Nokia Mediation

Release 26.7

Nokia Mediation is the #1 product on the market today(1). Over 170 service providers around the world are currently benefiting from the product, with the largest deployment processing 400 billion events every day.

Nokia Mediation enables Autonomous Networks by consolidating siloed network data and through the philosophy of "deploy once – utilize multiple times"

Nokia Mediation is field proven for scalable and TCO efficient converged Billing Mediation serving various billing requirements; consumer, enterprise, wholesale/MVNO, IoT, roaming and interconnect, by consolidating usage data from multiple sources towards the billing and other BSS/IT systems e.g. revenue assurance, fraud management, business intelligence processes for CSP. Nokia Mediation is an integral component in Nokia Core offerings, providing 3GPP specified Charging Gateway functionality to complement the core solution with real-time usage management for charging and billing.

Today, when CSPs are on a journey towards Autonomous Networks, Nokia is responding to the need with its Autonomous Networks application suite. Nokia Autonomous Networks applications are connected to the CSPs network through the Autonomous Networks Fabric, where Nokia Mediation plays a key role integrating all network data covering mobile (access, transport, Core) and fixed/IP/fibre, as well as in future Edge Cloud, and produces a unified and correlated view of the data that can be seamlessly consumed by Autonomous Network applications; Digital Operations, Analytics, and Security.

Nokia Autonomous Networks Fabric acts as a single data gateway to the network, utilizing Nokia Mediation capabilities to collect, consolidate, transform, and migrate network data. As a result, network adaptations will be implemented only once and **utilized multiple times.**

(1) Based on Appledore market share for Telecom digital enablement systems, Sep 2025

Why Nokia Mediation?

- Deploy once - utilize multiple times. With Nokia Mediation, data is integrated once and can be used by multiple applications right away.
- Enables data-driven operations: Nokia Mediation unifies and refines data in real-time, delivering it where and when it's needed for OSS/BSS/IT and Autonomous Network applications.
- Holistic view of your data: Nokia Mediation refines data from services, applications, locations, devices, and networks (RAN, Core, Transport, Edge, Fibre/FTTX, IP), providing CSPs with a unified "single source of truth" for network operations, assurance, security, and customer insights.
- Vendor and technology independent: Support for fast integration with any network or cloud technologies, IT, OSS or BSS systems with full vendor agnosticism
  - Vast library of pre-integrated interfaces and APIs: eg HTTPS/2, Diameter, Radius, GTPp, (s)FTP, TCP/IP, NetFlow, gRPC, HDFS, Kafka. Support for various data formats eg ASN.1, JSON/Avro, XML, Binary, TAP, NRTRDE, ASCII CSV, TLV, JSON, ...
  - Pre-configured data streams: VoLTE/IMS, 4G/5G CDF/ CGF, GSMA, TAP/RAP/NRTRDE, Fiber/Altiplano, IP, Probe, RAN Cell Trace, FM/PM, log...
- TCO savings: By consolidating systems and data silos, Nokia Mediation helps you to achieve considerable OPEX savings. Typically, CSPs save 30-80% OPEX compared to siloed solutions.
- Scales to your business needs: Light investment in hardware, scales as your technical or business needs grow. Nokia Mediation can process any amount of raw data into valuable, purpose-driven real-time actions.
- Easy to integrate: Nokia Mediation is a flexible, vendor-agnostic solution that easily integrates with any environment using standard interfaces and pre-configured streams. It follows TMF standards and offers an open API framework for seamless integration.
- Deployment models: Nokia Mediation supports all deployment needs; from traditional bare metal deployments to virtualized deployments and telco cloud deployments (CNF).
- Proven track record: Over 170 service providers of all sizes around the world rely on Nokia Mediation, which processes more than 20 percent of the world's mobile usage data every day.
- Secured application: Safeguards operator's customers' privacy by anonymizing personal and sensitive data, ensuring individuals cannot be identified.

Nokia Mediation Use Cases

Nokia Mediation supports two key use cases:

1. Traditional mediation: Traditional BSS/IT mediation ensures accurate, auditable usage and billing data with no loss or duplication. These use cases include Converged Billing Mediation, Network Mediation (3GPP driven Charging Gateway function), and Enterprise Mediation supporting connectivity and enterprise service monetization and analytics, and business intelligence
2. Autonomous networks: It enables a unified data layer for Autonomous Network applications like analytics, experience monitoring, and assurance.

Together, these capabilities support monetization, operational efficiency, and intelligent network management.

Traditional mediation use-cases

Converged Billing Mediation

Nokia Mediation is a unified billing platform for CSPs, supporting mobile (5G/4G/3G/2G) and fixed (FTTH, cable, Wi-Fi) networks. It **collects and enriches** usage data from network, charging, and third-party systems to enable accurate billing across B2X, IoT, MVNO, wholesale, interconnect, and roaming services and providing full support for various business models B2C, B2B, B2B2x.

It also provides usage visibility for BSS, Revenue Assurance, Fraud Management, and compliance. As 5G and IoT drive data growth, Nokia Mediation ensures scalable processing, helping CSPs monetize services efficiently—delivering up to **50–80% TCO savings** in global deployments.

Network mediation

Nokia Mediation serves as a vital network mediation system for CSPs, fulfilling 3GPP Charging Gateway functions like session-based charging and real-time data collection. It **ensures accurate offline charging data** delivery to billing systems for precise customer billing.

With 5G, it supports complex models like slice-based charging and services such as AR, VR, and IoT. It's evolving to handle edge computing demands through advanced data analytics and usage insights.

Enterprise mediation

Nokia Mediation enables CSPs to **process usage data** from humans and machines, supporting private networks and enterprise use cases. With 5G, it helps unlock new **B2B revenue**

opportunities by meeting diverse industry data needs. Applications span retail, agriculture, and utilities for improved efficiency and insights.

Autonomous Networks use cases

Analytics mediation

The telecommunications industry is rapidly evolving to meet customer demand for reliable, high-speed connectivity, driven by the explosion of mobile devices generating massive data. Nokia Mediation processes real-time usage and network data to measure **quality and customer experience**. With products like Nokia Traffica and Nokia AN Data Suite, it provides a 360-degree view for improved service.

In Autonomous Networks, Nokia Mediation goes beyond data collection, enabling real-time analysis for **network performance, analytics, assurance, and security**. Use cases include QoE monitoring (e.g., voice, video streaming) and analytics for fibre and mobile services.

QoE Network Analytics

Nokia Mediation, in combination with Nokia AN Analytics, detects **service degradations and anomalies in customer experience, monitors service continuity,** and identifies potential micro-outages in service coverage.

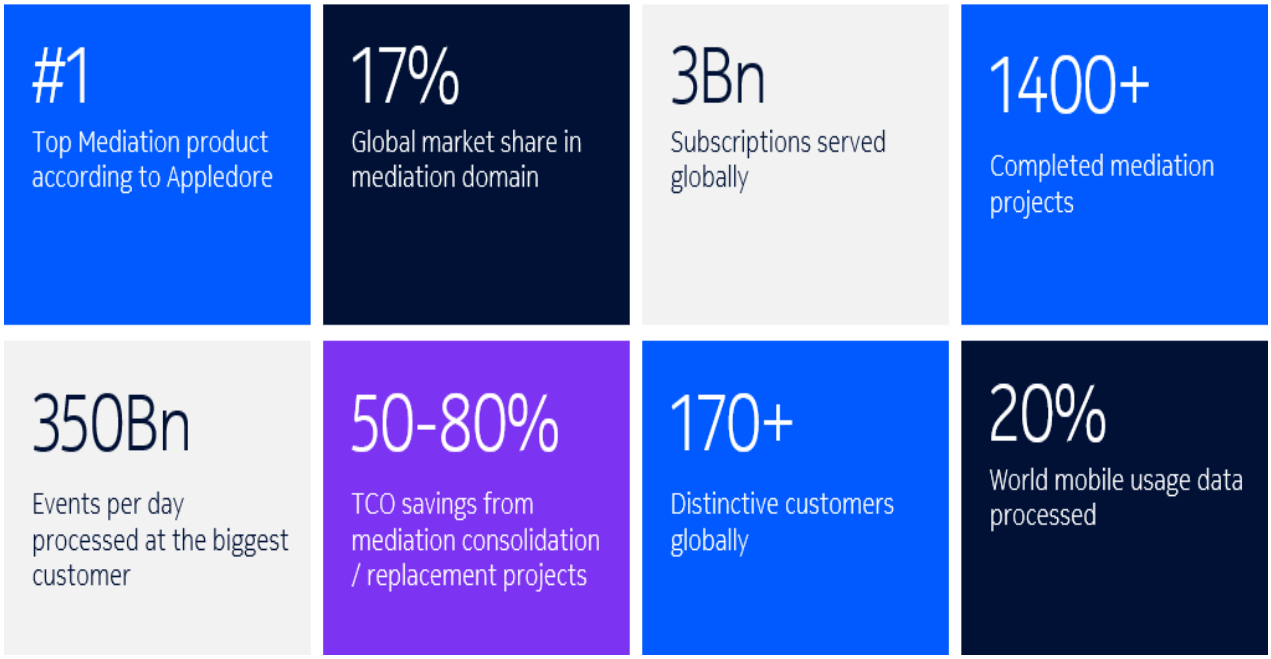
Data Suite, FTTx/fibre Experience Analytics

CSPs aim to ensure high service quality and, ideally, prevent issues before they arise. Nokia Mediation and AVA Data Suite work together to provide **insights on network performance, service quality, and customer experience**. These tools help predict network and service performance, observability, and subscriber behavior.

Assurance mediation

CSPs want to enhance key network and service KPIs that boost customer satisfaction and operational efficiency. This is done through service assurance across RAN and Core networks. Nokia Mediation and Nokia Assurance Center (NAC) **perform root cause and service impact analysis to minimize service degradation**. Network data, including fault, performance, and telemetry information, is processed and unified for NAC through real-time streaming interfaces like Kafka.

Nokia Mediation Facts



Key features and Benefits

Features	Benefits
Vast library of pre-integrated interfaces and streams and support for Open APIs (eg TM Forum)	• Easy integration with Nokia and 3rd party systems utilizing industry standard APIs
Pre-integrated with Nokia's Autonomous Network application (Analytics, Assurance, Security)	• Reduces operational complexity with zero/minimal field integration required during deployment
Online, streaming, real-time and batch processing	• Hybrid data processing capabilities support changes in the network and front-office systems
Enhanced streaming architecture with Kafka Cluster	• Easy E2E integration for Kafka clients and servers which helps with faster deployment.
Support for cloud deployment with e2e cloud deployment lifecycle mgmt., CI/CD/CT	• Cost savings • Increased agility and speed
Support for virtualized network functions	• Deploy to virtualized data center and ability in integrate with NFV/SDN
Software Development Kit (SDK) and Open APIS	• Ready-made development and testing environment for building new data processing logic and integrations
Modular architecture with intelligent nodesand streams	• Brings elasticity and scalability for business requirements
Network model for connecting streams tonetwork	• Ability to manage and monitor connection points between network, mediation and front-office applications • Single collector/distributor node can be connected to several entities such as network elements, target systems, etc.)
Pre-configured streams (e.g. VoLTE/IMS, 4G/5G CDF/CGF, GSMA TAP/RAP/NRTRDE, Fibre/Altiplano, IP, 3GPP XML)	• Shorter time-to-market with pre-configured and tested workflows

Technical Specifications

Protocol and data type support examples

- Call detail records (CDRs) from all major vendors
- ASN.1, JSON/Avro, XML, Binary, TAP, NRTRDE, ASCII CSV, TLV, SQL, ...
- HTTPS/2, Diameter, Radius, GTPp, (s)FTP, TCP/IP, NetFlow, gRPC, UDP, SNMP, Syslog.
- Wide variety of Network probes
- REST APIs, Kafka messaging, Big data lakes (eg AWS) / file system (HDFS).

Deployment Options

- Any Cloud Infrastructure:
- Nokia RedHat OpenShift (NRHO)
- Various Public Cloud with support of Nokia certification team (eg AWS, GCP, ROCP etc.).
- Bare Metal Deployments: HPE DL series Gen11 based hardware
- Virtualized Deployments, such as VMWare

Networking

- IPv4 and IPv6 support

About Nokia

We create the technology to connect the world. Only Nokia offers a comprehensive portfolio of network equipment, software, services and licensing opportunities across the globe. With our commitment to innovation, driven by the award-winning Nokia Bell Labs, we are a leader in the development and deployment of 5G networks.

Our communications service provider customers support more than 6.4 billion subscriptions with our radio networks, and our enterprise customers have deployed over 1,300 industrial networks worldwide. Adhering to the highest ethical standards, we transform how people live, work and communicate. For our latest updates, please visit us online www.nokia.com and follow us on Twitter @nokia.

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