Volga

High Power 802.11 b/g/n (Wi-Fi 4)
Home Router

Ray's Volga is a single-radio, cloud-managed Wi-Fi 4 access point for homes.

With a maximum concurrent data rate of 300 Mbps in the 2.4GHz band this entry-level Ray Access Point brings an always-on wireless network experience with the high performance and range required for larger homes.

It is ideal for cost- sensitive low density home environments with larger spaces.

Ray supports dynamic channel, which dynamically finds less congested Wi-Fi channels to use.

The combination of cloud management, full-time RF environment scanning, and advanced Radio Resource Management (RRM) delivers the throughput, reliability, and flexibility at an affordable price point.

Volga is the perfect choice for low density homes with larger area. Volga provides high-performance wireless access in homes along with the power of Ray cloud management and visibility.

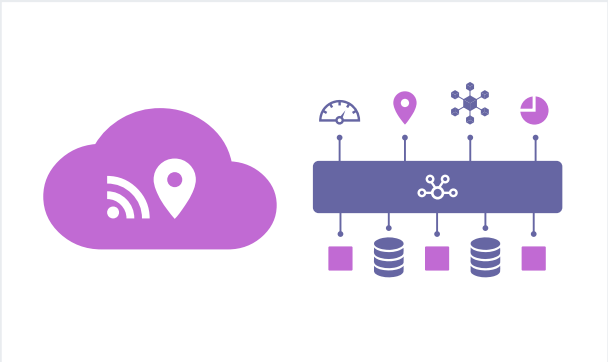
Ray Pte. Ltd. | ray.life | sales@ray.life | Suite #09-01, 20 Collyer Quay, Singapore 049319

OVERVIEW

Ray has brought true innovation to the networking space with the world's first AI-driven wireless network with an element of extensibility through the Ray Wi-Fi Application store.

Wi-Fi Driven By Ai

The Ray Cloud uses AI and data science to analyse large amounts of rich metadata collected from Access Points to provide actionable insight. AI Platform makes networking predictable, reliable and measurable with unprecedented visibility into the user experience. Time consuming manual IT tasks are replaced with AI-driven proactive automation and self-healing capabilities, lowering networking operational costs and saving substantial time and money.



Ray Cloud

Microservices bring unparalleled agility, scale, resiliency. Ray makes it easy to add or remove new features by leveraging a microservices cloud architecture. New enhancements and bug fixes are delivered almost weekly without network disruption. Services scale up or down elastically when they're needed, eliminating the cost and complexity of monolithic hardware.

Plus, the Ray platform is inherently resilient as the failure of one service does not impact others.

Ray Access Point

The Ray enterprise-grade access point family consists of the Wi-Fi AP ranging from 300 Mbps to 2200 Mbps. These access points are all built on a real-time microservices platform and are managed by the Ray Cloud.

RAY ACCESS POINTS

AP Name	Type	Mbps	Radios	Rate	Antenna Options	Warranty
Pollux	In Wall	750	1 × 802.11b/g/n 1 × 802.11a/n/ac 2×2:2 MU-MIMO	750 Mbit/sec max rate	Internal	1 Year
Procyon	Ceiling	750	1 × 802.11b/g/n 1 × 802.11a/n/ac 2×2:2 MU-MIMO	750 Mbit/sec max rate	Internal	1 Year
Rigel	Ceiling	1200	1 × 802.11b/g/n 1 × 802.11a/n/ac 2×2:2 MU-MIMO	1.2 Gbit/sec max rate	Internal	1 Year
Vega	Ceiling	2200	1 × 802.11b/g/n 1 × 802.11a/n/ac 1 × 802.11a/n/ac 2×2:2 MU-MIMO	2.2 Gbit/sec max rate	Internal	1 Year
Capella	Outdoor	750	1 × 802.11b/g/n 1 × 802.11a/n/ac 2×2:2 MU-MIMO	750 Mbit/sec max rate	Internal	1 Year
Antares	Outdoor	1200	1 × 802.11b/g/n 1 × 802.11a/n/ac 2×2:2 MU-MIMO	1.2 Gbit/sec max rate	Internal	1 Year
Canopus	Outdoor	2200	1 × 802.11b/g/n 1 × 802.11a/n/ac 1 × 802.11a/n/ac 2×2:2 MU-MIMO	2.2 Gbit/sec max rate	External	1 Year
Sirius	LTE	300	802.11 b/g/n LTE	300 Mbit/sec max rate	External	1 Year

FEATURES AND BENEFITS

Effortless, Cloud-based Setup & Updates

Simplicity is one of the core tenets of Ray. The Access points automatically connects to the Ray cloud, download its configuration, and joins the network.

It self-optimizes, determining the ideal channel, transmit power, and client connection parameters. And it self-heals in the event of a switch or cable failure by meshing with nearby access points, providing continued internet service.

Firmware updates are retrieved and installed automatically, ensuring that the network is always up to date with new features, bug fixes, and security updates.

Automatic RF Optimization / Automatic Cloud-based RF Optimization

Ray's sophisticated, automated RF optimization algorithms collect real-time, full-spectrum RF analysis data for threats and interference. This data is continuously fed back to the Ray cloud. The cloud then automatically tunes the Ray's channel selection and transmit power for optimal performance under the most challenging RF conditions. This ensures optimal performance under what could otherwise be challenging RF conditions.

Ray automatically assigns channel, width and power settings based on environment and client density.

It also provides airtime fairness and ensures that APs stay clear of all sources of RF interference to deliver reliable, high-performance WLANs. The Access Points can also be configured to provide dedicated air monitoring for spectrum analysis and wireless intrusion detection and determine the position of wireless stations.

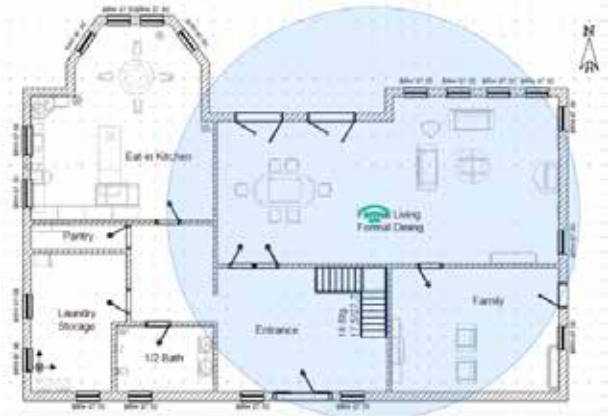
Dynamic Packet Capture

The Ray platform automatically captures packets and streams them to the cloud when major issues are detected. This saves IT time and effort and eliminates the need for truck rolls with sniffers.

Insights

Ray cloud service includes a base analytics capability for analysing up to 15 days of data which enables you to simplify the process of extracting network insights from data and analytics across your enterprise to properly align your support resources or introduce enhanced premium services.

Drill down into the details of your network usage with highly granular traffic analytics. Extend your visibility into the physical world with built-in location analytics that enables you to view visitor numbers, dwell time, repeat visit rates, and track foot traffic trends.



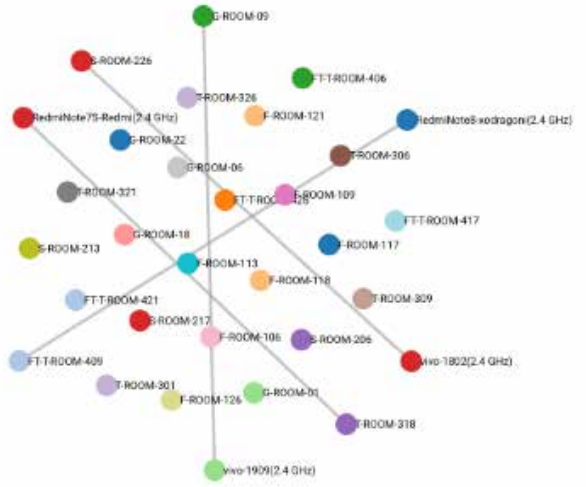
Floor Plan & Wi-Fi RF Coverage

Integrated Enterprise Security And Guest Access

The Ray Platform features integrated, easy-to-use security technologies to provide secure connectivity for employees and guests alike. Advanced security features such as AES hardware-based encryption and WPA2-Enterprise authentication with 802.1X provide wire-like security while still being easy to configure. One-click guest isolation provides secure, Internet-only access for visitors. Our Enterprise policy feature enables group or device based, granular access policy control.

Application-aware Traffic Shaping

The Ray platform includes an integrated Layer 7 packet inspection, classification, and control engine, enabling you to set QoS policies based on traffic type and time. Prioritize your mission critical applications, while setting limits on recreational traffic, e.g., peer-to-peer and video streaming. Ray supports 250+ applications natively along with content categorization engines from a variety of industry leading security vendors.



Network Chart

Ready For IoT

Ray cloud is built as an IoT platform to natively support a variety of Internet of Things (IoT) products. The IoT platform can consume data from various IoT devices and manage them centrally reducing the requirement to setup a separate IoT gateway at customer premise.

Voice And Video Optimizations

Industry standard QoS features are easy to configure like Wireless Multi Media (WMM) Access Categories, 802.1p, and DSCP.

Mesh Networking

The Ray platform offers the most innovative Mesh networking which is Self Configuring, Self Healing, Self Managing and Self Defending. The technology dynamically selects the best Wi-Fi link for each device based on application, band and context, giving each one the bandwidth it needs for optimal performance.

Remote Working & Work From Home

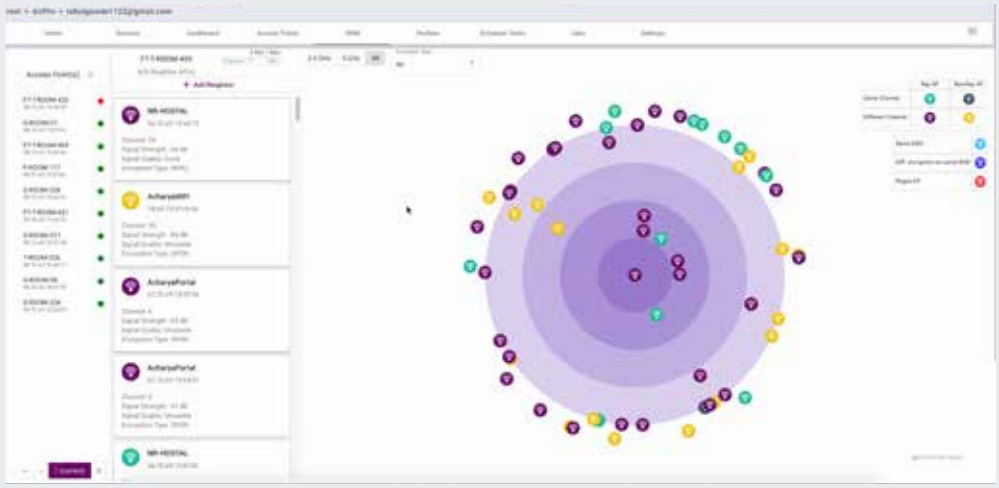
Ray native VPN makes it easy to extend the corporate LAN to remote sites, without requiring all clients and devices to have client VPN software along with the ease of

Open Cloud API

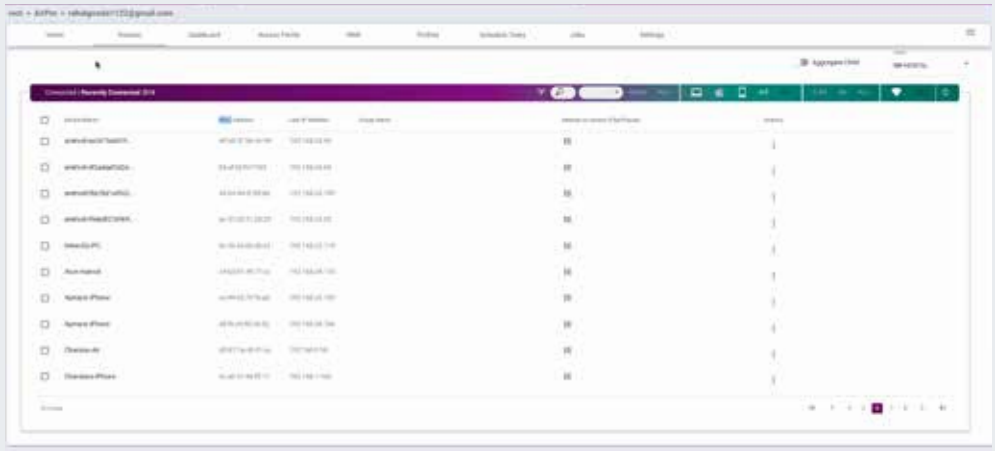
The Ray AI cloud platform is 100% programmable, using open APIs, for full automation and seamless integration with complementary products including our AI for IT partners across LAN, WAN, security, engagement and asset location.

PRODUCT PREVIEW

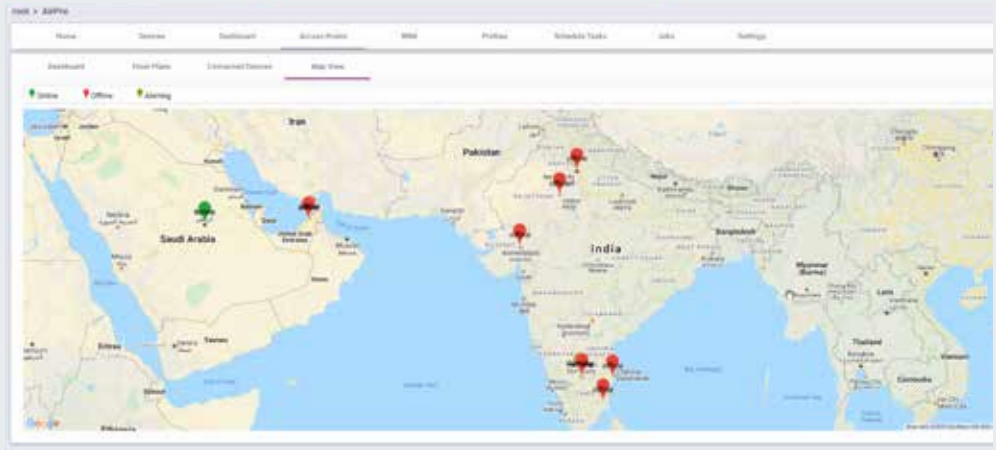
Radio Resource Management



Device Insights



Site Management



SPECIFICATIONS

AP	
AP Type	• Indoor Single radio 2.4GHz 802.11n Access Point

WI-FI	
Wi-Fi Standards	• IEEE 802.11a/b/g/n
Supported Rates	• 802.11b: 1, 2, 5.5, 11 • 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 • 802.11n: 6.5 to 300 (MCS0 to MCS15)
Radio	• 2.4 GHz 802.11b/g/n/ac client access radio
Supported Channels	• 2.4GHz: 1-13
MIMO	• 2x2 SU-MIMO • 2x2 MU-MIMO
Spatial Streams	• 2 SU-MIMO • 2 MU-MIMO
Radio Chains and Streams	• 2x2:2
Channelization	• 20, 40 MHz
Security	• WPA-PSK • WPA-TKIP • WPA2 AES • 802.11x • Personal PSK
Performance And Capacity	• 2.4GHz: 300Mbps
SSID	• Up to 8 per AP
Client Capacity	• Up to 64 clients per AP
Supported Radio Technology	• 802.11b: Direct-sequence spread-spectrum (DSSS) • 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)
Supported Modulation Types	• 802.11b: BPSK, QPSK, CCK • 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
Wi-Fi Security	• WIDS
Beamforming	• Yes

RF	
Antenna	• External omni-directional antennae
Antenna Gain (max)	• 5 dBi gain
Operating Bands	• 2.412-2.484 GHz

RADIO MANAGEMENT	
Antenna Optimization	• Spatial Multiplexing • Cyclic-Delay Diversity (CDD) • Low-Density Parity Check (LDPC) Codes • Maximal Ratio Combining (MRC) • Space Time Block Code (STBC)
Wi-Fi Channel Management	• Intelligent Radio Resource Management
Client Density Management	• Adaptive Band Balancing • Client Load Balancing • Airtime Fairness • Airtime-based WLAN Prioritization

RF POWER	
2.4GHz	• 802.11n(2.4GHz)(± 1.5dBm) 802.11g(± 1.5dBm) 802.11b(±1.5dBm) • 28dBm@ MCS0~2/MCS8~10 28dBm @ 6~24Mbps 28dBm @1~11Mbps • 28dBm @ MCS3/MCS11 27dBm @ 36Mbps • 27dBm @ MCS4/MCS12 27dBm @ 48Mbps • 27dBm @ MCS5/MCS13 26dBm @ 54Mbps • 26dBm @ MCS6/MCS14 • 26dBm @ MCS7/MCS15

RECIEVE SENSITIVITY	
2.4GHz	• -90dBm @ MCS0 - 90dBm @ 6Mbps - 95dBm @ 1Mbps • -72dBm @ MCS7 - 72dBm @ 54Mbps - 90dBm @ 11Mbps • -90dBm @ MCS8 • -68dBm @ MCS15

SPECIFICATIONS

NETWORKING	
Mesh	• SON based Mesh
IP	• IPv4, IPv6
VLAN	• 802.1Q (1 per BSSID or dynamic per use based on RADIUS) • VLAN Pooling • Port-based
802.1x	• Authenticator & Supplicant
Tunnel	• L2TP • GRE/EoGRE • Openvpn • L2TP/IPSEC • IKEv2
Policy Management Tools	• Application Recognition and Control • Access Control Lists • Device Fingerprinting • Rate Limiting • Integrated Layer 7 firewall with mobile device policy management • Flexible guest access with device isolation
Quality of Service	• WMM Access Categories with DSCP and 802.1p support • QoS-based scheduling • Directed Multicast • L2/L3/L4 ACLs
Mobility	• 802.11r for fast Layer 2 roaming • Centralized Layer 3 roaming

PHYSICAL INTERFACES	
Ethernet	• 4x 10/100/100 BASE-T Ethernet (RJ45) • 1x DC power connector • Reset button: Factory reset (during device power up)

PHYSICAL CHARACTERISTICS	
Physical Size	• 198mm X129mm X 28mm
Weight	• 758g
Mounting	• Desk

POWER	
DC Input 12V DC, 1.5A	• <4.2W

WARRANTY
1 year warranty

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