the guest network. Security features such as access control lists (ACLs), DHCP snooping, and port security can further increase protection.

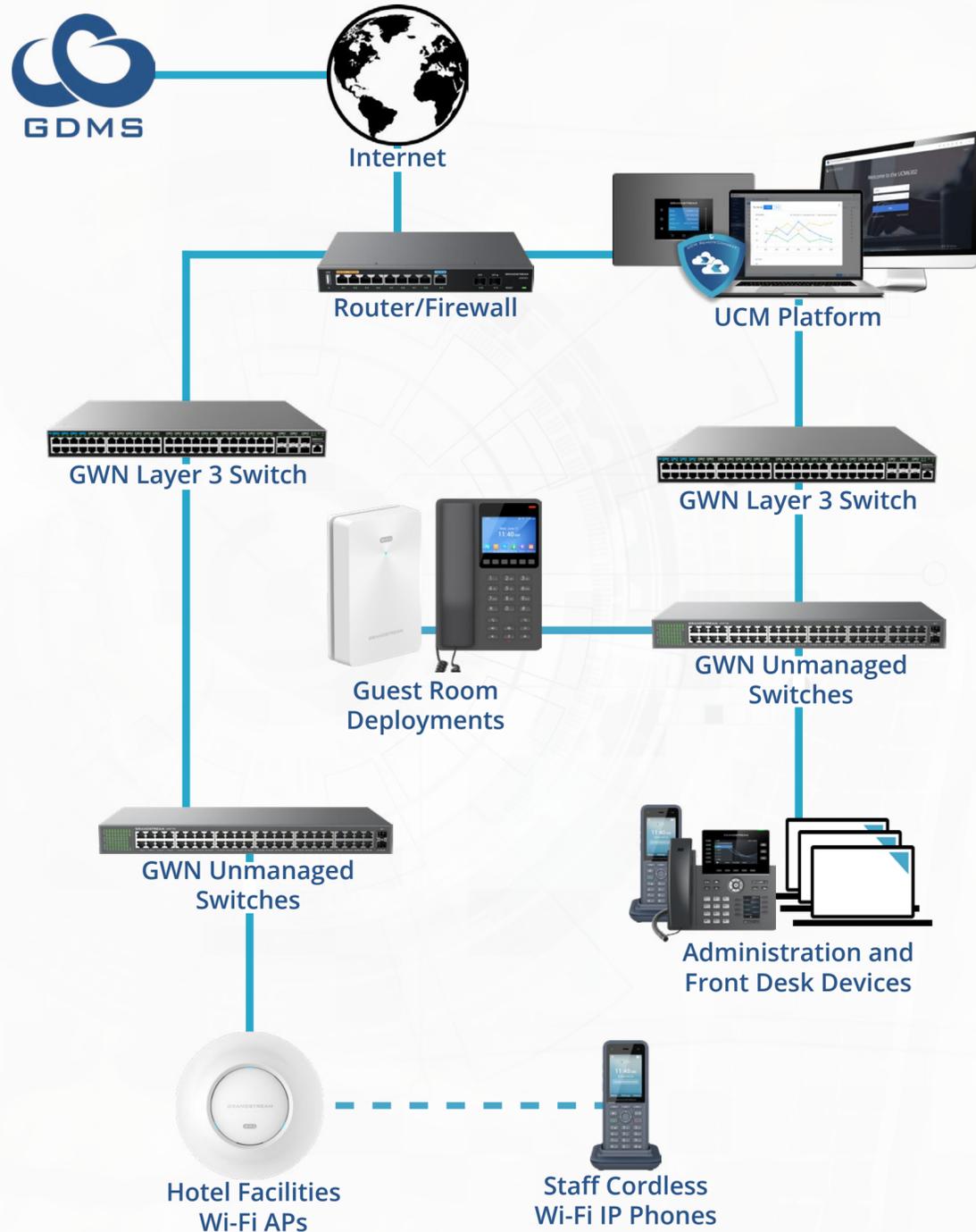
Grandstream Video Tutorial: How to Configure VLANs

Through this comprehensive tutorial, Grandstream's support team demonstrates VLAN configuration on the GWN router, switch, and access point. They also explain the different methods of assigning voice VLAN to endpoints, such as IP phones. [Click here to watch](#).



Hotel and Hospitality

Example Deployment



User Benefits

Staff and guest network optimization



- Creating a VLAN provides a group of devices with a common set of requirements that allows them to communicate as if they were attached to the same broadcast domain, regardless of their physical location. A VLAN has the same attributes as a physical LAN but allows for endpoints to be grouped together even if they are not on the same GWN switch. This is a great way to separate guest-focused and staff-focused devices for enhanced organizational security and ensured performance.
- Using captive portals and SSID-based client configurations, hotel Wi-Fi environments can be fine-tuned for both guests and staff. By using captive portals, hotels can control how guests access the network, collect leads, or ensure users accept terms and conditions. Connection time limits, bandwidth limitations for users, and wireless client limits are all ways to ensure the performance of a Wi-Fi network for hospitality staff.

Devices created with hospitality in mind



- GHP Series of hotel phones features three models within the line. These devices offer various capabilities and price points that enable hotels to craft room-based solutions depending on their use cases. Each model has a Wi-Fi variant and a white or black color variant.
- In addition to the suite of advanced communication and collaboration features, the UCM platform also supports various Hotel Property Management System (PMS) integrations. This includes HMobile PMS, HSC PMS, Mitel PMS, IDS PMS, and an open PMS API that allows users to use their own middleware to work with PMS systems instead of currently supported integrations.
- Administrative, room service, and janitorial staff can take advantage of WP Wi-Fi Cordless IP Phones. These devices support an advanced antenna design with integrated dual-band Wi-Fi 6 support, improving roaming performance throughout the hotel. All WP devices support push-to-talk functionality, letting staff quickly communicate with each other.

Other portfolio options for a complete SMB office solution



- Grandstream's GSC paging and intercom devices can create a functional announcement and speaker solution for resorts and larger hospitality solutions. Multi-cast paging enables priority/emergency announcements to be broadcast over all GSC devices simultaneously.
- For smaller hospitality solutions, the GCC series of convergence solutions delivers a cost-effective and comprehensive communication and networking solution on a single device. A smaller motel or bed and breakfast can use the IP PBX, firewall, router, and layer 2 switching functionality of the device to construct a complete IT infrastructure solution without needing a multitude of hardware devices, keeping the deployment streamlined.
- Larger hospitality deployments can have incredibly diverse network infrastructures between IP endpoints, Wi-Fi access points, workstations, smart IP endpoints, and unmanaged switches that connect them. GWN layer 3 aggregation switches allow hotels to build scalable, secure, high-performance, and smart business networks that are fully manageable and support maximum capacity.

3

Grandstream Solutions for Primary and Secondary Education

Creating Affordable and Comprehensive IT Infrastructure Solutions for Schools

For primary and secondary schools, unified communications, Wi-Fi, and networking deployments typically require a diverse set of devices and features that can support the many roles and spaces within the facility. As one of the most critical components of a school's infrastructure, it is essential that a system integrator understands the tools available to fully customize these networks. Grandstream's portfolio includes a diverse set of affordable, feature-rich devices that work together to help both staff and students stay productive, informed, and safe. Grandstream products have been leveraged worldwide to win bids and create comprehensive, single-vendor school solutions.



Primary and secondary education Product Highlights

Bid-winning solutions without sacrificing features or functionality

Our portfolio is used worldwide to create affordable networking and UC infrastructure for schools. Our Wi-Fi access points, switches, desktop IP phones, and facility speakers/paging systems offer a wide variety of devices that balance features and price points, enabling you to create a system that perfectly matches your deployment. Grandstream's award-winning UCM collaboration and IP PBX platform can be deployed for a school or an entire district as a hardware device, a cloud PBX, or a software PBX, depending on the school's needs. Our high-end hardware UCM IP PBXs and SoftwareUCM are both perfect choices for district-wide deployments. The UCM6300 series can support up to 3,000 users/450 concurrent calls, and SoftwareUCM can scale 100 users/32 concurrent calls at a time to a maximum of 5,000 users and 1,000 concurrent calls. SoftwareUCM also supports multi-tenant capabilities for segmenting your UC deployment.

Deeply customizable backend network devices for supporting students, staff, and admins

Grandstream's GWN networking devices provide schools with an affordable, feature-rich solution. Our managed switching and Wi-Fi access points include settings specifically helpful for school deployments. The GWN series of Layer 2+ and Layer 3 switches supports VLAN creation, allowing users to segment networks and isolate them from each other, including Wi-Fi SSIDs. For example, public student networks and SSIDs can be segmented from secured staff networks and devices. Not only does this increase the security of the deployment, but it also allows users to then leverage QoS (Quality of Service) features to guarantee the performance of essential devices such as staff computers, phones, intercoms, and facility access devices. Grandstream's Wi-Fi access points also support QoS features to fine-tune wireless performance based on SSID, latency-sensitive traffic, and application categories.

In addition to the key GWN features that support school IT infrastructures, a single school or district-wide deployment can be managed for free through Grandstream Device Management System. [Learn about GDMS here.](#)

Grandstream Wave

Our UCM IP PBX platforms can be leveraged not only to create a complete IP communications architecture, but also to build a school- or district-wide software collaboration platform through Grandstream's FREE Wave application. By integrating with the UCM's internal directory, Wave offers a cloud-based team messaging and collaboration platform for a school or school district. Users can directly message, meet, call, video chat, screenshare, and file share with their coworkers and teams, and even share links to create virtual meeting rooms with people outside of the UCM network directory, like parents and students. Wave is supported on Android & iOS devices, Chrome & Firefox browsers, and Windows & Mac computers.

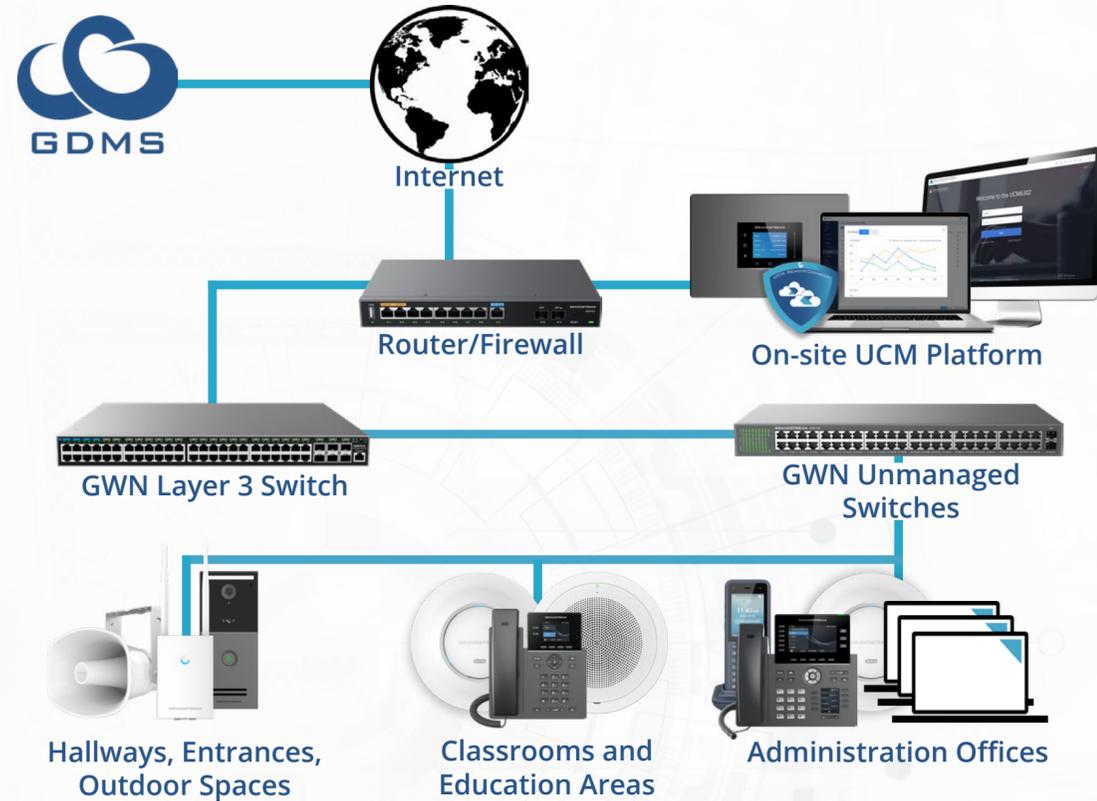
Introduction to Grandstream's GWN Layer 3 Switches

IP-based routing, inter-VLAN routing, improved network segmentation, and IPv4/IPv6 network support are all examples of how a layer 3 switch can enhance a school network's performance. Learn more about Grandstream's Layer 3 switches [in our blog post here.](#)

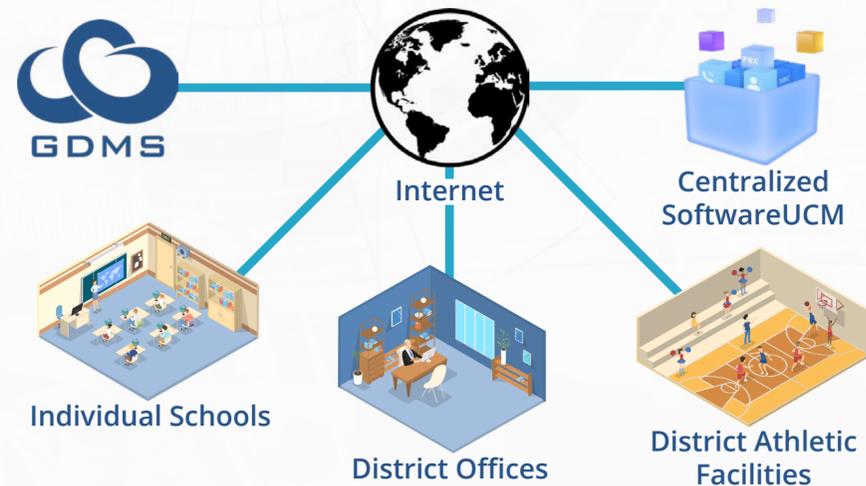


Primary/Secondary Education

Individual Deployment



School District Deployment



User Benefits

Wi-Fi Access Points Designed for Comprehensive Management



- Wi-Fi access points spread across a school facility can be managed as part of the entire Grandstream deployment through GDMS. On-site options include our GWN networking software manager, GWN Manager, or utilizing the access points' built-in controller. With any of these options, a complete Wi-Fi deployment of hundreds of devices can be configured, managed, monitored, and supported from a single centralized platform.
- Schools can fully customize SSIDs and bandwidth rules to ensure students use Wi-Fi on school computers and devices for educational purposes. While there are a wide variety of configurations that can be adjusted, some key settings include:
 - Whitelisting and blacklisting specific IPs, such as school computers and staff devices
 - Specifying upload and download limits on specific SSIDs
 - Hidden SSIDs can be created, allowing for staff Wi-Fi networks to be hidden from students
 - Client time policies that limit the amount of time a client device may maintain a connection to an SSID for
 - Time-based scheduling allows many bandwidth rules to run on the defined timeline, such as only during school hours

Organized UC Deployments



- Interactive Voice Response (IVR) allows callers to route themselves to various extensions, call queues, and departments, without the need for receptionist intervention. Call queues can be enabled to improve traffic flow to the administration staff without overwhelming them. Call management tools, such as Direct Inward Dialing (DID) numbers, can provide dedicated lines for important departments and essential administrative staff.
- On-site UCM solutions can still connect to off-site users or auxiliary offices through UCM RemoteConnect. Ran through Grandstream Device Management System, this cloud service provides 99.9% reliability by running on Amazon Web Services (AWS) while offering zero-touch configuration and IT-friendly management. UCM RemoteConnect enables automated NAT firewall traversal for devices that are deployed outside of the UCM's LAN
- Grandstream's IP phones support multi-purpose keys, which can be used to assign line keys with multiple functions. Users can monitor extensions, use speed dial numbers, send dual-tone multi-frequency signals during calls, page IP intercoms, and more, all directly from their phone screens.

Facility Management



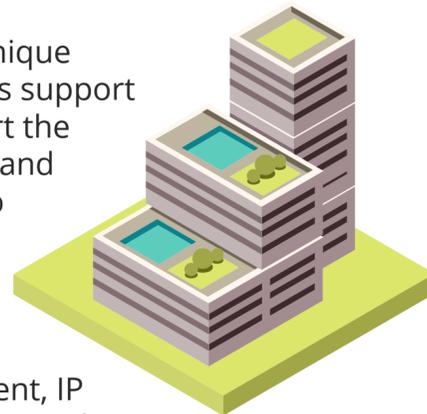
- Grandstream's GSC series of IP speakers and intercom devices allows school staff to easily make announcements, page teachers and students two-way or one-way, and keep an entire campus informed during emergency events. Administrative devices can utilize MPKs to page specific rooms or groups of GSC speakers/intercoms. GSC speakers and intercoms also support multicast paging for more complex deployments.
- Our GDS series of smart facility access and video door stations acts as a smart, high-definition IP surveillance camera, IP intercom, and facility access control device. These devices can be deeply customized to ensure that only people authorized to access a school are allowed in. A variety of alarm-port integrations also enhances the device's ability to work with auxiliary IoT devices and GSC speakers/intercoms.

4

Grandstream Solutions for Multi-Dwelling Units

Easily deploy and manage full-stack networks and building-wide communications

Multi-dwelling units, such as apartments, student housing, and condos, have unique networking and UC requirements. Unlike hotel deployments, MDU deployments support individuals and entire families living in the units. MDU solutions need to support the day-to-day lifestyles of their users and, as a result, offer a level of performance and features that empower how users work, relax, and live. Grandstream's portfolio offers a compelling end-to-end solution for MDU deployments by combining our full range of networking and unified communication products under a single, cohesive management platform, GDMS. A comprehensive Wi-Fi access point and managed switch backbone support the main architecture of an MDU deployment and its many IP endpoints. Our wide selection of facility management, IP PBX, and UC endpoint devices is a natural addition to this network backbone, depending on the deployment needs.



MDU Product Highlights

Immersive Wi-Fi environments with PPSK, VLAN separation

A multi-dwelling unit can contain hundreds of IP endpoints. Laptops, TVs, smartphones, smart appliances, and other IoT devices all rely on the wireless and Ethernet connections within the building. Without a high-performing and intelligent network, the performance of all other aspects of the deployment suffers. Grandstream's GWN Wi-Fi and switch portfolios, together with our free GDMS cloud management platform, deliver key advantages specifically for MDUs. GWN APs serve as the cornerstone of a positive resident-facing experience. Private Pre-Shared Key (PPSK) support allows all residents to connect to the same building-wide SSID, but each unit's traffic is siloed into its own VLAN. Residents share physical infrastructure but cannot see each other's devices or traffic. This eliminates the need for a per-unit router or separate SSID per apartment. Each specific PPSK can be mapped to different VLANs, as configured on GWN Layer 2 or Layer 3 switches, enhancing deployment security while improving access point performance through bandwidth rules, device limitations, captive portal settings, and more.

Learn how to configure PPSK on our GWN Wi-Fi access points by watching our video [here](#).

Aggregation and distribution layer switching solutions

Grandstream's managed switch portfolio contains Layer 2 Lite, Layer 2++, Layer 3, and Layer 3 Aggregation switches. Within an MDU, Grandstream's Layer 3 aggregation switches would exist at the distribution layer, connecting to access-level Layer 2 switches via 10G SFP+ ports, which then connect to IP endpoints and Wi-Fi access points. Compared to our Layer 2++ switches, GWN Layer 3 switches can perform full hardware-based inter-VLAN routing, support dynamic routing protocols, and act as the IP gateway for every VLAN segment in the building. GWN Layer 2 switches are suited for a per-floor access role within an MDU deployment. With models supporting up to 48 gigabit Ethernet ports, a single GWN layer 2 switch can connect 48 Wi-Fi access points across an entire floor. GWN7800 Pro layer 2++ switches support VLANs, IGMP/MLD snooping, ARP inspection, and DHCP snooping, which work together to create a secure network and optimize traffic across the many devices in an MDU deployment.

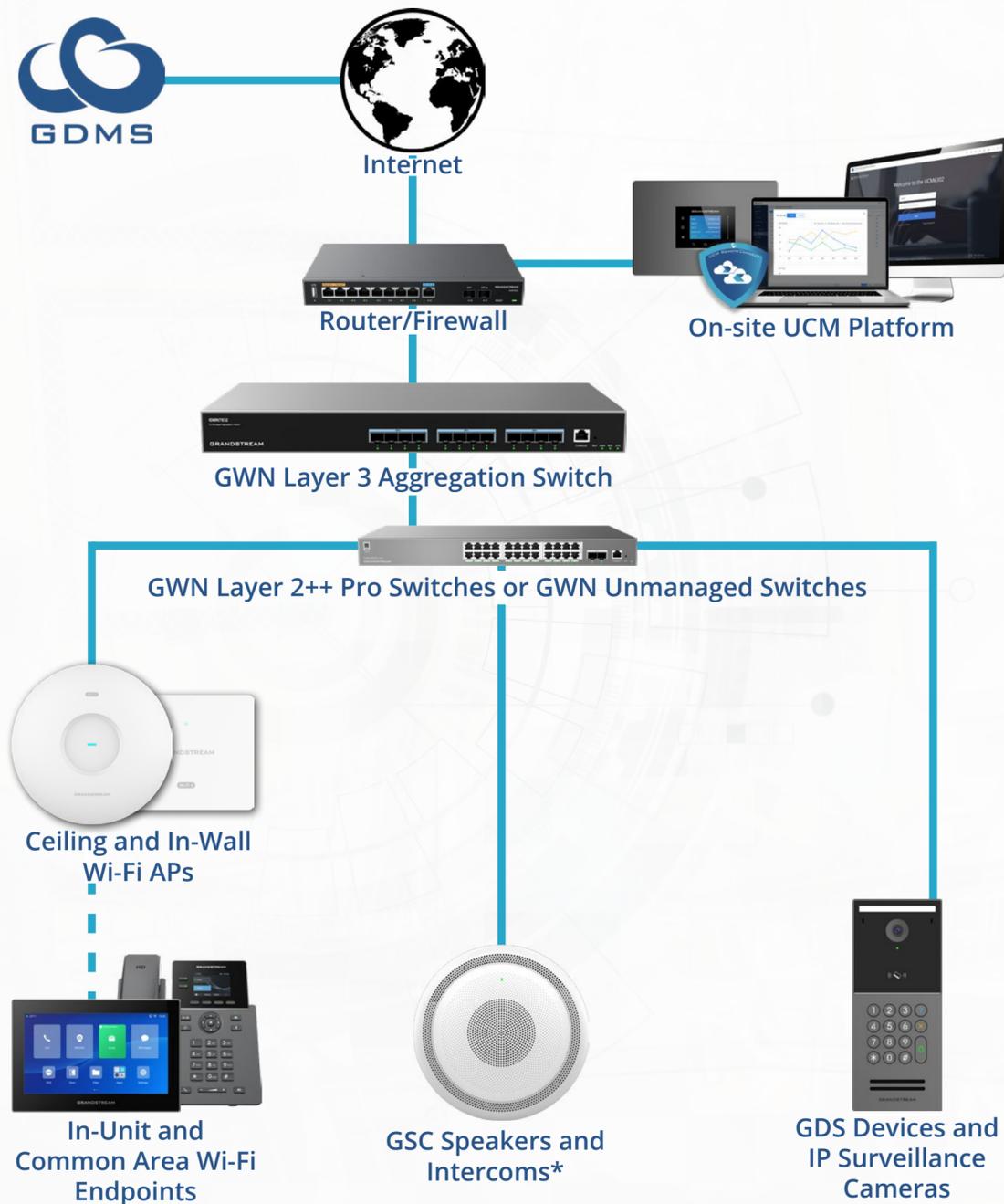
Facility management and unified communications based on deployment requirements

A UCM6300 IP PBX or SoftwareUCM PBX centralizes all of a building's communication and facility management onto one platform. The UCM acts as the backbone through which GDS facility access devices, in-unit IP phones, control stations, and GSC speakers/intercoms operate. Many Grandstream GRP/GHP IP phones and GSC facility control stations can connect to the LAN via Wi-Fi, reducing Ethernet cabling requirements during deployment. For building entry, GDS smart IP video door stations offer live video feeds, a wide range of door-opening methods, and direct calling to any desired IP endpoint within the MDU. GDS facility access devices pair with GSC facility control stations to perform a complete intercom and door control solution. A visitor, guest, or courier can use a front-door GDS to call a specific unit or a front-door receptionist, who they receives the call on a GSC device. The user can then use the GSC to view the front-door video feed, talk with the visitor, and trigger the door relay to provide access if needed.

The GDS3725/3726/3727 are Smart IP Video Door Stations that are ideal for MDU deployments. [Watch our overview video](#) to learn more.

Multi-Dwelling Units

Example Deployment



*For an alternative deployment scenario, GSC speakers/intercoms can be connected to the LAN via Wi-Fi from GWN APs or by an ethernet connection from the GWN AP's 2nd network port

User Benefits

Full Network Quality of Service Settings



- Traffic classification and prioritization, bandwidth enforcement policies, and radio resource management are major QoS capabilities supported by GWN Wi-Fi access points. Grandstream APs support the 802.11e Wi-Fi Multimedia standard, ensuring that high-priority packets, such as voice, video, and other applications, maintain quality. Bandwidth rules can also be enforced on a per-SSID or per-client basis, ensuring the performance of all devices within a particular residential unit or SSID cluster. Lastly, Airtime Fairness is an essential feature that ensures faster clients receive more airtime than slower, legacy Wi-Fi-standard client devices.
- Grandstream's Layer 2 and Layer 3 series switches include QoS features such as Port Priority, Priority Mapping, Queue Scheduling, Traffic Shaping, and Rate Limiting. For a network as client-heavy as an MDU, these features are essential to enable installers to create policies that determine how network traffic is handled and provide end-to-end service quality for all tenants and supporting equipment within the deployment. The QoS features for our switches directly complement the QoS capabilities of Grandstream's GWN Wi-Fi APs. Traffic enforcement and application priority are set at the port and VLAN level, before packets even reach the wireless level.

One Solution for Facility Management and Unified Communications



- Grandstream's UCM IP PBX platform is fundamental for creating a multi-tenant architecture that is isolated for each resident. This means each residential unit can have its own extension, voicemail, call history, and dedicated multi-purpose key functionality, while having no ability to dial into a neighbor's extension accidentally, utilize their devices for calls outside of the network, or use their IP endpoints in ways the property manager does not allow. For larger multi-building campuses, our UCM solutions can manage hundreds to thousands of common-area phones, IP intercoms, facility access devices, in-unit phones, facility control stations, staff Wi-Fi cordless IP phones, and more.
- The UCM's Multi-level Interactive Voice Response (IVR) allows guests placing calls from a door GDS to navigate an extension directory of residents or reach a resident by entering their known extension. Grandstream Wave, a softphone application available on iOS and Android, provides residents access to their unit's extension on their own smartphone. This allows them to answer front-door calls and provide building access without needing an extra in-unit device.
- Grandstream's GSC and UCM series integrates to create a comprehensive facility announcement system. Staff can page GSC speakers and intercoms individually, by floor, or throughout the building for important broadcasts.

GDMS Integration



- With Grandstream Device Management System (GDMS), Grandstream's free cloud management platform, the property manager or IT administrator can configure, update, and troubleshoot all Grandstream devices from a single portal. This is an essential feature for MDUs, which typically have hundreds of devices deployed.
- GDMS can be used to create custom device template configurations. With this capability, new devices can have their settings configured in batches, drastically reducing setup time.