guavus
a Thales company

Guavus 5G-IQ NWDAF

3GPP-Standard 5G Network Data Analytics Function

Datasheet

Guavus 5G-IQ NWDAF

Open NWDAF for Multi-Vendor 5G Networks

Guavus **5G-IQ** NWDAF is a 3GPP-standard, 5G Core data analytics function that generates real-time operational intelligence for consuming NFs and AFs in the 5G Core, powering analytics-driven service orchestration and closed-loop network automation.

Guavus provides MNOs a full-featured, **vendor-agnostic open NWDAF** implementation that will interoperate with both 3GPP-compliant and non-standard products in the 5G System, independent of supplier.

Guavus enables MNOs to deploy a common network data collection and analytics engine that supports the complete set of **3GPP NWDAF** use cases and can be deployed flexibly to satisfy specific, functional performance and operational requirements.

3GPP NWDAF Release 16 Compliance

Network data analytics types:

- ✓ Slice load level
- ✓ Observed service experience
- ✓ NF load
- ✓ Network performance
- ✓ UE mobility
- ✓ UE communication
- ✓ Abnormal behavior
- ✓ UE congestion
- ✓ QoS sustainability

Network data analytics types:

- ✓ NWDAF
- ✓ NAMF
- ✓ NSMF
- ✓ NPCF
- ✓ NUDM
- ✓ NNEF
- ✓ NAF
- ✓ NNRF

Machine learning model management:

- ✓ Model deployment and version tracking
- ✓ Model performance measurement
- ✓ A/B testing support

Key Benefits

Guavus 5G-IQ NWDAF

- Broad Use Case Support
- Flexible Deployment Scenarios
- Efficient Streaming Analytics
- Plug-in Algorithm Support

Open NWDAF Features

Flexibility

Modular architecture supports deployment of **NWDAF** instances at the right points in the network, including the 5G edge, to maximize overall efficiency and performance.

Container-based implementation can be deployed in the cloud or in an on-premise cloud-native stack.

Scalability

Lightweight streaming analytics engine for high performance data ingestion, aggregation and scoring at the 5G edge.

Cloud-based analytics for Big Data processing of extremely large, persistent data sets.

Extensibility.

Ability to collect and ingest data types which are not currently defined in the 3GPP 5G SBA, such as data from AFs, OAM layer functions, monitoring probes and metadata extracted from the user plane.

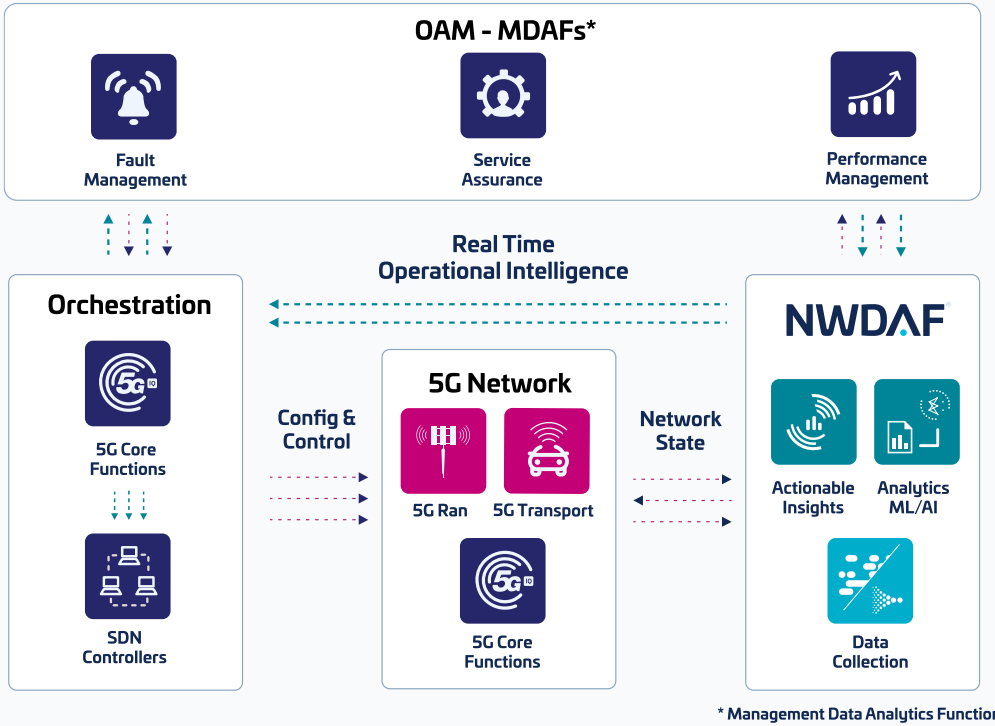
Supports a plug-in API that provides operators with the ability to extend NWDAF's built-in analytics with algorithms developed by third parties or the MNO's data scientists

A single NWDAF that can meet all network data analytics requirements.

Open NWDAF Operational Environment

Designed for Cloud Native

- ✓ Fully containerized implementation
- ✓ AWS deployment option
- ✓ On-premise, cloud-native stack deployment options
- ✓ Prometheus and Grafana for environment health monitoring and visualization
- ✓ Automated provisioning using Ansible playbooks built with Helm charts



Why Open NWDAF?

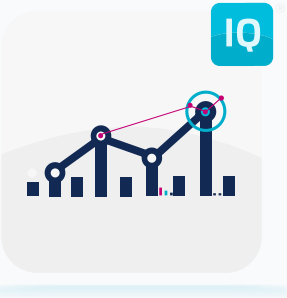
Broad Use Case Support

Guavus **5G-IQ** NWDAF supports all 3GPP Release 16 use cases. For each use case, the NWDAF standard specifies the data provider NFs, the statistical or predictive analytics outputs, and the consumer NFs.

Flexible Deployment

Guavus **5G-IQ** NWDAF can be deployed flexibly in either a cloud-native microservices environment or deployed as a cloud-based, containerized offering.

Efficient Streaming Analytics

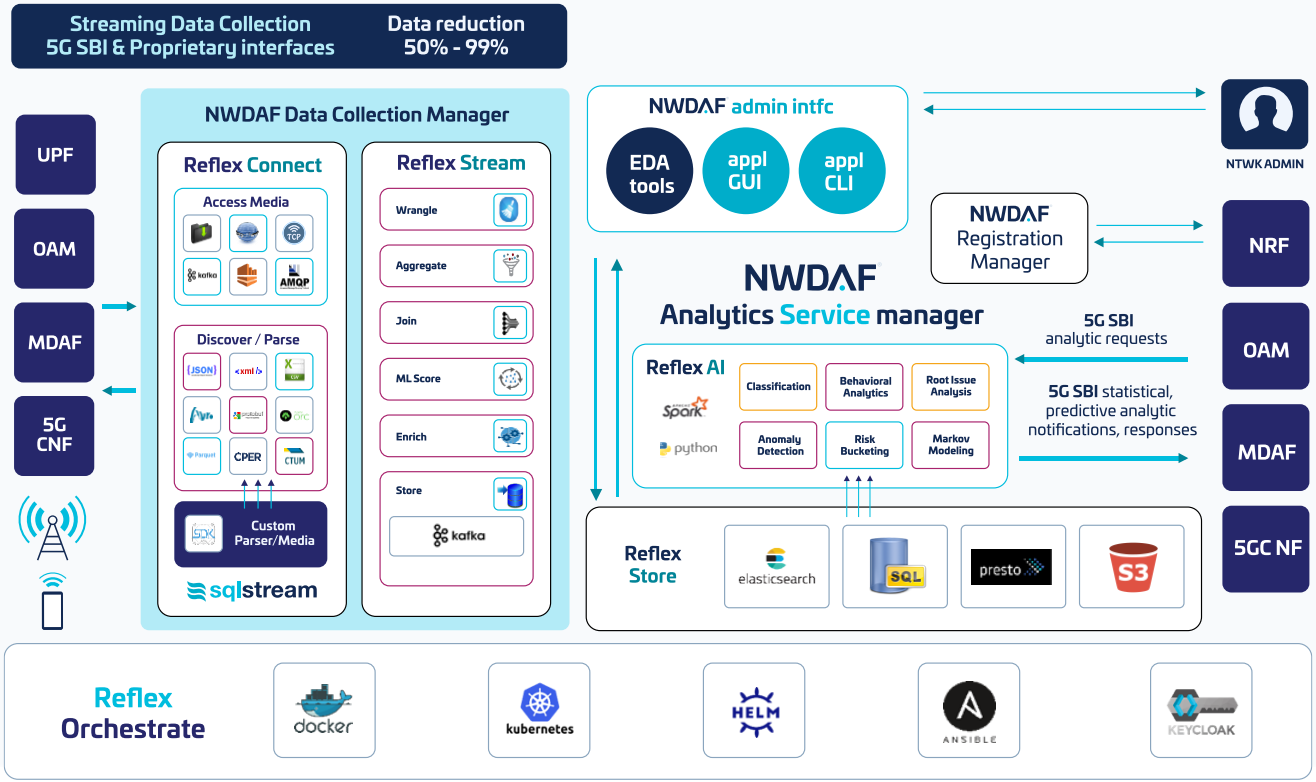


Guavus **5G-IQ** NWDAF improves streaming analytics performance up to 31x compared to alternative solutions, delivering cost-effective streaming analytics at 5G scale.

Plug-in Algorithm Support

Guavus **5G-IQ** NWDAF supports an API that provides the flexibility to plug in non-Guavus analytics algorithms – yours, or a third-party's – to process data collected by NWDAF.

System Architecture – Guavus 5G-IQ NWDAF is based on a modular system architecture.



Data Collection Manager
Consisting of Reflex Connect for streaming data ingestion, aggregation and data reduction

Analytics Service Manager
Consisting of Reflex AI for Big Data analytics and AI/ML

Reflex Store
Big Data repositories

Reflex Orchestrate
Container-based run-time configuration and control

Administrative Interface
Operator dashboards and tools.

Use Cases for MNOs

Network Conditions

Network conditions:

- ✓ Network slice instance load level computation and prediction
- ✓ Load analytics information and prediction for a specific NF
- ✓ Network performance computation and prediction
- ✓ Congestion information – current and predicted for a specific location
- ✓ Quality of service (QoS) sustainability – reporting and predicting QoS change

Device Behavior

Device behavior:

- ✓ UE mobility analytics and expected behavior prediction
- ✓ UE abnormal behavior/anomaly detection
- ✓ UE communication analytics and pattern prediction

Service Experience

Service experience:

- ✓ Service experience computation and prediction for an application or UE group
- ✓ Application service experience computation and prediction

Guavus 5G-IQ NWDAF supports all 3GPP Release 16 use cases.

Why Guavus 5G-IQ NWDAF?

Pure-Play Supplier

- Dedicated telco analytics supplier with a major focus on 5G networks
- Proven experience in carrier-grade analytics projects for leading Tier 1 CSPs

Comprehensive Solution

- Full-featured, 3GPP-compliant NWDAF
- Vendor-agnostic interoperability for multi-vendor 5G SA networks
- Integration of non-standard data types

Efficient and Cost Effective

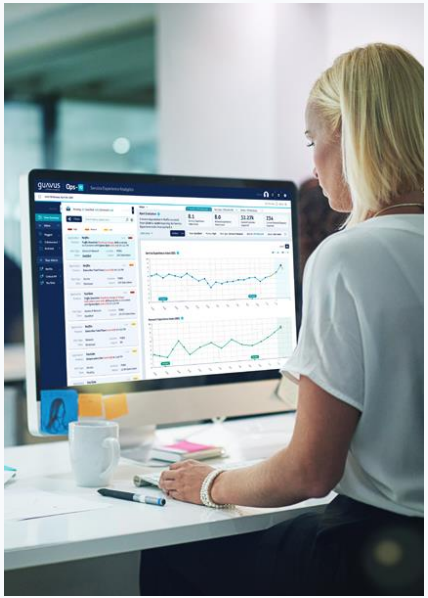
- Procure, deploy and manage a single NWDAF product
- Performance and hardware efficiency translate into lower operating expenses
- Future-proof product will track evolving 3GPP standards

5G IQ NWDAF

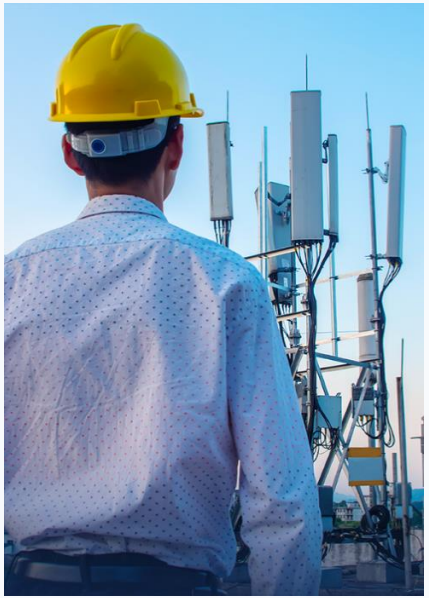
For more information visit us at:
www.guavus.com

Why Guavus?

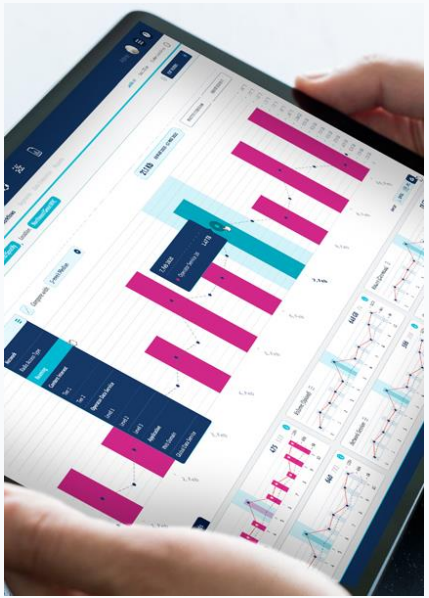
With our singular focus on 5G, expertise in 4G & 5G and vendor-agnostic approach, we can get you from here to there with peace of mind.



Pure-play analytics.



Transition expertise.



Future-proof solutions.

Uniquely positioned.