RWG OVERVIEW

RUCKUS WAN GATEWAY

HIGHLY INTEGRATED SOLUTION

- Performs functions of B-RAS (BNG), B/OSS and N/EMS in a single server
- Simplifies configuration with dozens of pre-programmed use cases

FASTER NETWORK INSTALLATIONS

- Turn-key solution dramatically reduces labor to install, configure and maintain components
- Accelerate and scale your commercial networking business.

AGILITY & AUTOMATION

- Easily configure and automate network functions, driven by your Property Management System (PMS).
- Exceed the expectations of commercial customers in MDU, Hospitality, Retail, Education and Large Public Venue markets.

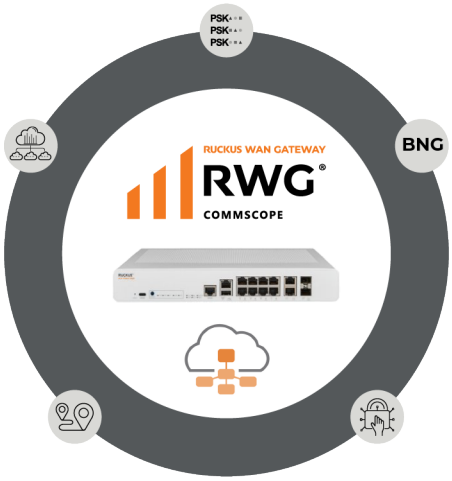
VALUED FEATURES

- Flexible micro segmentation for MDU and Hospitality applications.
- Native SD-WAN supports neutral host, dynamic path selection, bandwidth aggregation, service chaining, content filtering and a stateful firewall.
- Pack Manager remotely manages large populations of RWG's.

The RUCKUS WAN Gateway (RWG) is the ultimate platform for your Enterprise border and service provider edge. By combining a powerful, comprehensive set of network services into a single unified platform, the RWG is purpose built to deliver complete connectivity, robust security and efficient management.

The RWG may be ordered pre-installed on a broad spectrum of Dell hardware. Dell VEPs are ideal for small office, branch office, and remote office enterprise installations. Service providers use Dell VEPs as multi-access edge compute customer premises equipment for smaller scale deployments. Dell PowerEdge servers are perfect for medium to large enterprises as well as managed service providers deployments at MDUs, MTUs and LPVs.

Whether your private network serves a single Enterprise office, a leading hospitality chain with thousands of distributed venues, or millions of Internet service subscribers scattered across a continent, the RUCKUS WAN Gateway (RWG) is purpose built to meet the constantly growing demands of modern networks, ready to scale with the success of your business.



- Routing
- SD-WAN
- Traffic Shaping
- L7 Firewall with IPS and IDS
- Content Filter
- Analytics Engine
- WAN Optimization and Caching
- VPN Concentrator
- Persistent NAC and AAA engine
- Marketing Integration
- NMS / EMS
- Location Engine
- Infrastructure Management
- RESTful API
- IoT Hub Concentrator
- Hypervisor

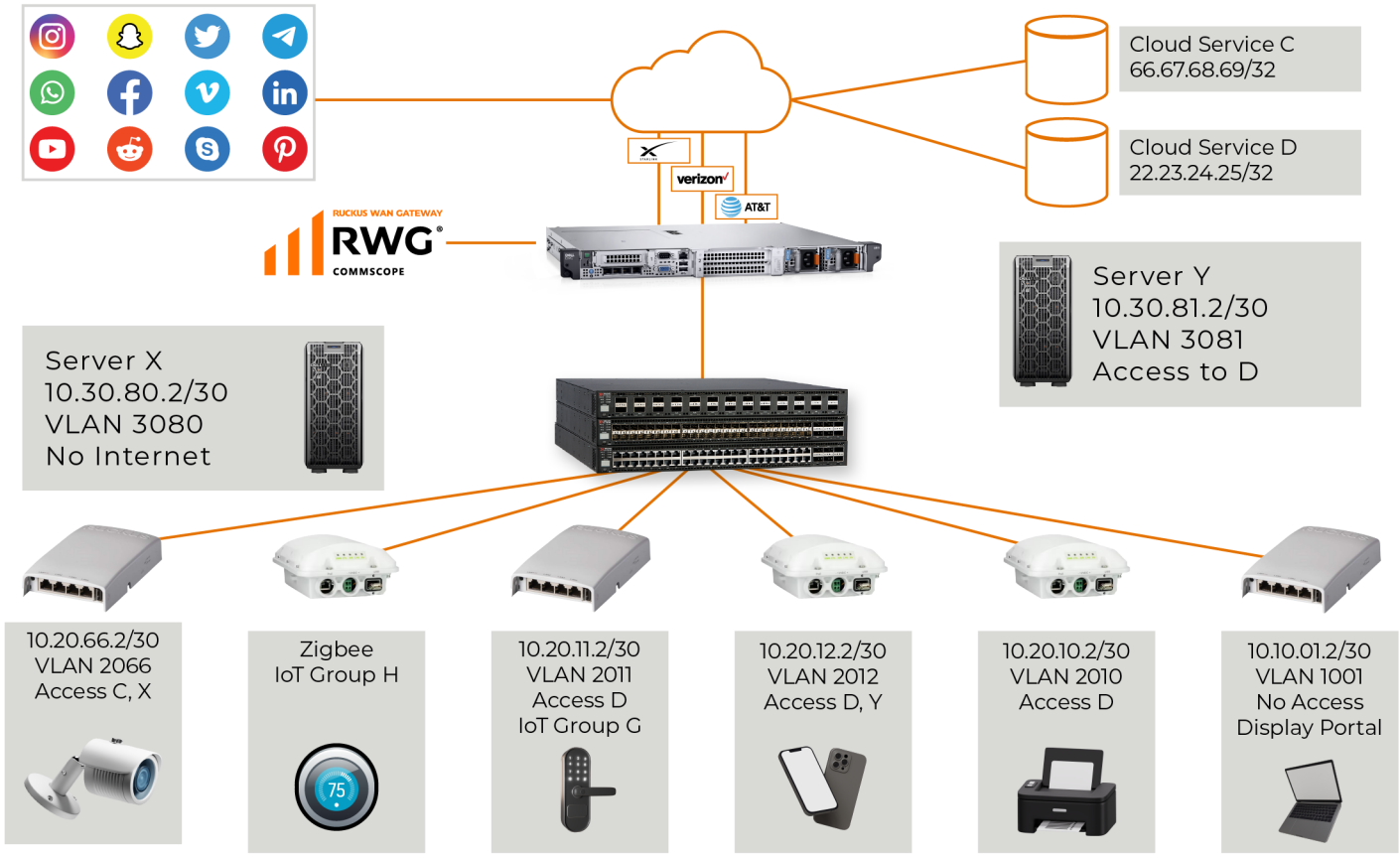
RWG for Enterprise

Enterprise networks are becoming increasingly complex and challenging to secure. With the proliferation of internet-connected devices and remote work, the threat landscape is constantly evolving, making it essential to adopt a robust security approach. The RUCKUS WAN Gateway (RWG) is a solution that provides network operators with the necessary tools to implement a secure Zero Trust Network Architecture (ZTNA).

RUCKUS WAN Gateway is an ideal solution for BYOD enterprise and sponsored guest environments. It provides a secure and reliable network infrastructure that allows guests to connect their personal devices to the enterprise network without compromising network security. With the RUCKUS WAN Gateway, IT administrators can create a separate guest network that is isolated from the corporate network, ensuring that sensitive data remains secure. RWG also offers advanced authentication and access control features, including support for social media logins and SMS-based authentication, making it easy for guests to connect to the network. Additionally, RWG provides a customizable splash page that allows enterprises to showcase their brand and communicate important information to guests. With its flexible and scalable architecture, RWG is an excellent choice for organizations that want to provide a seamless, secure, and user-friendly guest networking experience.

By leveraging the RWG's tightly integrated network services, enterprises can build a strong first line of defense against cyber threats. RWG can help Enterprise networks, specifically by providing Routing with SD-WAN and traffic shaping, Micro-segmentation focused Network Access Control (NAC), Unified Threat Management (UTM) with workload analysis, Application layer firewall with Deep Packet Inspection (DPI), and a Zero Trust Model.

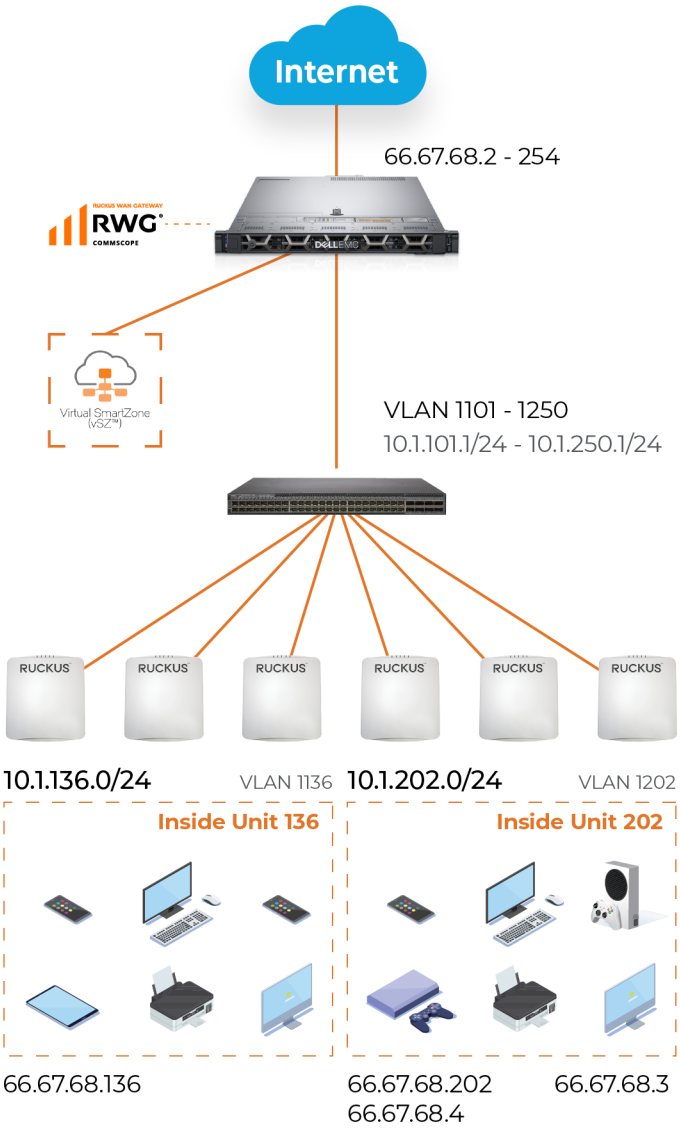
- Provides tightly integrated network services needed for a secure Zero Trust Network Architecture (ZTNA).
- Offers routing with SD-WAN and traffic shaping to ensure efficient and secure network traffic.
- Includes micro-segmentation-focused Network Access Control (NAC) and Unified Threat Management (UTM) for comprehensive security.
- Has an application layer firewall with Deep Packet Inspection (DPI) to identify and block potential threats.
- Enables the implementation of a micro-segmented network architecture, ensuring that each device is on a unique VLAN and subnet, with individual control of privileges and containment of any potential breaches.



RWG for Service Providers

In the fast-paced telecommunications industry, rapid deployment of services to customers is critical, and Operations Support Systems (OSS) and Business Support Systems (BSS) play a pivotal role in ensuring a seamless customer experience. With the introduction of the RUCKUS WAN Gateway (RWG), service providers can take advantage of a super agile B/OSS that combines both OSS and BSS functions in a comprehensive solution. RWG streamlines processes and enhances efficiency, from order capture, customer management, billing to network inventory management and operations. As a result, service providers can manage their operations with ease, deploy new services faster, and deliver unparalleled customer experiences. Embrace the power of integration with the RUCKUS WAN Gateway to take advantage of a wealth of advanced features that can help you take your operations to the next level.

- Provides cutting-edge network management capabilities that enable service providers to easily monitor, manage, and optimize network performance in real-time. This results in streamlined network configurations, quick issue resolution, and enhanced productivity.
- Is an ideal complement to RUCKUS SmartZone (SZ/vSZ) wireless access points and ICX switches. It supports a wide range of last mile wireline and wireless distribution technologies, including but not limited to PON/GPON/XGS-PON, DOCSIS, free space optics, and fixed wireless broadband. RWG integrates seamlessly with these devices, reducing manual configuration processes and offering a 24/7 network engineer-like experience that saves time and reduces operational downtime.
- Revolutionizes the subscriber experience with its fully automated subscription process. It eliminates the need for operator intervention, resulting in fast and seamless activation of services that enhance subscriber satisfaction.
- Offers unparalleled flexibility and integration capabilities when it comes to billing. It can work seamlessly with existing billing systems, including over two hundred credit card payment gateways, property management systems, and facility management systems. RWG's flexible and scalable billing solutions streamline billing processes, increase revenue, and improve customer satisfaction.
- Is designed to be flexible and adaptable to a wide range of business models. It supports non-traditional business models found in lesser developed countries where the population may not have access to traditional banking systems. RWG's flexible payment solutions allow local representatives to collect payments in any form they are willing to accept, making it easier for service providers to reach new markets and expand their customer base.



Specifications

RWG Features	Summary	Description
Routing	NAT, cgNAT, BGP, RIP, PPPoE, GIF, GRE, VLAN, VXLAN, BiNAT, dynamic BiNAT, BNG	High performance, multiprotocol routing platform designed to be a service provider B-RAS and/or enterprise border gateway.
Core Network Services	DHCP, DNS, dynDNS	Completely configurable DHCP server. Full integration with end-user management to enable simplified option passing to end-user devices and fixed assignment of addresses. Full DNS server with full primary and secondary zone control. Dynamic DNS clients to ease remote access and operational
Traffic Shaping	Rate limiting, bursts, guarantees, equalization	Specifically designed for subscriber self provisioning and premium service upsell scenarios. Guarantee an operator specified minimum bandwidth to certain end-users on a per-user basis. Enforce usage quotas over the end-user population using an operator specified time scale. Enables operator to control consumption of bandwidth over long range time scales (e.g., 5 GB per month) while allowing higher instantaneous speeds. Automated zero intervention provisioning of quota additions purchased via integrated captive portal. Hard packet prioritization guarantees that packets from operator specified end-users are forwarded before any others. Several levels of operator configurable priority.
Billing System	Zero operator intervention end-user multi-tier self-provisioning billing system	Bill end-users for tiered levels of access and premium services either recurring or one time via a several methodologies, including: Credit card processing engine supporting over thirty payment gateways. Fully integrated into the captive portal web application and internal end-user database, enabling zero operator intervention for end-user self provisioning. Single and multiple use coupon code generator and management. Easy implementation and operation of alternative direct and reseller revenue models (e.g., pre-paid, micro-payment, bulk payment, etc.). Zero cost service support. Specific support that simplifies management of networks designed with zero direct revenue generation (e.g., session intercession by MAC address, authorization via shared password, etc.) Support for non-traditional banking systems and barter.
Web Experience Manipulation	HTTP Payload rewriting, HTTP request rewriting with and without SSL decryption	Complete control over the end-user world wide web experience with specific support for advertising and premium service revenue generation mechanisms such as: • Periodically redirect web requests to specially designed interstitial advertising templates delivered via the captive portal mechanism. • Arbitrarily rewrite any or all web pages that end-users experience. Inject advertising, insert banners, communicate operator service messages inline with the end-user web experience. • Simplified integration of pre and post authentication captive portal advertising with integrated payload rotation services
Portals	Fully customizable end-user, guest, tenant, venue and operator portals.	Integrated database for local credential storage. Simple and effective management of end-user credentials via a local SQL database with a responsive web application GUI. External database connectivity for credential challenge and response (e.g., via RADIUS, WISPr, etc.). Integrate with other AAA mechanisms to reduce credential management overhead. Extensible framework built using Ruby on Rails, eRuby, XML and JSON.

Specifications

RWG Features	Summary	Description
High availability and cluster topology	RWGs can be clustered for redundancy and HA failover.	RWG can be deployed in separate instances in HA or in clusters for network redundancy
RADIUS	RADIUS NAS, Support for PVLANs, RADIUS realms, Proxy RADIUS servers, 802.1X (EAP-TLS/TTLS/PEAP)	RADIUS server with full integration into internal database. Enables operators to use the captive portal web application as a centralized billing and end-user management system with third-party authentication mechanisms
Onboarding/VRG	Support for Guest, BYOD, headless device and secure resident device onboarding with or without certificates. Custom onboarding portals.	RWG provides the ability to create custom onboarding portals for all devices as well as the Virtual Residential Gateways (VRG). VRG gives users the ability to control their virtual network just as they would with a home Wi-Fi router.
Flexible micro segmentation for MDU/MXU, and Hospitality networks	Server for dynamic PVLANS, DPSK generation and coordination	RWG provides micro segmentation with the use of PVLANS and VRG. This not only makes the network flexible and secure but allows a user to have their VRG follow them throughout the network.
VPN/IPSEC	Native Open VPN and IPSEC	RWG supports site to site VPN and serve as an Open VPN server for site to site and site to client connectivity, as well as serving as an IPSEC server with IPSEC tunneling.
SD-WAN	Native SD-WAN	RWG's SD-WAN feature supports dynamic path selection through its combination of link failover, bandwidth aggregation, and application affinity. Aggregate several uplinks to achieve the equivalent throughput of a single large link. Leverage multiple cost effective DSL and cable modem uplinks to acquire large volumes of bandwidth at a low monthly recurring cost. Automatically failover between uplinks. Detect uplink status and manages pools of uplinks. Optionally designate certain uplinks as backup-only to support shadow leased line, satellite or WWAN backup scenarios. Relate uplink pools to groups of end-users. Enable operators to offer premium services based on routing policy such as business and VPN customers access to high performance leased lines while sending residential customers and bulk traffic to low cost DSLs and cable modem. Simultaneously utilize a diverse array of uplink carriers. Enables operators to work with as many carriers as desired without cross carrier configuration. Avoid complex, problematic and costly peering arrangements and special routing protocols. All carrier diversity is handled inside the gateway.
Virtual machine hosting	RWG as a virtual hosting platform.	RWG can be used as a platform to host other VMs, either for other RWGs for clustering or things such as IoT servers or VM DVR deployments, even Microsoft Windows machines for testing. No need for an external VM server.
PMS integration	Native support for most major PMS systems.	RWG supports integration with property management systems for back office operational support.
Pack Manager	Allows operators to manage, upgrade and monitor multiple RWGs from a single dashbaord.	Pack Manager is a suite of applications designed to remotely manage, configure, upgrade and report on the health of large population of RWG's. An essential feature for chains of hotels who have deployed similar configurations in many locations

Specifications

RWG Features	Summary	Description
Custom Policy	Role-based AAA policy enforcement engine	RWG can create and track custom policies such as captive portal, content filtering, event triggers, interstitial redirection, packet filters, packet forwards, payload redirect, persistent caching, traffic shaping, uplink control. Fully automated enforcement of per-user policies with a broad spectrum of target identification and policy template options including: Identify and assign roles to end-users through nearly any mechanism imaginable, including but not limited to credential capture via portal, IP address, subnet, VLAN, MAC address, etc. Identify and group applications by server IP address, source port(s), destination port(s) and signature. One-click assignment of policy templates to end-user roles, application groups and authenticated databases of end-users. Fully automated enforcement of per-user policy over a dynamic end-user population.
Unified Threat Management	The RWG consolidates multiple security features like firewall, intrusion prevention, antivirus, and content filtering into one platform.	Specific features and bias for expanding operator revenue generation opportunities such as: Stateful firewall to dynamically alter packet filtering based on end-user group, IP address, MAC address, and/or known applications. Full integration with billing engine enables operators to use filtering policy as an enabler of premium service offerings. Intrusion protection system to quickly identify, isolate and temporariy or permanently penalize, quarantine or black-hole abusive end-users. Fullly integrated with all available end-user communication vectors including but not limited to captive portal interstitial redirection and message injection via payload rewriting.
Deplyment Options	Bare metal and Virtualized	RWG can be deployed as a VM or bare metal install, as a standalone server or clustered system.
Location-Based Services	Way-finding, crowd management at LPVs, direct advertisement/promotion based upon end user location	Integrates with RUCKUS SPOT RTLS software
Neutral Host	Allow a (private network) operator to offer a choice of uplink ISPs to an end-user population that is connecting over a single, unified active Ethernet distribution.	End-users can connect to the network via a captive portal and choose their internet service provider through Neutral Host Access.
Microsegmentation Automation	Configure thousands of VLANs on the RWG with one click and use your PMS for DPSK generation	Microsegmented networks puts every unit or home on it's own VLAN allowing eDPSK capabilities.

SKUs

SKU	Description
905-RWG-FUN-VIR	RWG Fundamentals Virtual Two-Day Instructor-Led Training for up to three (3) people. Maximum of six (6) people per class, requires two (2) purchases of this part number. One (1) RUCKUS RAP (Remote Access Point) per attendee is required to attend.
905-RWG-AOT-VIR	RWG Advanced Operator Training - Virtual One-Day Instructor-Led training for up to three (3) people. Maximum of six (6) people per class, requires two (2) purchases of this part number. One (1) RUCKUS RAP (Remote Access Point) per attendee is required to attend. Please choose from one of our nin AOT Tracks. Troubleshooting, Performance Tuning, Portal Customization, CLustering, Internal Virtualization IPv6, Templating, Pack Manager, or Location Tools.

Service SKU	Description	Notes
905-PRO-1-RWG-ISP	ISP Adv. Impl. Svc	RUCKUS Professional Services Advanced Implementation Service - Remote installation of RWG on an approved server, configuration of ISP service policies, setup front office manager and billing interfaces.
905-PRO1-RWG-MDU	MDU Property Management Adv. Impl. Svc	RUCKUS Professional Services Advanced Implementation Service - Remote installation of RWG on an approved server, configuration of landing page, setup front office manager, micro segmentation service policies and billing interfaces.
905-PRO1-RWG-HSP	Hotel/Hospitality Adv. Impl. Svc	RUCKUS Professional Services Advcanced Implementation Service - Remote installation of RWG on an approved server, configuration of portal landing page, setup front office manager, service policies and billing interfaces
905-PRO1-RWG-IOT	IoT Implementation Svc. Add-On	RUCKUS Professional Services charge for remote vRIoT installation and initial configuration with installed and configured RWG. In addition, use 905-PRO1-VRIOT-ADD for each IoT snsor needing to be onboarded.
905-PRO1-RWG-LBS	LBS Add-On	RUCKUS Professional Services charge for remote configuration of Location Based Serices functionality in previously installed RWG for up to 150 AP's or 3 buildings. Geo-fence and way-finding actions are included.
905-Pro1-RWG-CUST	Custom-Scoped Projects - Engage Sales/PS	• For custom portal design, front office manager development and/or 3rd-party API integration • Custom IoT event actions/programing or IoT interfaces development • LBS environments beyond 150 AP's and/ or 3 buildings. • Inclusion on a project with Pro Serices for Wi-Fi, ICX and other RUCKUS products.

SKU	Description
	Policy Upgrades
RWG-POLICY-100-01	1 Year Subscription - License upgrades RWG policy license to 100. Minimum 100 SUL required per deployment.
RWG-POLICY-100-03	3 Year Subscription - License upgrades RWG policy license to 100. Minimum 100 SUL required per deployment.
RWG-POLICY-250-01	1 Year Subscription - License upgrades RWG policy license to 250. Minimum 100 SUL required per deployment.
RWG-POLICY-250-03	3 Year Subscription - License upgrades RWG policy license to 250. Minimum 100 SUL required per deployment.
RWG-POLICY-500-01	1 Year Subscription - License upgrades RWG policy license to 500. Minimum 100 SUL required per deployment.
RWG-POLICY-500-03	3 Year Subscription - License upgrades RWG policy license to 500. Minimum 100 SUL required per deployment.
	Bandwidth Upgrades
RWG-F-1G-01	1 Year Subscription - License upgrades RWG throughput to 1Gbps. Minimum 100 SUL required per deployment.
RWG-F-1G-03	3 Year Subscription - License upgrades RWG throughput to 1Gbps. Minimum 100 SUL required per deployment.
RWG-F-5G-01	1 Year Subscription - License upgrades RWG throughput to 5Gbps. Minimum 250 SUL required per deployment.
RWG-F-5G-03	3 Year Subscription - License upgrades RWG throughput to 5Gbps. Minimum 250 SUL required per deployment.
RWG-F-10G-01	1 Year Subscription - License upgrades RWG throughput to 10Gbps. Minimum 500 SUL required per deployment.
RWG-F-10G-03	3 Year Subscription - License upgrades RWG throughput to 10Gbps. Minimum 500 SUL required per deployment.
RWG-F-25G-01	1 Year Subscription - License upgrades RWG throughput to 25Gbps. Minimum 1000 SUL required per deployment.
RWG-F-25G-03	3 Year Subscription - License upgrades RWG throughput to 25Gbps. Minimum 1000 SUL required per deployment.
RWG-F-40G-01	1 Year Subscription - License upgrades RWG throughput to 40Gbps. Minimum 2500 SUL required per deployment.
RWG-F-40G-03	3 Year Subscription - License upgrades RWG throughput to 25Gbps. Minimum 1000 SUL required per deployment.

www.ruckusnetworks.com

Visit our website or contact your local RUCKUS representative for more information.

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