

ThingSpace Services

Solution brief

Helping you with your IoT life-cycle management



ThingSpace Services is a set of tools that simplify device life-cycle management for our wireless Internet of Things (IoT) customers. We provide cellular IoT connectivity services, making it simpler for customers to implement, secure and manage their solutions.

End-to-end IoT solutions

Unlike many solutions that require new network infrastructure and on-premises equipment that is costly to set up and maintain, Verizon offers a cloud-based platform-as-a-service (PaaS) alternative that reduces the barriers to IoT solution adoption. By removing the headaches of supporting expensive new networks and servers, Verizon enables you to focus on your core competencies.



Diagnostic Services

The complexity of IoT ecosystems can make it difficult to identify device or network performance issues without the right tools to detect anomalies and investigate the root cause. From activation and provisioning to remote maintenance of devices, Diagnostic Services supports customers' operations at scale for improved efficiency. With Diagnostic Services, you can:

- Monitor device network connection status
- Monitor device radio frequency (RF) performance, either real time or historical
- View device ID and provisioned state
- View device software and firmware version

Benefits:

- Troubleshoot suspect devices without needing to call Verizon Care
- Determine course of action to fix device problems



Coarse Location Service

Keep track of your IoT devices wherever they're deployed. Location data is key to a comprehensive IoT solution. However, knowing the precise location of devices or machines isn't necessary for many IoT applications. For example, in IoT applications where assets are fixed or have limited movement, asset location is used more to validate the asset position than to track its movement. In many cases, a coarse or rough estimate of where devices are located will meet the needs of the application or use case.

ThingSpace Coarse Location Service collects coarse location data with an accuracy range of 200 to 2,000 meters, saving money and energy and eliminating the need for additional chipsets or sensors.

You get actionable data while conserving device power, lowering deployment and data collection costs, and simplifying maintenance. You'll be able to identify and locate all your IoT devices on the network, as well as get more context about the device data you collect and use for reports, maps and websites.

Our Coarse Location Service can help you:

- Locate IoT devices anywhere on the Verizon network
- Generate location reports to review and share
- Manage location consent and privacy requirements
- Report and log the last known location of devices

Benefits:

- Increase visibility into IoT assets
- Lower costs of locating and retrieving devices



Precise Location Services

Some IoT use cases and applications require specific location information. For example, asset tracking, fleet management, smart communities and more all require exact, readily available location data to work effectively. The challenge is that you may use non-GPS-enabled IoT devices that aren't currently integrated with a solution. Or you may use GPS-equipped devices that need a higher-accuracy solution with a better time-to-fix than what's available through many stand-alone GPS applications.

In the past, addressing these challenges meant working with a third-party provider and being dependent on an outside OEM. And maybe an independent software vendor (ISV), too, whose solutions might not connect to other Verizon IoT solutions. All of which can contribute to an inconsistent user experience.

Now, Precise Location Services delivers high-accuracy, multimode location data via the ThingSpace platform, so you can manage all your Verizon IoT services in one place. It uses assisted GPS (aGPS) to provide accurate location information in the range of under 20 meters (or 20 to 200 meters with available fallback to coarse location accuracy). The service supports both device-based and network-based location methods, covering all categories of 4G devices. Supporting both methods allows you to bypass embedded GPS chips, which can take longer to communicate their location to the server, due to "cold starts" that require more processing time and drain battery power.

Our Precise Location Services can help you:

- Enhance the capabilities of location-based solutions that need highly accurate location data
- Use a one-stop shop to manage your Verizon IoT solutions
- Leverage network-based methods to determine location, which reduces the need for time- and power-consuming GPS chips

Benefits:

- Increase accuracy of asset location data
- Reduce the amount of time needed to start devices and collect location data



Software Management Services

IoT solutions can range in size and scope, with up to thousands of connected devices spread across a building, plant or large geographical area. High-touch truck rolls and technician dispatches to troubleshoot or upgrade these devices can be time intensive and costly. ThingSpace Software Management Services can help you monitor, configure and update your IoT devices using firmware-over-the-air (FOTA) technology. This will help you prevent downtime and maintain the compliance of your Open Mobile Alliance Device Management (OMA-DM) and Lightweight Machine-to-Machine (LWM2M) devices.

Through the ThingSpace Manage portal or the ThingSpace application programming interfaces (APIs), you can:

- Host firmware versions
- Manage device licenses and subscriptions
- Schedule firmware upgrades and run campaigns
- Report firmware history and campaign status

Benefits:

- Improve product performance
- Increase coverage and operational speed
- Reduce truck rolls
- Quickly address security vulnerabilities
- Manage remotely with ease
- Use a fast and reliable connection



SIM-Secure

SIM-Secure prevents unauthorized use of SIMs on non-IoT devices. The service offers a customer-controlled, easy-to-use, over-the-air solution for protecting IoT assets and controlling unwanted expenses by locking a specific SIM to a customer-specific IoT device.

Benefits:

- Reduce fraud or unauthorized use of SIMs
- Enjoy greater control over device and data

Power your IoT development and innovative solutions with the network more people rely on.



ThingSpace Services Bundle

To get more out of your IoT connectivity and simplify management, Verizon offers the Protect, Detect and Respond bundle, a collection of value-added services to enable security protection, detection of issues and a means to respond to those issues. The ThingSpace Services Bundle provides access to software management for modules, coarse location and network diagnostics tools, and SIM security.

For a fixed cost per line, you can:

- Protect your SIMs from unauthorized use by binding the SIM to the device
- Host, manage, schedule and distribute baseband firmware updates to devices already deployed in the field
- Locate your IoT devices, using location data for reports, maps and websites
- Monitor device network connection status and provisioning state

Benefits:

- Complete a toolset for IoT device life-cycle management
- Improve efficiencies for IoT device life-cycle management
- Improve visibility and security for IoT assets

Learn more:

Contact your Verizon Business Account Manager to discover how ThingSpace Services can streamline the way you manage your IoT deployments. Or visit thingspace.verizon.com

To learn about certified devices or modules on the Verizon network, please visit opendevelopment.verizonwireless.com

