EXPERT OPINION

Why service assurance and analytics is essential to support the growing Narrow Band IoT service revolution

There are likely to be many millions of Narrow Band IoT (NB-IoT) devices, with numbers expected to soon exceed those of personal mobile devices, so NB-IoT service opportunities are expected to grow rapidly in the coming years. The technology is also expected to deliver higher quality, at attractive price points and hence offer competitive advantages when compared to other technologies. As such, the new NB-IoT standards promise to unlock the market for both a wide range of new services and new devices, writes Inna Ott

Although NB-IoT has only recently been standardised and released to the market, many mobile network operators (MNOs) are already starting to roll it out in their networks. NB-IoT has been optimised to provide an extension to existing mobile network technologies, such as LTE and 3G. It takes advantage of licensed spectrum and provides a convenient solution to the problem of delivering services for a broad range of applications. It allows IoT connectivity to be offered to devices that need little bandwidth but much longer battery life than conventional devices.

However, while many IoT applications have low data requirements, others will have more variable needs. There can be highly volatile service demands: some services may be time-critical, others may not. Service data may be infrequent or the importance of it may change depending on different conditions. For example, asset tracking is a key requirement in the logistics industry, but devices that are used to track material such as containers or pallets may only need to transmit or receive data infrequently. The same applies to the location of personal items – network connectivity may only be required when the item is misplaced.

On the other hand, applications that are designed to provide intelligent infrastructure in smart cities may not only have to provide periodic data traffic, they may also be required to respond in real-time to specific events and provide irregular updates. ▶

Polystar

IN ASSOCIATION WITH POLYSTAR

The ability to understand the performance of each device and service is critical to the smooth deployment of an MNO's NB-IoT portfolio and its ability to support partners

Continual monitoring

MNOs that offer NB-IoT services must ensure that they can meet these changing performance requirements and deliver data effectively. They have to meet expected performance levels and to deliver quality services, meeting agreed key performance indicators (KPIs). This can only be achieved by continually monitoring service levels. To enable this, MNOs need the right monitoring tools to collect relevant call traces, signalling information and more, allowing them to troubleshoot services and NB-IoT devices.

Monitoring provides the right information, so that MNOs can act quickly to correct any issues that affect NB-IoT service experience and performance. If they do not carry out continuous monitoring, they will not be able to deliver the promised success of NB-IoT deployments, delaying implementation at scale and increasing overall costs and eliminating their competitive advantage.

Manage diversity

This helps MNOs guarantee the quality of the NB-IoT services they deliver, but it's not enough to guarantee success. The right monitoring and service assurance tool must also include analytics capabilities, so that MNOs can manage the diversity devices that will be deployed. In addition, MNOs must also support different business relationships and partnerships for the delivery of NB-IoT services.

For example, MNOs can deploy NB-IoT capabilities to support applications and services that they deliver, using their own SIM cards integrated into end-point devices. They can also make their networks available to other providers that deliver services, such as MVNOs or other specialists. Finally, they may provide roaming capabilities so that devices with SIMs from external providers can attach to their networks as visitors. MNOs may pursue one or all of these models.

These relationships span end users, service providers and connectivity providers, and require different service level agreements (SLAs) for each. They also demand a broad range of analytic capabilities, both real-time and historic. Insights obtained from analytic information will allow MNOs to optimise their own service performance and to provide information that enables them to monitor and optimise service performance for others using their networks.

The sheer diversity and range of devices and applications makes this difficult. Customer experience, in this context, becomes a function of the behaviour of devices, not people. The ability to understand the performance of each device and service is therefore critical to the smooth deployment of an MNO's NB-IoT portfolio and its ability to support partners.

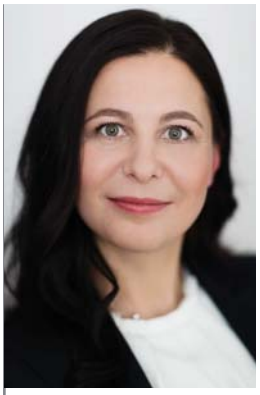
Complete visibility

MNOs must be able to obtain complete visibility of all NB-IoT devices and the network nodes to which they attach. Visablity provides the ability to identify issues as they arise as well as to anticipate potential problems before they have an impact on service performance.

They must also be able to access detailed reporting information that has been filtered to be accessible, regardless of service type (monitoring the location of sheep in the fields or providing updates as to available car parking spaces), the location (critical for tracking assets), and for the type of account (vital for ensuring that services delivered by partners can be correctly identified). This can only be obtained from detailed monitoring and service analytics information, captured from the network.

The information obtained must be clearly accessible and integrated with data from other legacy service assurance solutions deployed for conventional services. It should be visible inside the network operations centre (NOC) as well as from dedicated portals that present vital insights to different teams. Finally, MNOs must be sure that the solutions they deploy to provide these capabilities are fully compatible and aligned with their strategic network transformation goals, allowing easy migration to network functions virtualisation (NFV) and software defined network (SDN) infrastructure.

NB-IoT is both an opportunity and a challenge for MNOs. But, with the careful choice of tools to deliver the right levels of monitoring and analytics capabilities, MNOs can ensure that they can guarantee quality and rich insight into NB-IoT service performance. These tools will enable early adopters to claim leadership and competitive advantage to make the most of the NB-IoT opportunity.



The author, **Inna Ott**, is director of marketing at Polystar

NB-IoT is both an opportunity and a challenge for MNOs. But, with the careful choice of tools to deliver the right levels of monitoring and analytics capabilities, MNOs can ensure that they can guarantee quality and rich insight into NB-IoT service performance

Meet Polystar at Mobile World Congress, Hall 6, Stand 6G31 to find out more

www.polystar.com