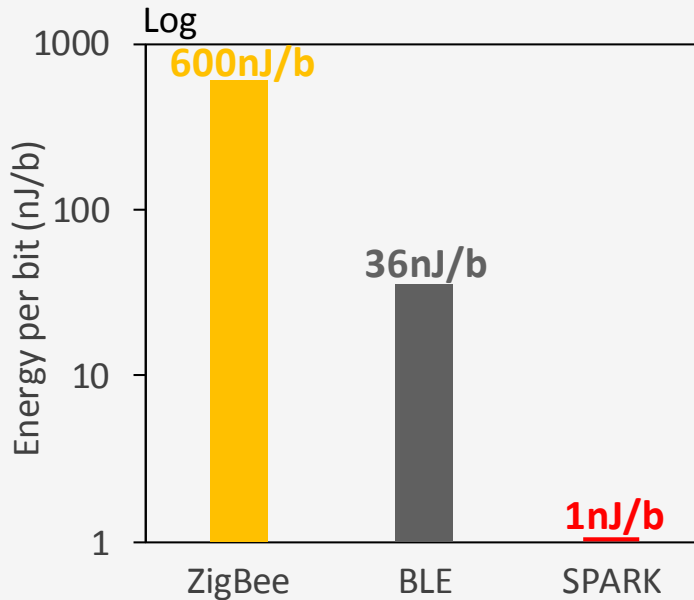


About us

SPARK Microsystems offers a unique & innovative short range (50 meters) fully integrated wireless transceiver technology that achieves **35 times better energy efficiency** than BLE and 600 times better than ZigBee.

Our technology **enables battery-less operation** of wireless devices such as sensors when paired with energy harvesting technologies.

Energy Efficiency



Specifications

- Ultra-low power consumption
 - ▶ <1 mW at 1 Mbps
 - ▶ < 1 nJ/bit energy efficiency
 - ▶ 1.8 to 3.6 V supply, 700 nA sleep current
- Scalable data rate
- Ultra-short latency below 50 μ s
- 3-6 GHz configurable ultra-wideband spectrum
 - ▶ 13 dBm TX power, 50 meters range

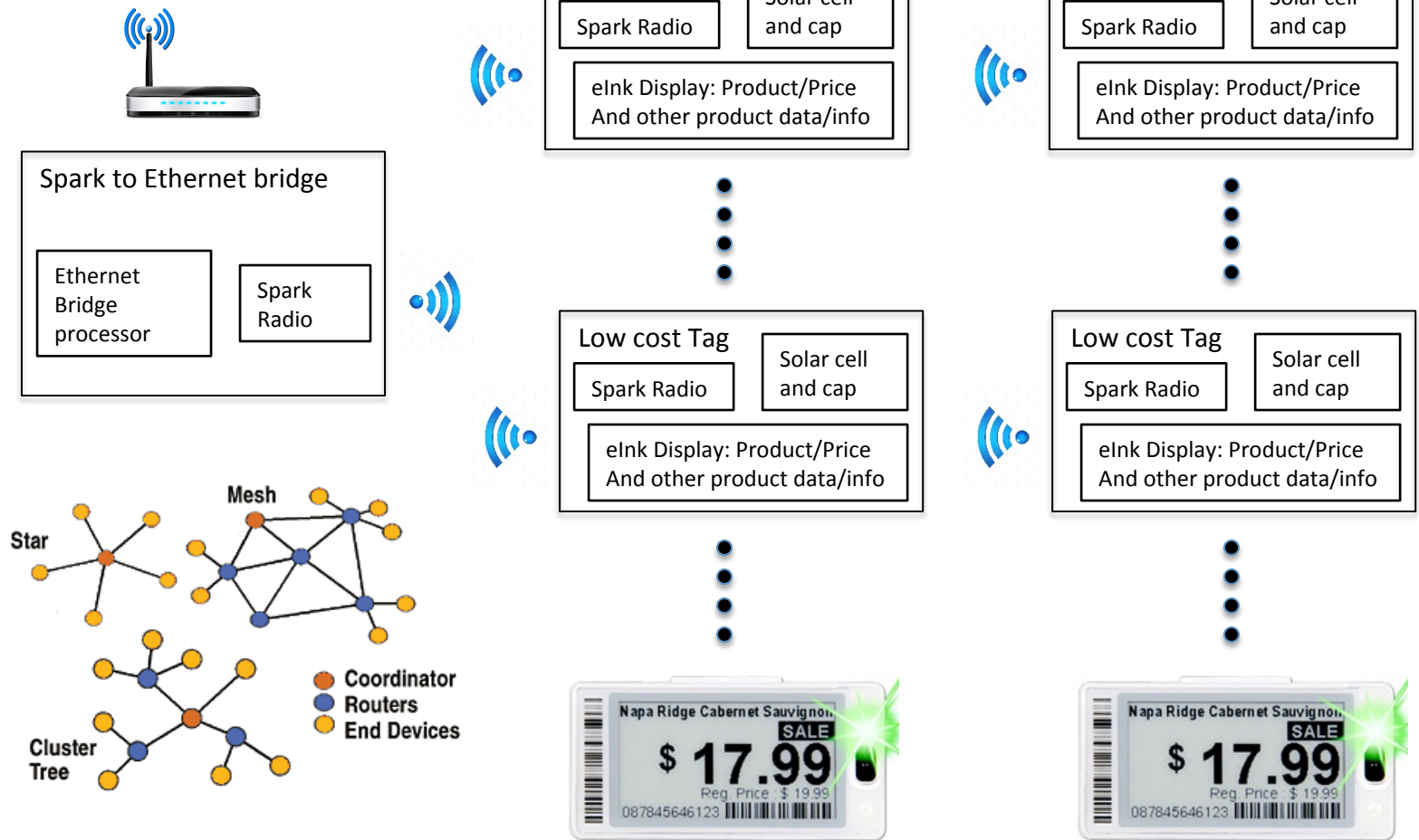
The Problem

Every store would like to have electronic tags for automated pricing and product updates. The biggest problem is the cost of the tag and more importantly the cost of installation. All other wireless solutions require power hungry wireless solutions that either require a full electrical power installation or batteries that need to be swapped out too often. In either case, the cost is too expensive, either upfront for the installation or the maintenance with all the batteries.

The Solution

The new SR1000 device from SPARK Microsystems can communicate with such low energy that it can be powered by a simple low cost solar cell with a capacitive cell for energy storage thus eliminating wires and batteries, vastly simplifying the installation process and extending the life of the tag indefinitely. Unlike current tags, no infrared towers need to be installed reducing installation CapEx requirements significantly. The SPARK radio can be used in a mesh throughout the store, each tag relaying updates to the next tag, and so on. When used in conjunction with an elnk or other low power screen there is no limit to the life of the tag, providing a solution that yields a high return on investment.

Example Solution



Ranging

- In addition to communication, the SPARK technology lends itself to coarse or highly accurate location ranging based on time-of-flight with an accuracy better than 1m. Using three or more fixed SPARK radio chips, the location can be determined.

Flexibility

- Can support device-to-device, star, and mesh network configurations. These features allow for increased connectivity and reliability, as well as better coverage of large warehouses and department stores.
- Can multiplex thousands of devices.

Additional Markets

- Internet-of-Things
- Battery-less systems
- Medical and healthcare
- Health and fitness
- Industrial and automation, M2M
- Structural health monitoring
- Smartphones and tablets
- Smart agriculture
- Smart homes / buildings / cities
- Streaming data /audio / video
- Wireless peripherals
- Wearables