

STATE-OF-THE-ART HOSPITALITY NETWORKS

Transforming the Guest Experience with ICX Switching



WHITE PAPER



HIGHLIGHTS

UNIFIED NETWORK MANAGEMENT

Ruckus SmartZone offers a single pane of glass for deploying, managing and troubleshooting ICX switches, Ruckus Access Points, and wireless controllers for simplified and unified end-to-end network management.

ADVANCED POWER-OVER-ETHERNET (POE)

Power next-generation PoE devices with PoE, PoE+ and the upcoming 802.3bt standard delivering up to 90W per port for next-generation wireless APs and security cameras. Get up to 1500W PoE budget with two power supplies. Even entry-level switches deliver a 370W PoE budget.

MULTIGIGABIT ETHERNET TECHNOLOGY

Select ICX switches models support IEEE 802.3bz standard based Multigigabit Ethernet optimized for next-generation 802.11ac Wave 2 and future wireless AP deployment, increasing performance while reducing cost and protecting investment for years to come.

ADVANCED STACKING

To simplify deployment and management, ICX switches can be stacked over long distances up to 10km using standard Ethernet optics, and offer superior scalability of up to 12 switches per stack. An entire hotel network can be managed as a single switch!

OPTIMIZED FOR HOSPITALITY USE CASES

ICX switches offer purpose-built features for hospitality like Protected Ports designed to protect the privacy and safety of guests while ensuring access to key network services and entertainment products.

SILENT OPERATION

For non-disruptive deployment in a work area, like under the front desk or in a guest area, ICX switches offer a fanless design or a silent mode setting option. The 12-port model comes in a small unobtrusive form factor that can be deployed anywhere.

INDUSTRY-LEADING PRICE/PERFORMANCE

ICX entry-level access switches offer unprecedented capabilities. ICX high-performance stackable aggregation and core switches deliver more for less.

Today's hotel guests are more tech savvy than ever and expect flawless high-speed Internet connectivity for their smart devices everywhere. In this new world, the hotel wired network infrastructure has become the critical underlay supporting ultimate guest Wi-Fi experience.

The guest Wi-Fi experience has the biggest impact on whether a hotel guest will rebook with a hotel. Today's hotel guests are bringing more devices into the hotel room and are using more bandwidth-intensive applications, including over-the-top video, video conferencing, gaming and many other applications. To provide a great user experience, the hotel guest network must be high performing and able to meet the high expectations of hotel guests.

However, the guest wireless network is only as good as its weakest link. Simply deploying the best wireless technology is not enough to provide a great user experience. The switches that power the wireless network and their ability to route the wireless traffic efficiently is just as important. These switches must be able to support not only wireless traffic but also high-def TV streams, video on demand, guest room VoIP phones along with hotel administrative services such as staff phones, front desk stations and point-of-sale systems. This requires a high-performing switching infrastructure that can deliver enough PoE power and switching capacity as well as all the other key features required to deploy a modern hospitality network.

RUCKUS ICX SWITCHES ARE OPTIMIZED FOR HOSPITALITY

There is a reason 70 percent of the hospitality market and 86 percent of the world's luxury properties rely on Ruckus technology. Support for hospitality networks and Wi-Fi connectivity is a key design element of the Ruckus ICX switch family. Ruckus ICX switches are easy to deploy, provide higher speeds and support more connections than competitive products. Additionally, Ruckus ICX switches offer must-have features critical for hospitality networks including:

- Advanced Power-over-Ethernet (PoE)
- Multigigabit Ethernet Technology
- Unified network management and control
- Advanced stacking capabilities
- Optimized for key hospitality use cases and applications
- Silent operation

ADVANCED POE CAPABILITIES

Ruckus ICX switches feature industry-leading PoE budgets with support for PoE, PoE+, as well as the upcoming 802.3bt standard (up to 90W per port), that easily power current and future generations of wireless access points (APs). APs demand increasingly more power to deliver higher speeds and support more users and more features. Furthermore, surveillance cameras, video displays and other devices require additional power to run directly off the network ports. This increases the demand on the Ethernet power delivery infrastructure.

Ruckus ICX switches with Power-over-Ethernet offer PoE (802.3af; 15 watts), and PoE+ (802.3at; 30 watts) sufficient to drive wireless access points, VoIP phones, video cameras, lighting and other devices. Each switch family offers sufficient power for even the most densely populated environments with PoE to all ports simultaneously with a single power supply, and drives PoE+ (30 watts) to all ports with dual power supplies.

Some ICX switches, like the ICX 7150-48ZP and ICX 7650-48ZP models, take PoE to the next level with support for the 802.3bt standard (pending ratification) delivering up to 90 watts per port to support power-hungry PoE devices such as next-generation wireless access points, large video displays, pan/tilt/zoom surveillance cameras and other devices.

EASE OF DEPLOYMENT

ADVANCED STACKING

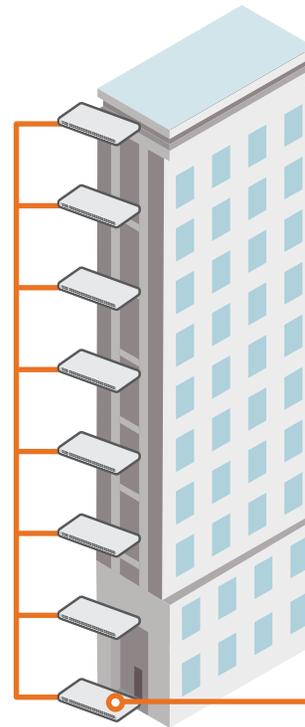
ICX multi-purpose switches can be deployed standalone or stacked to scale out in a single wiring closet or long-distance stacking. Unlike traditional stackable switches, Ruckus ICX switches do not rely on proprietary stacking ports and stacking cables. Stacking is supported over standard 10Gbps SFP+, 40Gbps QSFP+ or 100Gbps QSFP28 Ethernet ports. The same ports can be configured for stacking or to forward uplink traffic. This provides a level of flexibility unavailable on other stackable switches.

Ruckus ICX switches can be stacked for superior scalability up to 12 switches per stack. This provides 50 percent more ports per stack than traditional stackable switches. In addition, there are no hardware modules required for stacking. Many traditional stackable switches require the purchase of additional hardware stacking modules to be able to stack, increasing overall costs. All Ruckus ICX switches come with the hardware necessary for stacking since they use standard stacking ports.

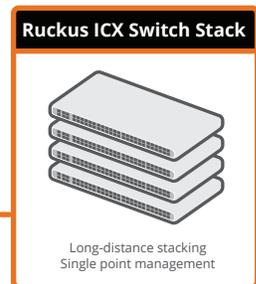
Long-distance stacking enables stacking between closets or across multiple floors. This helps to dramatically reduce management touchpoints. The ICX switches can be deployed in homogeneous stacks using local or long-distance links of up to 10km for maximum flexibility.

Ruckus stacking technology delivers high availability, performing real-time state synchronization across the stack and enabling instantaneous hitless failover to a standby controller in the unlikely event of a failure of the master stack controller. Users can use hot-insertion/-removal of stack

LONG-DISTANCE STACKING



- Reduce network complexity
- Manage an entire building network as a single switch
- Eliminate Spanning Tree
- Insert and remove switches without service interruption
- Automate in-service software upgrade across the stack (ISSU)



members to avoid interrupting service when adding a switch to increase the capacity of a stack or replacing a switch that needs servicing.

RUCKUS CAMPUS FABRIC

A fabric design will deliver higher scalability and increased network visibility while reducing network operations costs. The Ruckus Campus Fabric is highly reliable, based on a centralized controller switch with redundant load balancing links that shares network services and capabilities with other switches in the fabric network. Switches that are deployed anywhere in the network by hotel IT staff are automatically provisioned with zero-touch deployment. With a single point of management, troubleshooting and adding capacity are much easier, and uptime is improved.

SILENT OPERATION

The Ruckus ICX 7150 can operate silently through either a fanless design or a "silent mode" configuration option depending on the model. The silent mode capability enables the PoE switches to operate with the fan disabled while providing a PoE budget of up to 150 watts for the 24-port model and the 48-port model. This Ruckus-exclusive feature enables users to deploy the Ruckus ICX 7150 switches outside of the wiring closet without disrupting the environment. This capability is critical for certain areas of the property such as a conference room, the front desk, or admin area, where networking equipment needs to be deployed into an environment with minimal disruptions.

EASE OF MANAGEMENT

SWITCH MANAGEMENT AND CONTROL

Ruckus ICX switches provide simplified, standards-based management capabilities that help users reduce administrative time and effort while securing their networks.

Ruckus ICX switches support zero-touch provisioning to simplify deployment and deliver a plug-and-play experience. Users can use this feature to automate imaging and IP addressing as well as feature configuration of the ICX switches without requiring a highly trained network engineer onsite. When the switches power up, they automatically receive an IP address and configuration from DHCP and Trivial File Transport Protocol (TFTP) servers. Subsequently, the switches automatically receive a software update to be at the same code version as currently installed switches to maintain consistency across the network.

All Ruckus ICX 7000 series switches can also be auto-provisioned from USB storage. Provisioning a switch can be as simple as plugging in a USB key containing the proper software image and configuration files and re-booting the switch. This greatly simplifies the deployment or unit replacement of switches by untrained personnel.

UNIFIED WIRED AND WIRELESS NETWORK MANAGEMENT

Ruckus SmartZone™ represents a new class of scalable and versatile unified network managers designed to deploy and manage networks where wired and wireless LANs are equally critical components complementing each other to deliver seamless network access.

A unified wired and wireless network infrastructure starts at the network layer but is not complete until management, security, monitoring and troubleshooting are all seamlessly integrated. Only then can customers realize the full benefits and ROI of their unified infrastructure investment.

SmartZone delivers a single console that handles all common network tasks for wired and wireless LAN management. This includes planning, discovery, provisioning, configuration, monitoring, performance management, security, logging and reporting. The SmartZone console also supports functions unique to wired and wireless management, including connection reliability, spectrum management and monitoring, location, and tracking functionality, as well as security and access management.

FUTURE PROOFING

MULTIGIGABIT ETHERNET TECHNOLOGY

Support for wireless networking is at the core of the ICX family design. Ruckus ICX 7150-48ZP switches are designed to handle next-generation 802.11ac Wave 2 and future 802.11ax wireless access points. These ICX switches offer 2.5 GbE (803.2bz) ports to connect multigigabit APs and increase the data speeds. This new technology delivers two and a half times the bandwidth of regular Gigabit Ethernet on the same standard Cat5e cables, reducing the total number for links needed between switches and APs and optimizing wireless performance and scalability.

PURPOSELY DESIGNED TO BE UPGRADABLE

ICX switches are purposely designed to be easily upgradeable so that customers can buy what they need today and upgrade later as their business requirements evolve. One example of ICX purpose-built upgradability is the Ports-on-Demand capability, which enables customers to upgrade uplink port speed from 1G to 10G using a software key, with no need to rip and replace even on entry-level switches. Also, all ICX switches can be deployed as standalone switches today and can be redeployed later in a stackable configuration or in a campus fabric configuration at no additional cost as the business evolves and the network needs to be reconfigured to scale accordingly. The same goes for advanced L3 capabilities that can be added to all ICX switches with a license.

ONE NETWORK FOR ALL CONVERGED SERVICES

Ruckus ICX™ switches and Ruckus high-performance access points enable hoteliers to deploy a single and reliable network infrastructure to concurrently support all essential hospitality business applications including:

- Tiered High-Speed Internet Access (HSIA)
- Streaming TV/Video on Demand (VOD) (multicast)
- Voice over IP (VoIP)
- Point-of-sales terminal (including PCI DSS compliance)
- Back-office and service-optimization services
- Digital signage and kiosks
- Security cameras
- In-room IP-enabled devices

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