Product summary

AssistNow

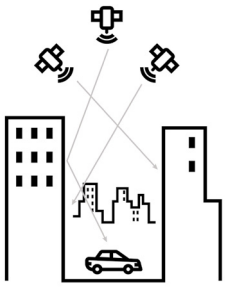
u-blox A-GNSS services

Real-time online A-GNSS service with assured global availability

- Backed by our warranty and support, with premium service levels available
- Easy to integrate, even for products without SUPL compliance
- Data privacy protected from service to the enterprise
- Fast Time-To-First-Fix
- Improved accuracy and position availability
- Lower power consumption

The challenges of stand-alone GNSS

GNSS users expect instant position information. With standard positioning this is often not possible because at least four satellites must be identified, and their complete orbital position data (called Ephemeris) received. Under adverse signal conditions, data downloads from the satellites to the receiver can take minutes, hours or even fail altogether. To cost-effectively fulfill their mission, energy constrained applications such as battery operated IoT devices need to last months or even years in the field. Lengthy or repeated attempts at data download can quickly drain power and affect operations.



Assisted GNSS (A-GNSS) accelerates calculation of position by delivering satellite data such as ephemeris, almanac, accurate time, and satellite status to the GNSS receiver via wireless networks or the Internet. This aiding data enables a GNSS receiver to compute a position within seconds, even under poor signal conditions. A-GNSS provides faster Time-To-First-Fix and improved accuracy and position availability, benefits that directly translate to lower power consumption and larger power autonomy.

AssistNow A-GNSS service description

AssistNow is u-blox's end-to-end A-GNSS location service that provides data in real time via AssistNow Online, as well as predicted data via AssistNow Offline, and the two can either be used alone or in combination. AssistNow boosts GNSS acquisition performance and lowers power consumption for devices with or without network connectivity.

AssistNow Online is a globally-available real-time online A-GNSS service backed by our warranty and support, an important distinction that offers tremendous advantages to users in terms of performance, availability, and reliability. The service works on all standard mobile communication networks that support Internet access, including GPRS, UMTS, LTE, and wireless LAN. No special arrangements with mobile network operators are needed, making this solution network-operator independent and globally available.

Assured service availability

AssistNow and all u-blox services are delivered by the Thingstream IoT service delivery platform. Thingstream is a cloud-based delivery platform and administration interface for enterprise IoT services. The Thingstream platform comprises IoT connectivity, security, enterprise-grade MQTT broker, visual programming, simple enterprise integration, and support for u-blox global positioning hardware.

At u-blox we stand behind our services with the highest levels of availability and delivery quality by providing full warranty and support, as well as premium service levels that can be tailored to your specific needs. The technology building blocks are developed in-house where we have full ownership without the external dependencies that can be barriers to responsiveness.

Easy to integrate, even without SUPL compliance

AssistNow A-GNSS services require no additional hardware and generate virtually no CPU load. The system is very easy to implement and can be installed and operational within a day. The advantage of easy integration extends also to modems that lack SUPL compliance. With other solutions, such modems have no access to assisted data. Adding to the simplicity, u-blox cellular modules feature an embedded AssistNow client.

Data privacy protected from service to the enterprise

For select customers, AssistNow is also exclusively available as a service-to-service (S2S) variant. With AssistNow S2S, the privacy and confidentiality of your data is safeguarded as it proceeds directly from service to the enterprise. With IoT data scenarios involving thousands if not millions of devices, this protection has become a security imperative.

AssistNow

AssistNow Offline

Supports GPS, Galileo, GLONASS, and BeiDou

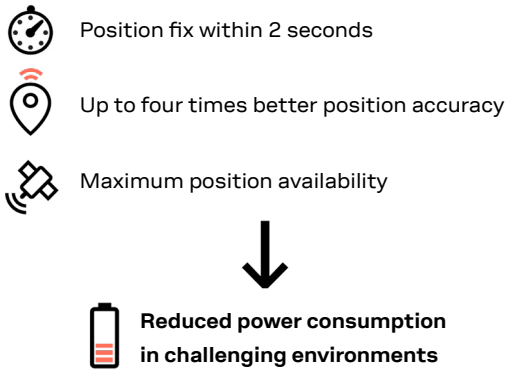
With AssistNow Offline, users download u-blox's Differential Almanac Correction Data from the Internet at their convenience. The correction data is then transferred to the mobile terminal via TCP/IP, serial port, memory card, etc, and can either be stored in the GNSS receiver's Flash EPROM (if available) or in the memory of the application processor. Therefore, the service requires no connectivity at system start-up and enables a position fix within seconds, even when no network is available.

u-blox provides correction data valid from 1 to 35 days. The size of these files increases with the length of the prediction period, from as little as 3 kB to 325 kB. Positioning accuracy decreases with the length of the correction data duration, with 1–3 day data providing relatively high accuracy and 10–35 day data progressively less accuracy. Regular updates help to ensure a high level of position accuracy.

AssistNow Online

Supports GPS, Galileo, GLONASS, and BeiDou

With AssistNow Online, an internet-connected GNSS device downloads assistance data from u-blox's AssistNow Online Service at system start-up. The service works on all standard mobile communication networks that support Internet access, including GPRS, UMTS, LTE, and wireless LAN. No special arrangements with mobile network operators are needed to enable AssistNow Online, making this solution network operator independent and globally available. u-blox only sends ephemeris data for those satellites currently visible to the mobile device requesting the data, thus minimizing the amount of data transferred.



u-blox products supporting AssistNow

All u-blox GNSS receiver modules and chips
SARA-R5 series multi-band LTE-M/NB-IoT cellular modules
SARA-R500E LTE-M cellular module with integrated SIM
SARA-R4 series LTE-M/NB-IoT/EGPRS cellular modules
LARA-R6 series single or multi-mode LTE Cat 1 cellular modules with Secure Cloud
LENA-R8 series multi-mode LTE Cat 1 cellular modules
SARA-U2 series UMTS/HSPA cellular modules
SARA-G4 series GSM/GPRS cellular modules

	AssistNow Offline	AssistNow Online
Data		
Data download frequency	Once every X days	At every startup
Data retrieval at start-up	Pre-downloaded from local memory	Data downloaded from server
Aiding data type	Differential almanac correction	Ephemeris, almanac, time, health
Data validity period	35 days	2 - 4 hours
Size of downloaded data	10 kB (1 day) ... 325 kB (35 days)	1 - 4 kB *
Acquisition (TTFF) performance	As low as 5 seconds	As low as 1 second
GNSS		
Satellite systems supported	GPS, Galileo, GLONASS, BeiDou	GPS, Galileo, GLONASS, BeiDou

* Per constellation. The final packets size depends on the constellation selected, the data types requested, and the number of satellites in view.

Further information

For contact information, see **www.u-blox.com/contact-u-blox**.

For more details, see **www.u-blox.com/iot-location-service**.