

Access Point



Enhanced, flexible network connectivity

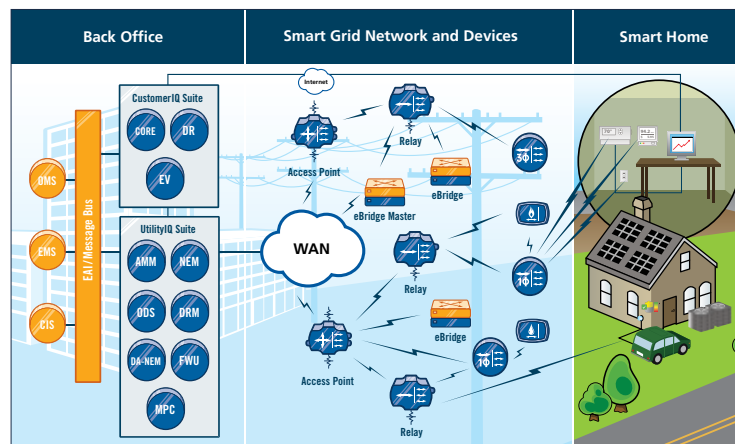
- » Lowers overall cost of ownership by managing thousands of network-enabled electricity, water, and gas endpoints
- » Supports a variety of WANs to leverage both existing utility networking infrastructure and low-cost public carrier networks
- » Reduces installation costs by serving as the conduit for outbound data requests and firmware upgrades and for inbound data and alarms
- » Enables remote upgrades to reduce expenses and allow advanced, value-added services to be added
- » Provides full security for today's cyber-security requirements

Smart Grid flexibility

The Silver Spring Smart Energy Platform combines network infrastructure, software, and professional services to enable a range of smart grid applications.

The Silver Spring Access Point provides the central link between endpoint devices and your utility's mission-critical systems, enabling intelligent network control and monitoring. Its flexible communication features extend the reach and coverage of the network to thousands of customer premises, and its support for up to 5,000 endpoints per Access Point dramatically lowers ownership costs. Since it has a backup battery, the Access Point can reliably route scheduled read and management tasks, even during an outage. And it features robust security, to ensure full regulatory compliance and network safety.

The Access Point provides a highly reliable connection to electricity, water, and gas meters over a Neighborhood Area Network (NAN). It communicates with Silver Spring intelligent endpoints, including meters and Bridges, either directly or through Silver Spring Relays. And it offers multiple paths to each endpoint, through sophisticated mesh network routing that ensures greater reliability and redundancy. The Access Point also provides Wide Area Network (WAN) connectivity to your utility's mission-critical applications through digital cellular or Ethernet connections. This flexibility enables your utility to leverage existing low-cost public carrier infrastructures.



The Access Point is the central link between the utility's enterprise management systems and the endpoint devices such as Silver Spring-enabled electricity, water, and gas meters.

About Silver Spring Networks

Silver Spring Networks is a leading Smart Grid solution provider that enables utilities to achieve operational efficiencies, reduce carbon emissions and empower their consumers with new ways to monitor and manage their energy consumption. Silver Spring provides the hardware, software and services that allow utilities to deploy and run multiple advanced solutions, including Smart Metering, Demand Response, Distribution Automation and Distributed Generation, over a single, unified network. The Silver Spring Smart Energy Platform is based on open, Internet Protocol (IP) standards, allowing continuous, two-way communication between the utility and devices on the grid. Silver Spring has numerous deployments with leading utilities in the US and abroad, including Florida Power & Light, Pacific Gas & Electric, Pepco Holdings, Inc., Jemena Electricity Networks Limited and United Energy Distribution, among others. For additional information, please visit www.silverspringnetworks.com.

Access Point

Two-way communications with the smart grid

The Access Point is a vital part of the smart grid network, which extends secure, real-time measurement and control interfaces—with full, two-way communications—throughout the network and to the customer premise.

From end to end, the smart grid network is managed and controlled by the Silver Spring UtilityIQ application suite. This feature-rich back-end software collects and displays critical network statistics and alarms from numerous data sources, including electricity, water, and gas meters. UtilityIQ applications provide at-a-glance views that give complete visibility into the health of the utility network, the status of endpoint devices, and more. And it gives you a scalable platform that enables advanced applications to be deployed—both now and in the future—to add even more value to service offerings.

Features

- » Full two-way, 902-928 MHz FHSS
- » One-watt transmitter
- » Dynamic network discovery and self healing
- » Robust security from the endpoint through to the wide area network
- » “Over-the-air” network firmware upgrades
- » Sophisticated routing functions, for multiple paths to each endpoint
- » Automated scheduling and network management tasks
- » Long-reach, multi-hop networks, providing high endpoint-to-Access Point deployment ratios
- » Weather-resistant outdoor enclosure, for longer life and greater durability
- » Battery backup option for fault-tolerant operation

Specifications:

Communications	Data rate: 100 Kbps Frequency: 902-928 MHz Spread spectrum technology: FHSS Transmitter output: 30 dBm Output impedance: 50 ohms Receiver sensitivity: -97 dBm for 1% PER WAN: Cellular and Ethernet															
Protocols/Security	Addressing: Internet Protocol version 6 (IPv6) Security: Secure Hash Algorithm 256 bit (SHA-256) RSA-1024 and/or ECC-256 Encryption: Advanced Encryption Standard (AES-128 or AES-256)															
Physical Interfaces	Antenna connector: N Type, Female Antenna: J-Pole or High-Gain Directional															
Power	Input range: 96 to 277 VAC, 50 to 60 Hz Power consumption: <table border="1"> <thead> <tr> <th></th> <th>Idle</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>Ethernet</td> <td>2.5 W</td> <td>7 W</td> </tr> <tr> <td>Ethernet with battery</td> <td>2.5 W</td> <td>8 W</td> </tr> <tr> <td>Cellular</td> <td>2.5 W</td> <td>12.5 W</td> </tr> <tr> <td>Cellular with battery</td> <td>2.5 W</td> <td>13.5 W</td> </tr> </tbody> </table> Battery backup option: > 8 hr operation		Idle	Maximum	Ethernet	2.5 W	7 W	Ethernet with battery	2.5 W	8 W	Cellular	2.5 W	12.5 W	Cellular with battery	2.5 W	13.5 W
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Environmental	Operating temperature: -30°C to +70°C (-22°F to +158°F) Humidity: 0% to 95%, non-condensing															
Mechanical	Dimensions: 23 cm (9") L x 20 cm (8") W x 10 cm (4") H Weight: 1.8kg (4 lbs.) Enclosure: IP65, white, aluminum															
Approvals	FCC: Part 15.247 Industry Canada: RSS-210 Others: IEC/UL 60905-1, IEC 61000-4															