

FabriK™ Thread Compliant Communication Platform Solution Brief

Centero's FabriK communication platform is a Thread compliant solution for the emerging Commercial and Industrial Internet of Things. It is a standards-based, end-to-end solution that provides device connectivity, security, monitoring, control and management tailored to meet the requirements for a wide array of vertical markets and applications.

FABRIK PLATFORM COMPONENTS

The communication platform consists of the following components:

- WEE Module – a wireless module that runs the Thread compliant communication stack. The communication stack can be configured to meet all roles specified by the Thread standard, including: Leader, Router, Router Eligible End Device (REED), End Device (ED), Sleepy End Device (SED) and On-mesh Commissioner.
- WHeeL Border Router – a modular IoT Gateway that provides WAN connectivity as well NFC assisted network admission and commissioning.
- FabriK Network Operations Center – a web-based management tool that leverages cloud-computing technologies to provide a simple yet powerful interface to support Thread devices in highly scalable wireless mesh networks. With FabriK you can easily connect, control, manage, and monitor all of your Thread devices engaged in various applications such as home and commercial building automation, lighting, connected healthcare, industrial automation and connected appliances. FabriK offers easy integration with Thread devices, remote network management, secure data transport and storage, data visualization, and export capability. Web services facilitate integration with external systems, simplifying the development of applications using device data. It can be hosted in the cloud (private or public) environments that scale to meet any demand, from the first prototype to production systems.

FabriK Communication Platform

Field Device



WEE Module



THREAD
Communication stacks

Border Router



WHEEL
WHeeL Modular
IoT Gateway

Network Operations Center



FabriK

SOLUTION HIGHLIGHTS

SEAMLESS

ROBUST

REDUNDANT

The FabriK™ Thread platform is a self-healing, secure, wireless mesh networking solution that is built upon a foundation of existing, vetted standards.

FEATURE	BENEFIT
NFC assisted network admission and commissioning	Simple, user friendly and intuitive commissioning, resulting in a great user experience and increased product acceptance.
Application layer is OMA LWM2M/ IPSO Smart Object compliant	Swift integration for a wide range of sensors, meters and actuators with minimum resources being used.
IEEE 802.15.4 compliant PHY/ MAC layer	Products based on low-cost, widely available chipsets provided by a wide range of silicon vendors. Can also upgrade chipsets present in existing products.
Supports multiple Border Routers	No single point of failure for the WAN connection.
IPv6/6LoWPAN connectivity and routing	Can use existing, widely-available network management tools.
Mesh based topology - path redundancy	Results in optimal reliability of wireless data transactions.
Two-layered security construct	Robust hop-to-hop and end-to-end security construct ensures confidentiality, authenticity and privacy for user data.
Power supply diversity	Supports line, battery and harvester powered devices.
Supports monitoring and control	Allows user to swiftly set up monitoring – control loops.
Guaranteed latency	Supports critical data transactions for real-time monitoring and control.
Supports scalability of 250+ field devices	Reduced cost of supporting hardware infrastructure and capital expenditure (CAPEX).

TARGET VERTICAL MARKETS AND APPLICATIONS

The FabriK platform and its components have been architected, designed, hardened and tailored to meet the requirements for a wide variety of products in several vertical markets and applications.

- Commercial and Street Lighting
- Home Automation
- Connected Appliances

- Commercial Building Automation
- Industrial Automation
- Connected Healthcare

Centero is a provider of wireless technologies, products and services for the Internet of Things.



Centero is a privately owned technology company headquartered in Atlanta, Georgia. We are the forefront of the Industrial Internet of Things revolution which is transforming a wide array of vertical markets. Centero offers end-to-end, standards-based communication platforms that are swiftly integrated into novel or existing products.



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