



AirVantage® Device Control

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

As businesses increasingly connect their operations to the internet, they are increasingly reaping the benefits of digitization, including lower costs, increased efficiency and improved customer satisfaction. To maintain these benefits, organizations need to continually ensure that their IoT devices are connected, transmitting and receiving data correctly. IoT device management can be complex and challenging, especially for organizations with large and diverse fleets of devices, which may include sensors, gateways and modules embedded in machinery, vehicles and other assets. IoT devices need to be securely onboarded, configured, monitored and managed throughout their lifecycle. Additionally, IoT devices are often vulnerable to security threats. Organizations need to be able to quickly and easily deploy security patches and updates, securely and at scale, to their devices to protect them from cyberattacks.

All of this can be a time-consuming and expensive process, especially for organizations with limited resources or expertise. Implementing an effective IoT device management solution is important for organizations to overcome the challenges of managing a large fleet of IoT devices.



AirVantage Device Control

AirVantage Device Control is a proven cloud service that 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 or 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.

Here are key features of AirVantage Device Control:



ON-BOARDING, OFF-BOARDING AND ENROLLMENT

Functions to 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.



NETWORK SELECTION CONTROL

Allows you to configure and control which specific networks your IoT devices can connect to. This can help to prevent devices from connecting to insecure networks or networks that are not authorized to access your data.



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@sierrawireless.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.

To learn more about Semtech technology, visit us at Semtech.com or follow us on [LinkedIn](#) or [X](#).

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