Cisco 819 Integrated Services Router

Machine-to-Machine Gateway

The Cisco 819 ISR Value

The Cisco® 819 Integrated Services Router (ISR), designed in compact hardened and non-hardened models, is the smallest Cisco IOS® Software router with support for integrated wireless WAN (WWAN) (mobile broadband backhaul) and wireless LAN (WLAN) capabilities. Fully integrated with Cisco IOS Software, the Cisco 819 delivers enterprise-class features, including highly secure data, voice, and video communications to stationary and mobile network nodes across wired and wireless links. The Cisco 819 extends corporate third- and fourth-generation (3G and 4G, respectively) WWAN network services to a wide variety of IP devices such as ATMs, kiosks, Global Positioning System (GPS) units, vending machines, digital signs, smart meters, vehicle fleets, and small remote branch offices.

The Cisco 819 ISR Gateway is IPv6-ready and provides a rapidly deployable, highly available, reliable, and secure solution designed specifically for machine-to-machine (M2M) applications. In addition, the Cisco 819 supports standards-based mobile IP and delivers comprehensive routing, switch, LAN, WAN, and network management.

As part of the Cisco 800 Series next-generation fixed-configuration ISRs, the Cisco 819 provides collaborative business solutions for secure data communications to enterprise branch offices, small businesses, teleworkers, manufacturing plant floors, mass transit, and mobile fleets.

The hardened Cisco 819 models are designed specifically for challenging environments such as extreme temperatures, high humidity, water, dust and excessive shock and vibration that are common in transportation and manufacturing applications.

What Problems Does It Solve?

The Cisco 819 provides benefits to a wide variety of industries, including oil and gas, manufacturing and industrial automation, transportation, energy and utilities, public safety, and finance.

Addressing the business requirements of M2M applications, the Cisco 819 is a key component of an overall solution which:

- Improves operational productivity, safety and security in markets such as process control, industrial, mining, oil and gas

- Provides remote high-speed communications in mobile applications, improving effectiveness and productivity in transportation, fleet, and public safety markets
- Enables business and operational applications to facilitate intelligent decision making based on conditions of remote devices and end-points
- Wireless WAN and Wireless LAN functionality expands the reach of IP networks in harsh environments for improved communication
- Simplifies integration of corporate and operational networks for lower TCO and faster ROI
- Facilitates compliance with industry-specific regulations and requirements
- Enables new services which help businesses and organizations remain competitive

Figure 1. Cisco Machine-to-Machine Gateway Portfolio
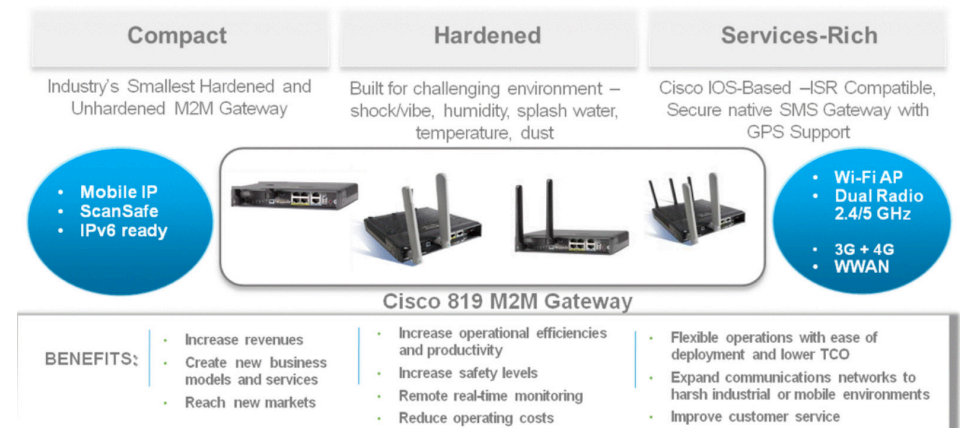
Just how tough is the Cisco 819H Hardened Gateway?

Watch the video and see for yourself: http://www.youtube.com/watch?v=i1BfhRauFvw.

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The Cisco 819 is available in five different form factors to meet a wide variety of needs. With support for industrial-grade components, the hardened Cisco 819HG extends the Cisco 819 M2M Gateway footprint and provides deployment flexibility.

The Cisco 819HG is an ideal solution for stationary and mobile environments where space, heat dissipation, humidity, dust, water, exposure to extreme temperatures, harsh environments, and low power consumption are critical factors.

Feature comparison chart for all Cisco 819 ISR models

|	Cisco 819 Secure ISR 3G	Cisco 819 Secure ISR 3G + Dual Radio Wi-Fi Access Point	Cisco 819 Secure ISR 4G LTE	Cisco 819 Secure ISR Dual Radio Wi-Fi Access Point	Cisco 819 Secure M2M Gateway (base hardend router)
	C819 3G	C819 3G + Wi-Fi	C819 4G LTE	C819H Wi-Fi	C819H
3G/4G WAN	EVDO or HSPA +	EVDO or HSPA +	Multimode LTE	NA	NA
3G Antennas	External/ Diversity	External/ Diversity	External/ Diversity	NA	NA
WLAN (a/b/g/n)	No	2.4 and 5 GHz	No	2.4 and 5 GHz	NA
Unified support (Licensed Option)	No	Yes	No	Yes	No
Wi-Fi Antennas	No	External	No	External	No
On-board WAN Port	1GE	1GE	1GE	1GE	1GE
12-1 Serial Port	1	1	1	1	1
On-board LAN Port	4FE	4FE	4FE	4FE	4FE
GPS/SMS	Yes	Yes	Yes	Yes	Yes
Cloud/Scansafe	Optional	Optional	Optional	Optional	Optional
Hardened (-25/40/ IP 41)	Yes	Yes	Yes	Yes	Yes
Non-Hardened	Yes	No Hardened only	Yes	No Hardened only	No Hardened only
Humidity <95%	Yes	Yes	Yes	Yes	Yes
Shock/Vibe	Yes	Yes	Yes	Yes	Yes

819 ISR Applications in Action

Transportation
- Track and monitor vehicles using GPS and mobile broadband
- Enable on-board passenger Wi-Fi
- Increase safety of railways, roads, airports, stations and ports
- Improve management and efficiency of commercial fleets
- Provide faster response times of emergency vehicles
- Withstands the shock and vibration found in transportation

Industrial Automation and Manufacturing
- Remote monitoring and automated supply-chain management increases efficiency
- Connect systems on the plant floor with the enterprise to converge Operational Technologies (OT) with traditional IT systems
- Built for industrial environments and harsh conditions
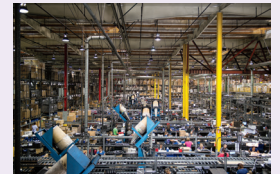
Energy and Utilities
- Remotely monitor equipment, read smart meters and track usage to Improve energy efficiency
- Cut costs for utility companies and improve customer service

Financial
- Increase security at outdoor ATMs and kiosks
- Real-time tracking of ATM levels optimizes restocking schedules
- Lower downtime, provides better customer service and saves banks money by eliminating wasted trips

Retail
- Quickly deploy retail branches with no wired infrastructure
- Communicate with inventory management systems