



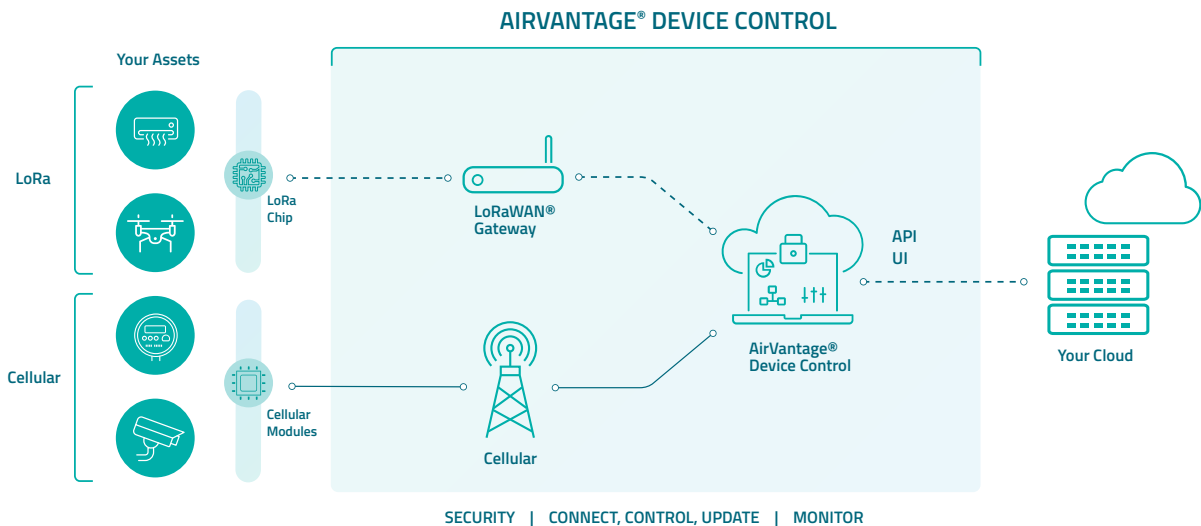
AirVantage® Device Control

Secure, monitor, update and manage your connected devices, anytime, anywhere.



Increase productivity with the centralized device management service

The AirVantage Device Control offers an integrated approach to streamline the deployment and daily operations of IoT connected solutions. The cloud service simplifies device provisioning, over-the-air updates, security protocols, alert management, and campaign orchestration, eliminating the complexities and inefficiencies of fragmented, manual processes. With Device Control, companies can efficiently manage a variety of devices, from LoRaWAN® sensors and gateways to cellular modules, ensuring operational efficiency and centralized control.



Key challenges organizations face when deploying and operating a large number of IoT connected devices:

SECURE DEVICE LIFE CYCLE MANAGEMENT FOR IOT DEVICES:

Streamline device provisioning and updates over the air using AirVantage's efficient protocol stacks. Manage devices with all security requirements without the need to rebuild the entire stack. All operations, from device onboarding to firmware updates, are fully secure out of the box.

CAMPAIGN MANAGEMENT AT SCALE

Enhance operational efficiency with campaign management tools that allow tailored campaigns for specific device groups or device properties. Schedule deployments, monitor performance, gather insights, and iterate for optimized outcomes aligned with business objectives.

PROACTIVE MONITORING AND ALERTING

Our solution provides real-time device monitoring and customizable alert triggers. Actionable insights aid in swift issue resolution, while historical reporting and trend analysis offer valuable foresight for predictive maintenance.

What is AirVantage Device Control

AirVantage Device Control is a proven cloud service that helps organizations overcome the challenges of managing a large fleet of IoT devices. AirVantage Device Control lets you securely monitor, control and update your cellular modules and LoRaWAN™-based devices – all in one place and all at scale. Device Control keeps you informed of potential problems before they happen, so you can avoid downtime and rapidly fix issues keeping your service up and running. It also helps you onboard, configure and manage your devices at scale throughout their lifecycle, bringing reliability and consistency across the entire fleet. This includes monitoring connectivity and communication status, sending command & control instructions, pushing OTA firmware updates, as well as remotely activating and diagnosing devices. With AirVantage Device Control, you can provide a responsive service to your customers and reduce on-site visits.

KEY FEATURES



ON-BOARDING, OFF-BOARDING AND ENROLLMENT

Easily add and remove devices from your IoT network, singularly, or through bulk transactions. This process involves registering (or deregistering) the device with AirVantage Device Control, after which it is in an 'inventory' state and ready to be provisioned or deployed by enrolling the device(s) into chosen network(s). This process also deals with security certificates and keys, as required to configure it to connect to (or remove from) the selected network(s).



SECURITY AND KEY MANAGEMENT

Enables you to protect your IoT devices from unauthorized access and tampering. This includes using strong data encryption, managing device keys to ensure integrity and implementing access control policies to restrict who can access your devices and data. Where the devices have on-board "secure elements" (e.g., as found in cellular modules, gateways and LoRaEdge devices), the keys, which are locked away on the production line, are securely replicated in the AirVantage Hardware Security Module (HSM) within the cloud service. This enables the highest level of security during on-boarding since there is never any transmission of key material.



OVER-THE-AIR (OTA) UPDATES

AirVantage Device Control can also manage over-the-air (OTA) update campaigns. This is important because deployed devices may have various levels of functionality when it comes to updating firmware and software while in the field. For example, many LoRaWAN devices cannot be updated OTA, while most cellular IoT devices can. When using OTA updates, it is critical to ensure that the process is performed with the highest level of security to avoid bad actors taking control of the devices and to ensure that the update is completed successfully. AirVantage Device Control provides a straightforward way to segment devices into groups and run an OTA update campaign across a large number of devices. It also monitors the progress, success and failure of the campaign, providing summary information as well as more detailed information for specific devices simply by querying the device.



HEARTBEAT AND STATUS MONITORING

Most devices are expected to communicate regularly or can be configured to send periodic heartbeat messages. AirVantage Device Control has sophisticated configurable rules to monitor the device transmissions and these can help to identify devices that are not functioning properly or that are at risk of being compromised. The alerts can be programmed to monitor the communication packet intervals as well as trigger on thresholds for battery, location or any other values in the telemetry from the devices. You can also monitor the status of devices by requesting specific data from them, such as more sensor readings or system logs.



ANOMALY DETECTION AND ALERTING

With smart alerting rules, based on templates or built from scratch, AirVantage Device Control can help you to identify unusual or unexpected behavior in your IoT devices. This can help you to detect security breaches, device failures and other problems, as well as trigger actions such as suspending the device or changing subscription.



COMMAND & CONTROL CAMPAIGN MANAGEMENT

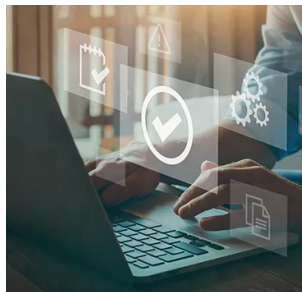
- AirVantage Device Control includes several features to view and control your fleet of devices. The views of the fleet include numerous ways of filtering and selecting devices, for example by location, status, tags, versions and by several other attributes.
- Commands can be applied on a campaign basis to a selected set of devices – this might, for example, include all devices on a certain network with a firmware version that is within a certain range and might need to be updated. The status of the ongoing campaign is always visible. Information is available on which devices are still pending, in progress, or have successfully completed as well as those which may have failed. Detailed information on specific devices is also available.
- AirVantage Device Control can also automatically apply a known configuration to new devices as they are enrolled in the network.

AirVantage Device Control is part of the management platform for AirVantage® Services, a single, purpose-built IoT platform to manage your connectivity services, your devices and your data. With the AirVantage management platform, you can manage everything from SIM card subscriptions, to devices and through to the orchestration of the data to your cloud applications, all in one place.

Contact us to Learn More

You can contact us directly at sales@semtech.com or reach out to one of our Partners.

Visit www.sierrawireless.com/iot-services/device-control to learn more. Call **1.877.687.7795** for more information.



About Semtech

Semtech Corporation (Nasdaq: SMTC) is a high-performance semiconductor, IoT systems and cloud connectivity service provider dedicated to delivering high-quality technology solutions that enable a smarter, more connected and sustainable planet. Our global teams are committed to empowering solution architects and application developers to develop breakthrough products for the infrastructure, industrial and consumer markets.

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