Nokia Motive Access Network Analytics
Release 2.0

Nokia Motive® Access Network Analytics (ANA) is a next-generation software application that uses big data technologies, enabling service providers to analyze and monetize operational, inventory and diagnosis data from their DSL access network.

Key features

- Collection of DSL data from Nokia Motive® Network Analyzer – Copper
- Computation of key performance indicators (KPIs) of DSL lines
- Long-term storage of DSL performance, stability and diagnosis data
- More than 150 KPI reports on DSL quality, capacity and optimization, available out of the box
- On-demand generation of reports in real time
- Data visualization through a browser-based user interface

Key benefits

- Increase customer satisfaction and reduce churn through proactive identification of the most common user problems
- Reduce OPEX by reducing the number of customer calls, decreasing the number of repeat calls, decreasing the number of dispatches for common issues, and improving field technician performance
- Accelerate upgrades to new DSL technologies with accurate predictions that help prioritize investment to those geographies that are more likely to produce a high take-rate
Overview

Triple/quad-play service providers need to extract valuable insights from the terabytes of network data collected each day, then use these insights to provide customers with the highest speed, the best offer, and the best care as a means of differentiation. The real challenge is how to use network and customer data to generate insights and recommendations that transform the business and power the customer experience—in other words, how to monetize the information.

Motive ANA provides the stakeholders of a service provider organization—operations, engineering, planning, field service, customer care and marketing—with insights from the DSL access network that help increase the overall value of their broadband business.

Motive ANA enables service providers to anticipate service impacts, optimize the network and drive business decisions. It provides access network data combined with advanced analytics based on Nokia DSL expertise. Motive ANA sifts through the sheer volume and variety of broadband network data to provide insights to customer-facing teams.

Unlike generic big data solutions, Motive ANA is designed specifically for access network management. This next-generation analytics platform combines domain expertise with insights.

Use cases

Identification of common user problems

Motive ANA identifies the most common user problems, including interrupted, intermittent or slow broadband connections caused by environmental and time-varying physical issues occurring in the DSL network.

Diagnostics and customer support optimization

Motive ANA identifies areas for network optimization and proactive maintenance, ensuring that all customers have the best experience with the services they are using. These analyses can also be provided to operations support systems (OSSs) or to customer care agents requiring this information.

Dynamic line management

Dynamic line management (DLM) optimizes configuration parameters to achieve the highest possible performance on each line to meet coexistence objectives, satisfy QoS requirements for each line, and maximize the data rate based on the line’s service requirements.

Upgrade and capacity insights

Upgrade and capacity insights provide reliable projections of rates and services that can be delivered after a DSL network upgrade. This information is critical for choosing the sites, neighborhoods or regions where upgrades can produce the highest ROI.

Evaluation of CPE and service profiles

Evaluation of customer premises equipment (CPE) and service profiles enables better planning for services with particular QoS requirements, such as Femto/small cell backhauling, VoIP or IPTV. Projections are based on DSL management data collected from the field, covering a statistically significant number of lines in the candidate markets for upgrade and spanning a period of several weeks for proper capture of network time variation.

Proactive maintenance and automated improvements

Proactive maintenance comprises analyzing the stored data to determine:

- How many subscribers are out of service or how many have degraded service
- The service status by region or specific geographic areas (e.g., coastal areas)
- Whether the network quality is stable, improving or degrading.

Motive ANA also obtains performance projections, such as QoS trends, provides insights into DSL issues detected in the network, and reports on the access speeds being delivered.

A key factor in these analyses is the ability to detect network issues before the subscriber’s service is affected and perform proactive maintenance; for example, escalate an issue to a field technician.
Detailed features

Collection of DSL data from Motive NA-C
Motive ANA collects DSL data from Motive NA-C through a Motive NA-C software component called Data Feed, which periodically (daily and quarterly) exports DSL data from its database into compressed and archived CSV files, grouped per digital subscriber line access multiplexer (DSLAM). These data feed files are temporarily stored on the Motive NA-C system. Motive ANA downloads the daily data feed files and stores them in its big data storage (Hadoop).

Motive ANA can also collect inventory and service data from third-party OSSs.

Computation of KPIs
Motive ANA periodically runs jobs, also called workflows, to merge the data from the different sources, and to compute and store new KPIs of the DSL lines and services.

Motive ANA computes a new DSL KPI, called a DSL Quality Score (DQS), to quantify the satisfaction of the DSL subscriber with the DSL service. This DQS can be understood as 1 minus the probability for the subscriber to complain to the help desk or to cancel the DSL subscription if the problem is not properly addressed.

The main purpose of the DQS is to determine a single numeric score for the DSL quality each day. This provides a metric to rank DSL lines within a group (for example, to identify the worst lines in a DSLAM).

Long-term storage of DSL data
Motive ANA is inherently designed to scale out horizontally and support data retention horizons of multiple months or more. By adding big data nodes, memory and/or storage, DSL data can be persisted and analyzed over longer time windows, which opens up a new array of analysis capabilities and DSL insights for service providers.

More than 150 KPI reports
Motive ANA provides, out-of-the-box, more than 150 DSL reports in three operational areas: DSL quality, DSL capacity management, and DSL optimization.

Reports are made up of histograms, cumulative histograms, trend lines, etc. of key DSL quality, performance and stability metrics. Examples include:

- DSL quality
- Bitrates, delay, attenuation
- Tx power
- MTBE and MTBR
- DLM states and switches.

Data visualization
Data visualization through a browser-based user interface provides:

- Network-wide and regional DSL dashboards
- DSL filter controls to narrow down DSL data space
- Date filter controls for historical analysis of DSL data
- Geographical mapping of DSL data
- Drill-down navigation from KPI reports to the DSL table
- Export of DSL data to CSV files
- Design of and access to customized reports.

Supported copper access technologies

- ADSL
- ADSL2
- ADSL2+
- RE-ADSL2
- SHDSL
- VDSL2
Nokia Motive Access Network Management family of products

- Nokia Motive® Access Network Analytics
- Nokia Motive® Customer Service Console
- Nokia Motive® Field Technician Console
- Nokia Motive® Network Analyzer – Copper
- Nokia Motive® Network Analyzer – Fiber
- Nokia Motive® Service Management Platform

Learn more

Motive ANA is an integral component of the Motive® Customer eXperience Solutions (CXS) portfolio. Motive CXS lets you consolidate your device management and customer care activities across fixed and mobile services. It helps you reduce OPEX and total cost of ownership (TCO) while providing experiences that secure customer loyalty and boost your Net Promoter Score®.

Nokia understands fixed broadband and home networking. We offer global leadership in solutions that seamlessly manage fixed and mobile devices. Our Motive Network Analyzer – Copper is the trusted choice of more than 120 service providers managing 100 million access lines and more than 35 million DLM providers.

Learn more about the Motive CXS portfolio at: http://networks.nokia.com/portfolio/solutions/motive-cxs