Your Network's Edge®

RAD Solution Overview
to
450 Mhz Alliance

March 27th, 2026

Sean O'Donoghue

Cover Letter

Dear Gösta,

RAD, a global pioneer in Industrial IoT (IIoT) and Edge Computing, has formally joined the 450 MHz Alliance, strengthening the ecosystem supporting 410–450 MHz spectrum solutions. This strategic alignment reflects RAD's commitment to expanding secure, resilient, wide-area industrial connectivity—particularly for mission-critical sectors such as utilities, smart cities, energy, transportation, and Industry 4.0.

By integrating LTE 450 capabilities into its IIoT portfolio—most notably the SecFlow IIoT Gateway, which supports LPWAN, 450 Mhz and edge computing—RAD brings an all-in-one, future-proof backhaul solution enabling advanced automation at scale.

RAD looks forward to contributing to ecosystem growth, supporting the development of standards, and collaborating with stakeholders to promote the global adoption of 450 MHz technologies. Together with the 450 Alliance, RAD aims to help critical industries achieve resilient, secure, and scalable connectivity that meets the demands of future-ready digital infrastructure.

Please find below an overview of our solutions together with our product relevant datasheets and RFI response. I would be delighted to arrange in-person meeting at your convenience.

Warm regards

Sean O'Donoghue

Your Network's Edge®

Sean O'Donoghue
Sales Director Nordics & Benelux
sean_o@rad.com
M: +46 708 809 231

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Introduction

RAD is a global leader in networking edge solutions. As an industry pioneer for over 40 years, RAD reliably supplies communications service providers and critical infrastructure operators in over 150 countries with best-of-breed Carrier Edge, IoT, 5G, data-driven AI, DDoS protection, and critical operational network solutions. RAD co-innovates solutions with customers, offering always-on connectivity from anywhere.

RAD develops and manufactures the ASIC and FPGA components we use in our products. This allows us to push performance to the limit, as well as tailor our products to our customers' specific requirements, providing them with greater flexibility and choice.

RAD is an Israeli-based company, headquartered in Tel Aviv, Israel. Our main production facilities are located in Jerusalem, Israel, with an additional R&D location in Beer Sheba, Israel.

Figure 1: RAD Facilities Worldwide

RAD was established in 1981, privately owned, 700 employees, 19 offices around the globe and a member of the $1.8 billion RAD Group of companies, a world leader in telecommunications solutions.

Company Name:	RAD Data Communications Ltd.
Visitor Address:	24 Raoul Wallenberg St.
Zip code & City:	6971923 Tel Aviv
Post address:	24 Raoul Wallenberg St.
VAT no:	510819436
Web-site address:	www.rad.com

Our Solutions

RAD is a provider of carrier edge, IoT and critical operational networking solutions. We enable reliable, secure and agile connectivity for thousands of organizations globally. Our solutions are deployed for enterprises, mobile xHaul and 5G, smart business IoT, industrial and critical infrastructure markets, among others. Our solutions are offered in three categories:

IoT Portfolio

RAD offers a complete, out-of-the-box solution for IoT deployments. RAD's solution includes smart sensors to monitor temperature, humidity, movement and other conditions, as well as indoor or outdoor IoT gateways for connectivity and data transmission together with Edge Computing, and an IoT platform for data collection, analysis, and display. Reports and alerts can be accessed remotely using a smartphone or tablet.

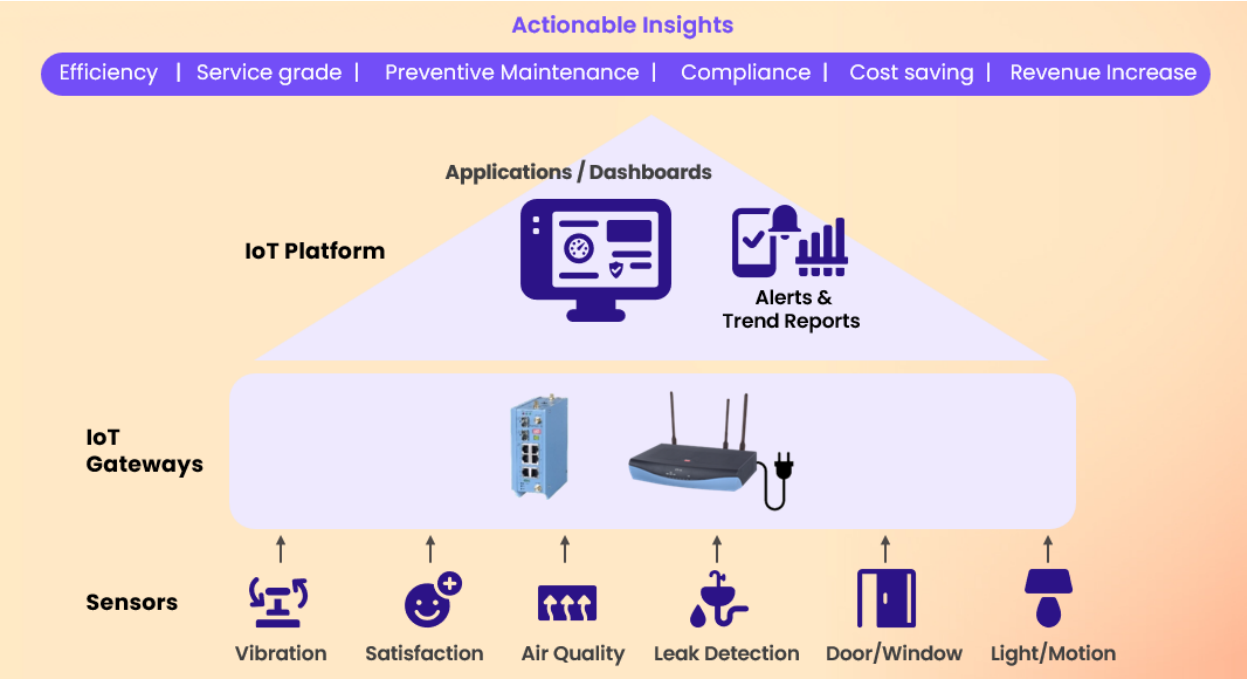


Figure 2: RAD IoT Portfolio Overview

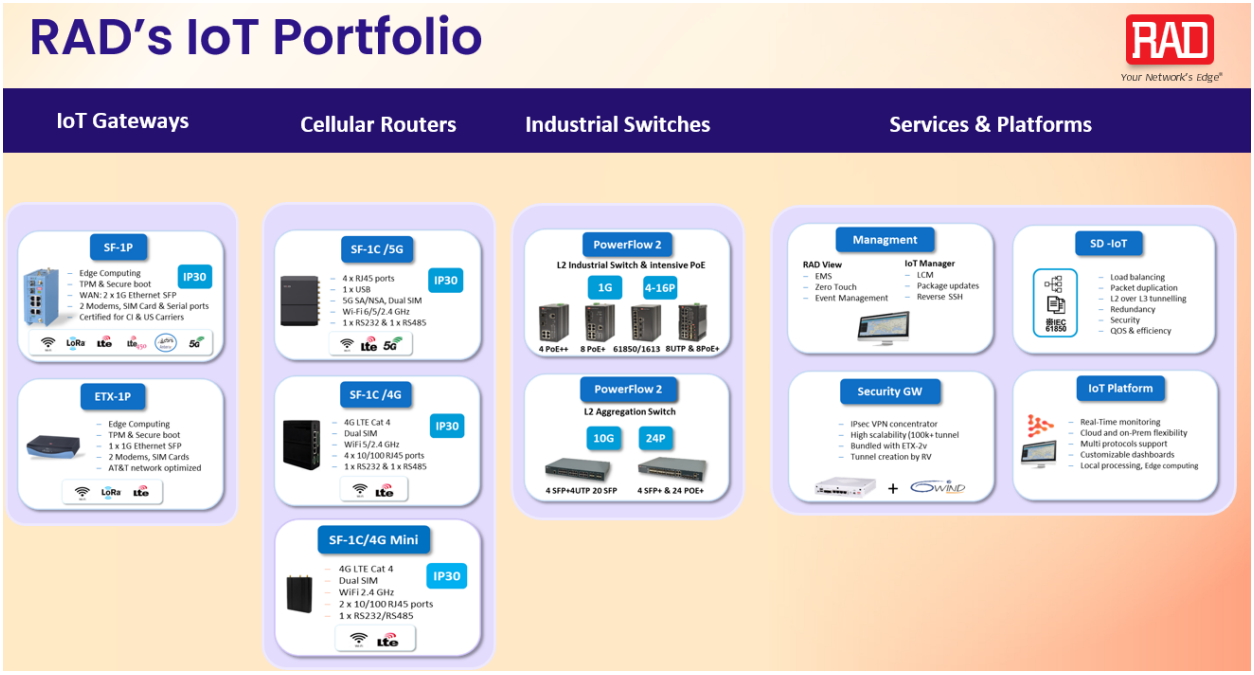


Figure 3: RAD IoT Portfolio – Detailed Overview

Such a combination offers valuable benefits:

Effortless Onboarding: Pre-configured sensors, gateways, and an intuitive platform allow low investment and easy deployment with minimal technical expertise required.

Seamless Integration: The sensors, gateways, and IoT platform work seamlessly together.

Pre-Configured Dashboards & Alerts: Users gain immediate insights into asset health with intuitive dashboards and automated alerts for critical events.

AI-Powered Optimization: AI-powered analytics translate data into actionable insights for predictive maintenance, optimized energy usage, and customer behavior analysis.

Scalability and Customization: The solution can be easily adapted to meet new use cases and business needs.

Security First: Data security is paramount. RAD's solution ensures secure data transmission and storage. The solution has clear benefits for data centers, power transmission lines, and mobile cell sites. However, it's applicable in many sectors as any organization that relies on critical infrastructure can leverage IoT technologies to identify inefficiencies, reduce downtime, and maintain a competitive edge. This is an end-to-end solution that ensures efficiency, compliance, cost savings and revenue increase. Ultimately, the ability to monitor and optimize these systems in real-time sets a new standard for operational excellence.

Carrier Edge Portfolio

RAD offers robust, scalable, and intelligent network edge solutions for wholesale, business and mobile service providers. Our solutions enable Ethernet and IP business and mobile services over any infrastructure. They also support next-generation offerings, such as Smart Business IoT, remote data center monitoring and 5G campuses, as well as AI-powered DDoS protection and networking for QoE analytics and threat protection.

Our carrier edge portfolio consists of the following products and services:

- Best in Class Carrier edge switches and routers with 1G, 10G, 25G, 100G, 400G supported rates, automation and operational efficiency, L2 & L3 convergence, cloud access, and TDM migration for network transformation.
- Smart SFPs featuring network interface device (NID) functionality, IP encryption, TDM pseudowire, and timing synchronization, upgrading existing networks while saving on space, power and training requirements.
- 5G offering:
    - 5G xHaul gateways, backhauling and synchronization
    - FWA for 5G business services, allowing for access, quality connectivity and future convergence
    - Private 5G for campuses including gateways, compute and more.
    - AI-powered SaaS networking platform, AI-powered in-network capabilities
    - Management and orchestration software

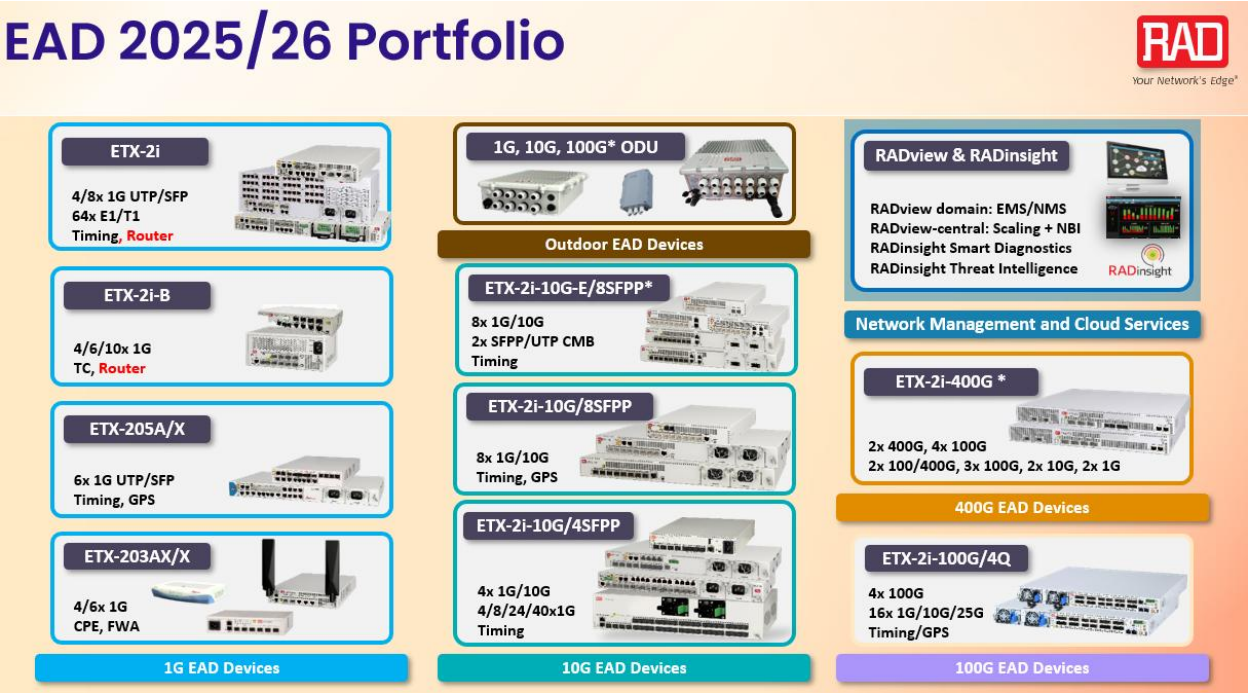


Figure 4: RAD EAD Portfolio

Critical Operational Networks Portfolio

RAD solutions address all communication needs of utility, transportation, government, and oil and gas sectors. We offer best-of-breed tools for cyber-secure asset monitoring, operational WAN, and critical infrastructure deployments. We also ensure seamless migration to packet switched communication networks and applications.

For critical operations network migrations, RAD offers a complete suite of products, including:

- Multi-service networking platforms
- Wireless radios
- Industrial switches and routers
- Networking Devices
- Service management

This portfolio allows critical network operators to migrate to new technologies at their own pace, enabling TDM and packet coexistence. In addition, it offers the following benefits:

- Full interoperability with obsolete equipment
- Maximum flexibility supports any service over any network
- Robust service and network protection for critical applications and services
- Performance monitoring for critical services

- Powerful multi-tier cyber security
- Powerful Network Management

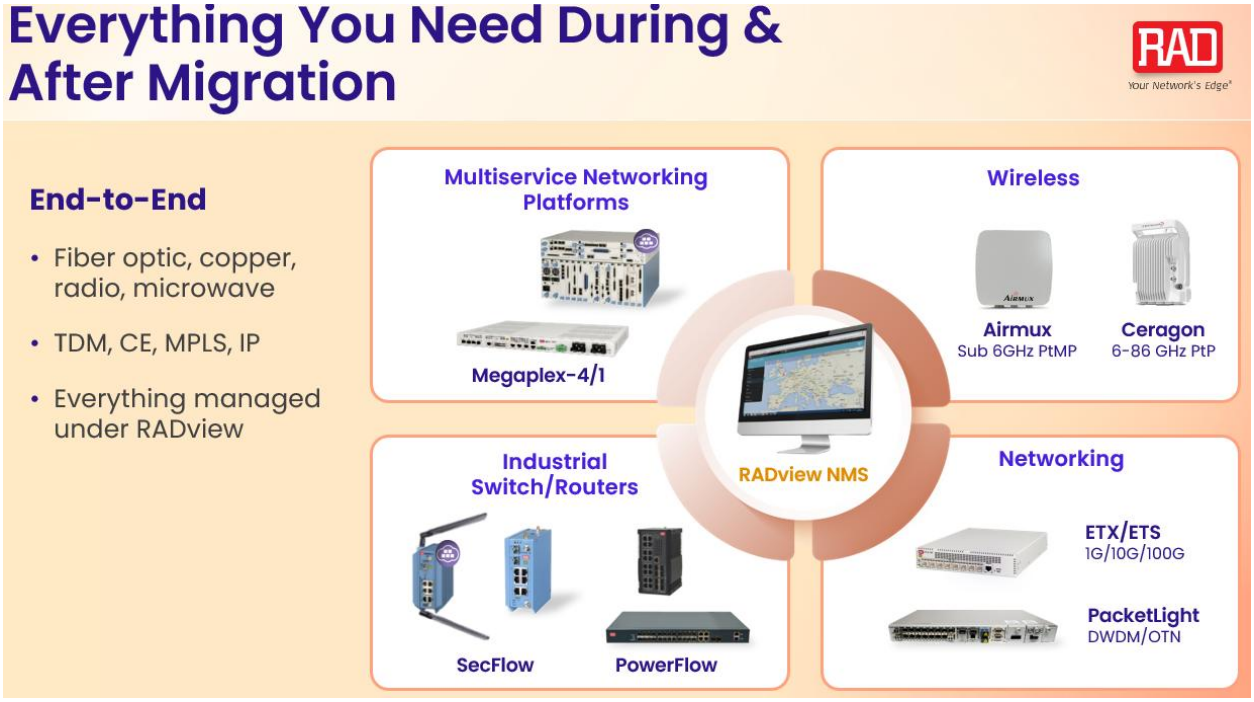


Figure 5: RAD Critical Operational Networks Portfolio

450 Mhz Alliance Solution Overview

Based on the information provided in the RFI documents, the following RAD solution is highly relevant. Please refer to the product datasheets for more detailed information.

RAD SecFlow 1-p

The RAD SecFlow 1-p is a ruggedized Industrial IoT (IIoT) gateway and LoRaWAN aggregator designed for secure, resilient, and intelligent communications in distributed utility environments. It's part of RAD's SecFlow family, optimized for substation automation, smart metering, and remote asset monitoring.

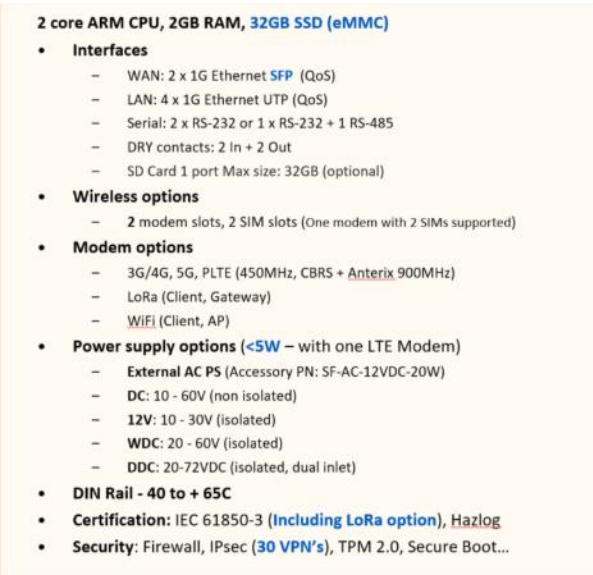
Key Capabilities

	Key Capabilities	
	Category	**Features**
1.	Connectivity	5G, Dual LTE modems, 450 MHz (LTE-FDD: B3, B7, B20, B31, B72, B87), Ethernet, serial (RS-232/485), Wi-Fi, GPS and LoRaWAN.
2.	Protocol Support	IEC 101/104, Modbus RTU/TCP, DNP3, MQTT, SNMP, serial tunneling, IEC 61850 GOOSE (L2 over L3)
3.	Cybersecurity	Zone-based firewall, IPsec/OpenVPN, secure boot, SD-CloudAccess, HW root of trust (TPM 2.0) and disk encryption
4.	Edge Intelligence	Docker-based app hosting, local analytics, protocol conversion and anomaly detection.
5.	Resiliency	Dual SIM failover, link redundancy, SD-IoT (Load Balancing, Packet duplication)
6.	Management	RADview NMS, CLI, SNMP, REST API, LCM, R-SSH, Zero Touch Provisioning - ZTP

Table 1: RAD SecFlow 1-P Overview

Hardware Specification

General Specifications



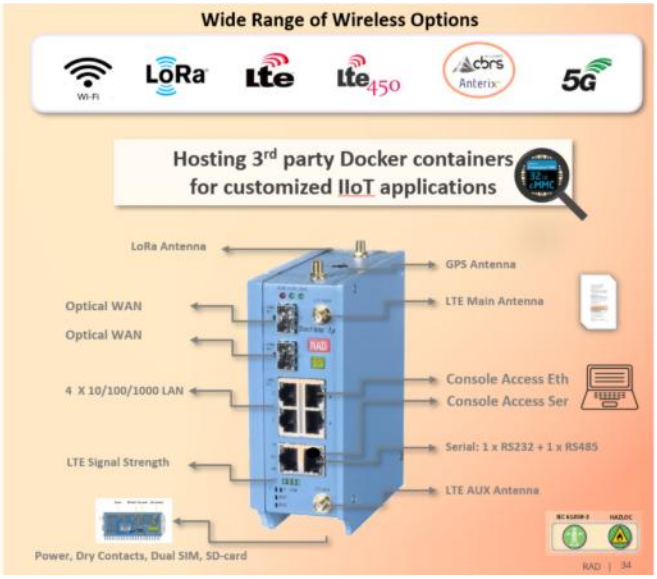


Figure 6: RAD SecFlow 1-P General Specifications

The RAD SecFlow-1P includes:

- 4x10/100/1000 Ethernet Ports, and 2 SFP Gigabit Ethernet Ports.
- Dual LTE Cat4 Modem / 5G / LTE450
- Optional LoraWAN Gateway Modem
- ARM Based computing board.
- 2G RAM. 32GB eMMC SSD
- Optional SD Card, up to 32GB
- 2 Serial Ports. 1(2)xRS232, 1xRS485
- 2xSIM Slots for dual Mobile Operator support.
- eSIM support: removable SIM with eUICC
- GNSS Included: Supporting GPS and Galileo
- 5 RF Connectors (SMA) for external antennas: 4 RF for LTE 1&2. 1 for GNSS.
- MTBF >250.000 Hours
- 10V-60V DC Power supply

Device Characteristics:

- IP30 Level Support
- Enclosure-1 Chassis (E1).
- E1 chassis dimensions: 138mm x 53mm x 123 mm (HxWxD).
- E1 chassis weight: 0.8 Kg
- Power: <5W with one LTE Modem.
- Temperature Range:
- Storage: -40 to +85ºC
- Operating: -40 to +65ºC. Humidity up to 95%

Cellular Modem (EVDO, FOTA)

SF1-P includes cellular modem (single/dual) with dual SIM support.

Model Frequency Bands:

LTE CAT 4 EMEA

- LTE FDD: B1, B3, B5, B7, B8, B20
- LTE TDD: B38, B40, B41
- WCDMA: B1, B5, B8

- GSM: B3, B8

5G NR sub-6 with Global support

- FR1 (sub-6GHz): n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n66, n70, n71, n75, n76, n77, n78, n79
- LTE: B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B18, B19, B20, B21, B25, B26, B28, B29, B30, B32, B34, B38, B39, B40, B41, B42, B43, B46, B48, B66, B71

CAT 4 450 Mhz for private LTE networks

- Type A: LTE-FDD: B3, B7, B20, B31, B72
- Type B: LTE-FDD: B3, B20, B87

LoraWAN Modem

LoraWAN Gateway radio module specifications:

- EU868, RU864, US915, AS923 (1-4), AU915, KR920, IN865 bands
- SX1303 baseband processor
- 8 x 8 channels LoRa packet detectors
- 8 x SF5-SF12 LoRa demodulators,
- 8 x SF5-SF10 LoRa demodulators
- LoRaWAN Class A, B, C
- Packet forwarder

Security

The RAD SecFlow 1p is secured by design operating system, secure boot, hardware root of trust, disk encryption and embedded firewall.

Edge Computing

SecFlow-1p can host containerized edge applications, supporting any 3rd party containers, which extend its original functionality to a new level for Industrial IoT solutions.

Containers can easily be installed and managed via the Docker CLI.

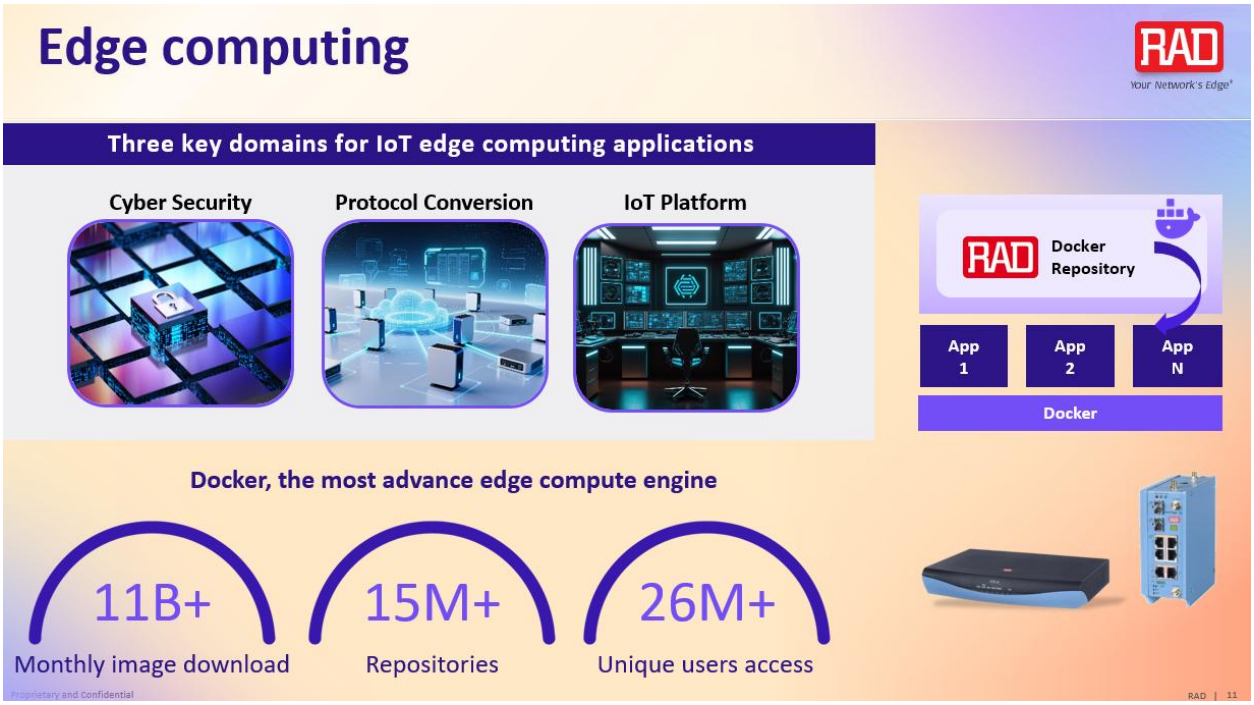


Figure 7: RAD SecFlow Docker Architecture

RAD RADview

RADview is RAD's modular network management and orchestration suite designed to manage, monitor, and secure critical communications networks across utilities, carriers, and industrial infrastructure. It supports RAD's full portfolio of routers, switches, IIoT gateways, and multiservice platforms.

Centralized Management:
SecFlow-1p integrates with RADview for end-to-end service configuration and monitoring based on SNMP v3.
RADview provides a comprehensive and user-friendly graphical interface for managing SecFlow-1p devices, allowing operators to efficiently monitor network performance, configure tunnels, manage security policies, and troubleshoot issues in real-time. Its advanced capabilities include fault management, task automation, and service provisioning, ensuring seamless control and visibility over distributed networks.
By offering centralized oversight and reducing manual intervention, RADview significantly enhances operational efficiency and minimizes downtime.

Conclusion:

The SecFlow-1p offers an unmatched solution for critical infrastructure communications. Its robust design, comprehensive security features, and advanced networking capabilities position it as the ideal choice for organizations seeking a future-proof, resilient, and scalable industrial IoT

gateway. By choosing this solution, customers can ensure continuous service, secure data transmission, and simplified network management, ultimately reduce operational costs and enhance efficiency.

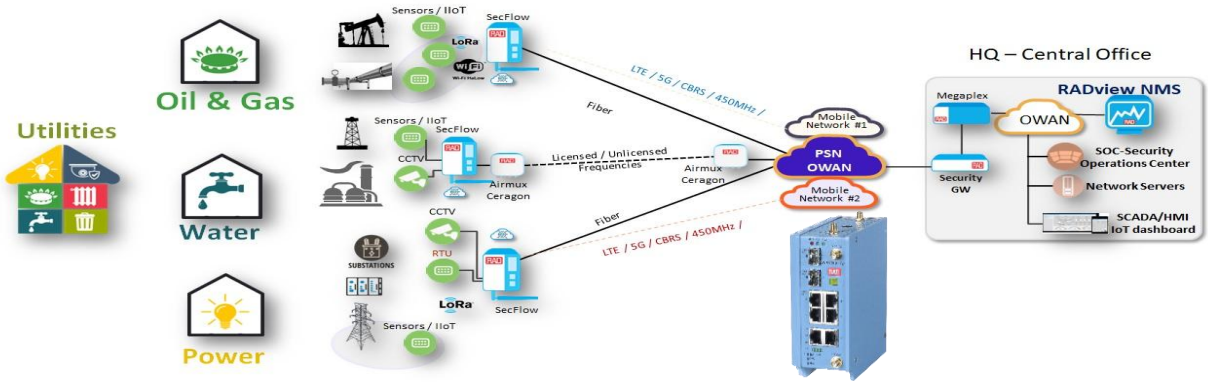


Figure 8: RAD SecFlow Deployment Overview

References

1 260320_RAD Device RFI

2 260320_RAD Secflow-1p Datasheet

3 260320_RAD RADview Datasheet

4 260320_RAD Recent Awards