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Thingbook

ADN SMARTFLOW

Intelligent Network Visibility



ADN **SMARTFLOW**

*“ Take control of your network environment,
by gaining intelligent visibility of your services
and application performance. ”*

Executive Summary

Nowadays, telecommunication operations teams deal with more complex and extensive networks than ever before, leading to higher operational costs. Operators expect network engineers to handle, manage, optimize, monitor, forecast and troubleshoot multi-layer, multi-technology, and multi-vendor networks. In parallel, the market is systematically demanding higher reliability and lower time to resolution.

ADN**SMARTFLOW** provides teams with the tools to overcome uncertainty and take control of networks by providing an extensive and centralized data interpretation and exploration environment and a powerful anomaly detection engine, which industrializes the entire AI process (from data capture and data injection to full network visibility insights).

Overview

Telecommunication operations teams are dealing with more complex networks than ever before, leading -among other things- to more extended periods of incident investigation and recovery. Operators expect their network engineers to handle, manage, optimize, monitor, forecast and troubleshoot multi-layer, multi-technology and multi-vendor networks, while the market is systematically demanding higher reliability and lower time to resolution. Their customers expect perfect service, creating additional pressure on operations teams. With the continuing growth in operational complexities, the capability to translate the vast volume of network traffic data into intelligent network visibility becomes a formidable challenge.

As new applications are introduced, network complexity grows exponentially. Without the capability to obtain complete visibility using traditional tools, administrators lack the insights required to ensure the network delivers optimal performance while anticipating relevant issues. Intelligent tools have become an inherent necessity.

ADN**SMARTFLOW** stores, analyses, recognizes and predicts the behaviour of thousands of network entities and applications simultaneously in real-time. Collecting and processing data flows, the solution discovers and builds service topologies while predicting potential risk behaviours, free of human intervention. The platform creates AI Pipelines transparently for network operators, training thousands of AI behavioural models and providing a unique capability to exchange performance status and predictions across network models, making the management, diagnostic, and evaluation of network status smarter, simpler, and more informed, enabling better decisions.

How can ADN Smartflow Help?

Increasing network variables and complexity, added to the new digital service trends, means service providers, cloud providers, and enterprises need a way to analyse large volumes of data, gain insights, and take actionable critical decisions over environments that are becoming hard to understand comprehensively. Networks have evolved as entities with unique behaviours and many co-dependant layers, which need to be understood collectively. While operators can collect data from many sources, it is crucial to have the power to visualise such information dynamically, directly from what the services and flows are experiencing, and apply intelligence to discover how the environment as a whole is behaving.

ADN**SMARTFLOW** provides the tools to overcome uncertainty and take control of networks using an extensive and centralized data exploration and interpretation environment and a powerful anomaly detection engine, which industrializes the entire AI process (from data capture and data injection to full network visibility insights), [more information here](#).

ADN**SMARTFLOW** leverages traffic flows and other data sources to discover infrastructure and services interaction, providing deep interactive visualizations and a powerful network-oriented Industrialized AI engine. ADN**SMARTFLOW** provides operations teams real-time, granular visibility and the means to detect issues potentially impacting their environment quickly. Network engineers use insights provided by ADN**SMARTFLOW** to aid in the transformation of real-time multi-variable analytics into actionable insights, thereby drastically reducing troubleshooting and resolution times and providing complete support in forecasting analysis.



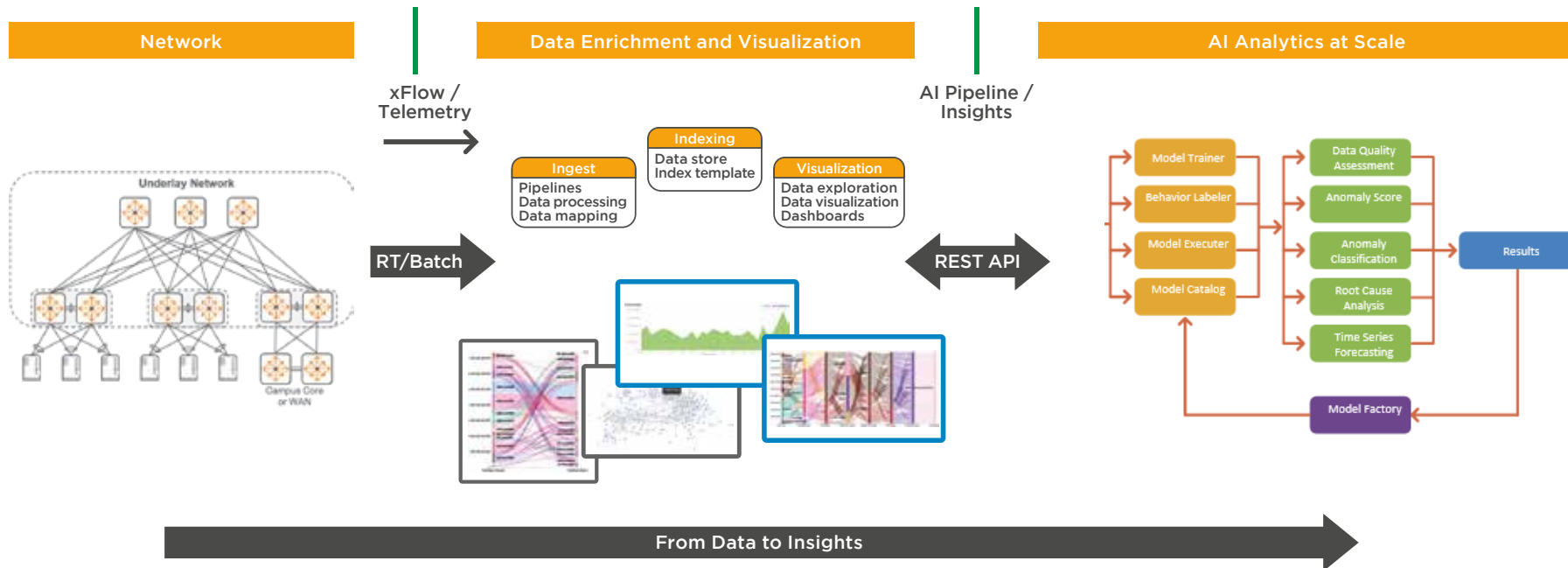
Architecture and Key Components

ADN**SMARTFLOW** is a cloud-native solution, which provides insights and predictions as soon as operator traffic reports and data are received.

ADN**SMARTFLOW** aims to reduce the cost and uncertainty of advanced telecom network analytics by industrialising the entire AI process, from data capture and data injection to full network visibility insights. ADN**SMARTFLOW** can be consumed as a SaaS or deployed on customer premises. In both cases, the platform performs functions such as Data Injection, Visualization, Model Training, Behaviour Tagging, and Real-Time Evaluation. The platform delivery flexibility minimises the risk of poor investments in data analytics and provides the evidence to keep investing with informed expectations of return.

ADN**SMARTFLOW** learns the architecture and insights of each layer of the network infrastructure by exploring and analysing how services and applications behave. Modern networks are built for massive loads, and this radically new approach should be the primary starting point of any analysis. The solution provides efficient understanding of the underlying architecture and direct interpretation of issues, changes, vulnerabilities, and so on.

• Logical View



• Data Collection and Processing

ADNSMARTFLOW applies data pipelines to process and interpret the input data (by batch processing and in real-time) and provides pre-processing, giving an end-to-end view of all network flows. These views are dynamic and customizable, enabling operators to navigate application information as deep as necessary in real-time.



• **Deep, Dynamic and Comprehensive Visualizations**

ADN**SMARTFLOW** dashboards efficiently provide 100% visibility of network traffic and applications, including endpoint conversations, bandwidth capacity and consumption, application traffic patterns, QoS policies, matrix of data, transport traffic characteristics, topology, and much more. Users can browse dashboards and drill down to view detailed information.



• **AI Models at Scale (Industrialized AI)**

Industrialization entails expanding a technology application to increase its use and benefits with businesses. This means that an industrialised AI is scalable, reusable, and safe to use for any company. The ADN**SMARTFLOW** platform incorporates a powerful AI engine, which can deploy and train several hundreds of models (the platform model factory defines the precise number) to learn normalities and patterns, and detect anomalies, from many different angles (combining all features present in traffic flows). The entire AI process is unattended from data acquisition to model productization. The platform uses standard input data and provides meaningful insights to guide network operators in the

detection and interpretation of anomalies and network and application behaviour.

ADN**SMARTFLOW** is a comprehensive AI solution, giving operators advanced AI techniques that process vast amounts of data to provide meaningful insights. Operators can use the solution’s flexibility to drastically improve network operations and processes, developing and deploying thousands of models at scale.

Where ADN Empowers Customers?

ADN**SMARTFLOW** eliminates the operational barriers associated with traditional infrastructure monitoring, providing a new advanced multidimensional analytics approach across network behaviours, which allow service providers, cloud operators, and enterprises to quickly move from a reactive to a highly predictive model, thereby transforming network operations.

• **Network Insights**

Operators use the solution to navigate network information guided by insights the AI engine delivers to identify meaningful behaviour and address complex and distributed issues. The solution allows integration over all real-time and historical data to find trends, patterns and issues, and learn from them to build a more robust and scalable network environment.

ADN**SMARTFLOW** creates complex AI Pipelines transparently, training thousands of AI behavioural models and providing the unique capability to exchange performance status and predictions across the network models, making the management, diagnostic and evaluation of network status more straightforward and more informed.

- **Anomaly Detection**

Operators use the solution to analyse all network features simultaneously to understand what is normal in their environment and receive actionable insights on anomalous patterns. Operators can detect complex and distributed issues quickly (even before they occur), address fault demarcation, and create anomaly repositories (behavioural libraries), allowing better classification of subsequent occurrences, which improves network reliability and guarantees network performance.

- **Intelligence-Driven Troubleshooting**

Operators use the AI engine and powerful visualization tools to run single instance analysis over specific timeframes and network features, to guide the troubleshooting effectively to a root cause, and drastically reduce the mean time to repair network issues.

- **Services/Applications health check**

Operators use the solution to classify network patterns and behaviours, to aid in service validation during operational procedures. The solution learns from the network and pinpoints how application traffic has shifted, whether it is presenting the same patterns, or if any difference is seen, long before any other service validation process or tool.

Key Takeaways

ADN**SMARTFLOW** is a comprehensive analytics solution, which monitors and predicts application traffic flows, mapping infrastructure behaviour, offering architects and technical staff key insights to make relevant operations decisions to meet and exceed their service performance expectations. The solution transforms traffic data streams into fully

interactive and enhanced visualizations based on real-time information. ADN**SMARTFLOW** provides the means to understand the behaviour of the environment and incorporates a powerful AI engine used to detect anomalies, classify patterns, and aid in multi-variable analysis.

Specifications

- Multi-vendor and multi architecture capable
- Multi data collection and streaming methods
- Industrialized AI Models, applied in parallel to the environment
 - ML-based anomaly detection
 - ML-based pattern detection and classification
 - ML-based KPI prediction
 - Anomaly signature generation
- Powerful Data Pipelines
- Open Web-based GUI and visualization, with comprehensive API capabilities
- REST API, Slack, Kafka integration
- Docker container-based architecture
- Elastic stack dynamic visualizations
- Centralized dashboards
- Behavioural patterns comprehensive visualizations

About Auben/Thingbook

Auben Networks delivers Advanced Networking Services, using its Innovating DNA to Create and Evolve High Quality and Complex Networking and Business Solutions, Allowing Customers to Reach their Technological Potential. Created in January 2014, **Auben** is now located in 8 countries.

Thingbook deploys next-generation Augmented Analytics platforms, which radically change the way businesses consume and analyse data. Created in May 2016 in Dublin, **Thingbook** is now located in 4 countries, across 2 continents.

Auben, powered by **Thingbook**, offers a unique combination of AI technology knowledge, networking, and telco domain expertise, with a proven deployment experience at some of the largest CSPs in the world.



Auben Networks

info@auben.net
www.auben.net



Thingbook

Thingbook

info@thingbook.io
www.thingbook.io

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