Nova adaptive service assurance

Right data, right time, in context

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Service assurance needs to adapt

Existing tools struggle to keep up in a world of:

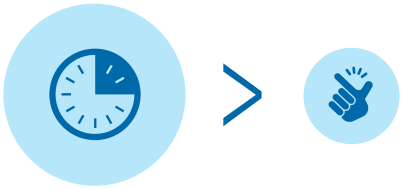
Operational complexity

Meeting customer expectations is getting harder. Compounding factors:

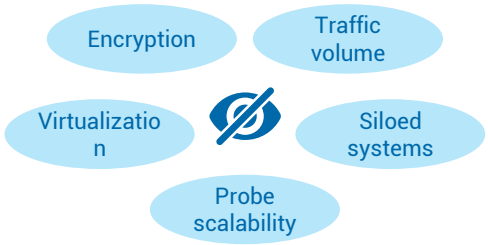
CNF | VNF | MEC | 5G SA
5G SLAs | IoT / mMTC | URLLC
Orchestration | Traffic growth

Silent suffering

Degradations define customer experience much more than outages. 90% go unnoticed[2].



Diminishing visibility



80% of traffic will be invisible to traditional service assurance systems by 2024[1].

Big data bills

Collecting and analyzing everything is expensive and slow.

Some cloud bills for service assurance cost more than the solutions themselves.

5G raises the bar [3]

125 Gbit/s
per 5G probe

100's
of probes required to monitor Tier-1 networks

40 petabytes
to analyze per hour

Orchestration, automation, CEX and 5G need precise, split-second insight, in context.

Old ways don't work

Assurance is now a network function

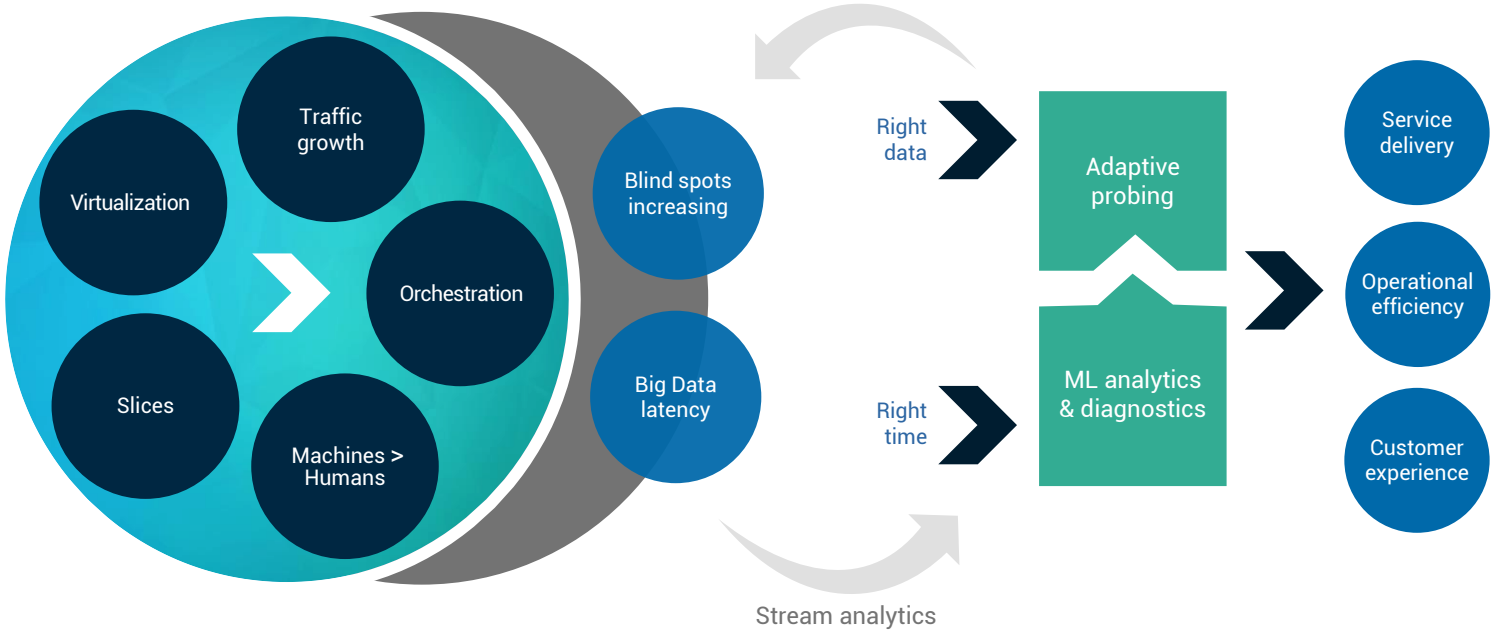
It needs to be scalable, resilient and integrated like the ones it monitors.

A new approach is needed to close the loop

1. EXFO sales engagements with Tier-1 U.S. operators, 2020
2. Heavy Reading customer survey 2019, EXFO customer data and EXFO advisory board input
3. Estimates provided are based on 5G network probing requirements provided by leading Tier-1 North American operators

Adaptive service assurance

CSPs need intelligent, adaptive insight to transform



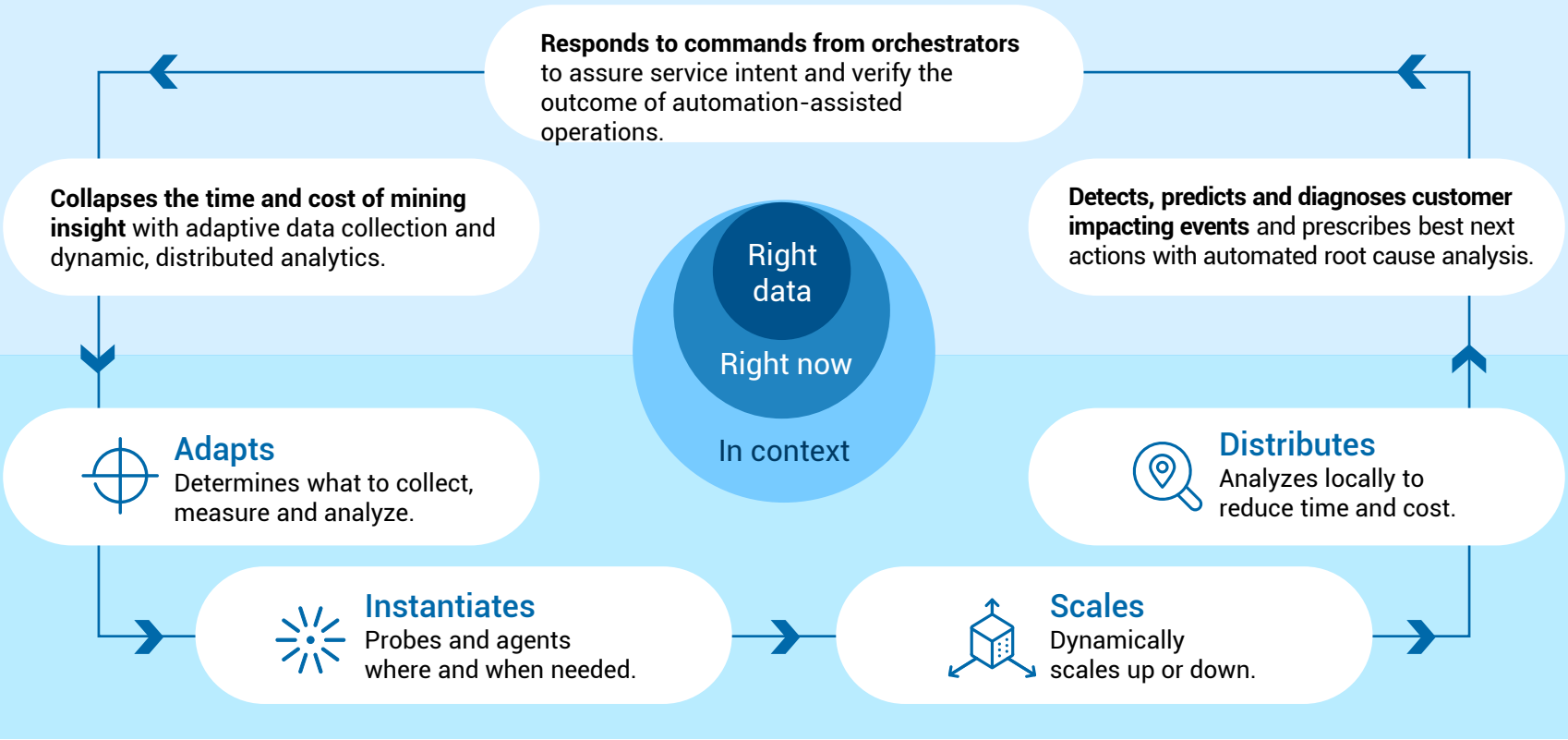
Real-time, in-line

Complexity → Adaptive Service Assurance → Transformation

Operators are drowning in big data while losing access to insight at a time when they need to simplify operations and accelerate business outcomes.

Adaptive service assurance

Adaptive service assurance uses AI-driven automation and analytics to shatter big-data overhead and **reveal the small data that matters in the moment** to enable real-time operations and network automation.



Extracts context, insight and value from existing systems by openly ingesting data from service assurance, B/OSS, network functions and more.

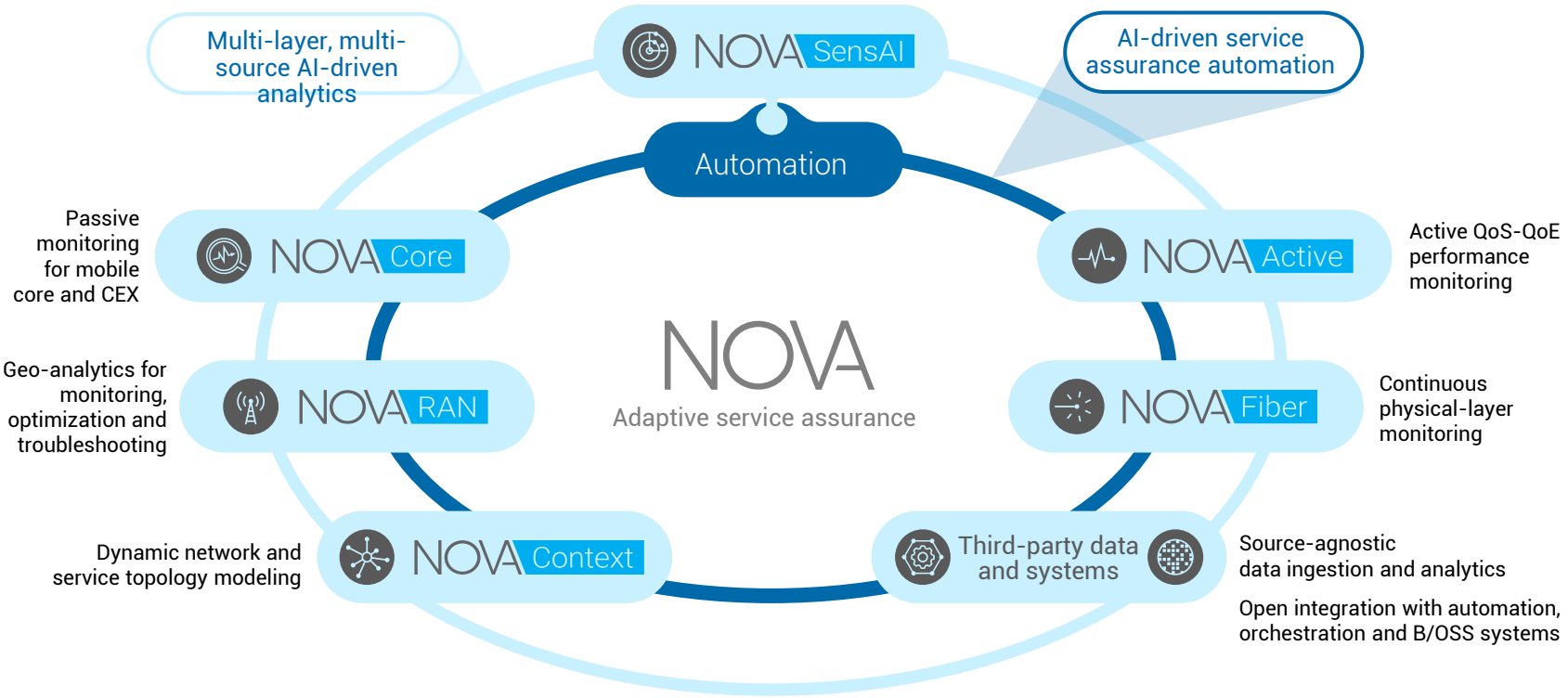
NOVA adaptive service assurance platform

Learn more

Nova adaptive service assurance uniquely delivers contextual insights that relate service quality and customer experience to infrastructure performance across all layers and domains–fiber, core, cloud, RAN and transport networks.

Nova SensAI's modular analytics and automation platform integrates feeds from one or more monitoring domains. Nova platform components and third-party systems integrate to assure multi-vendor networks, services, applications and infrastructure.

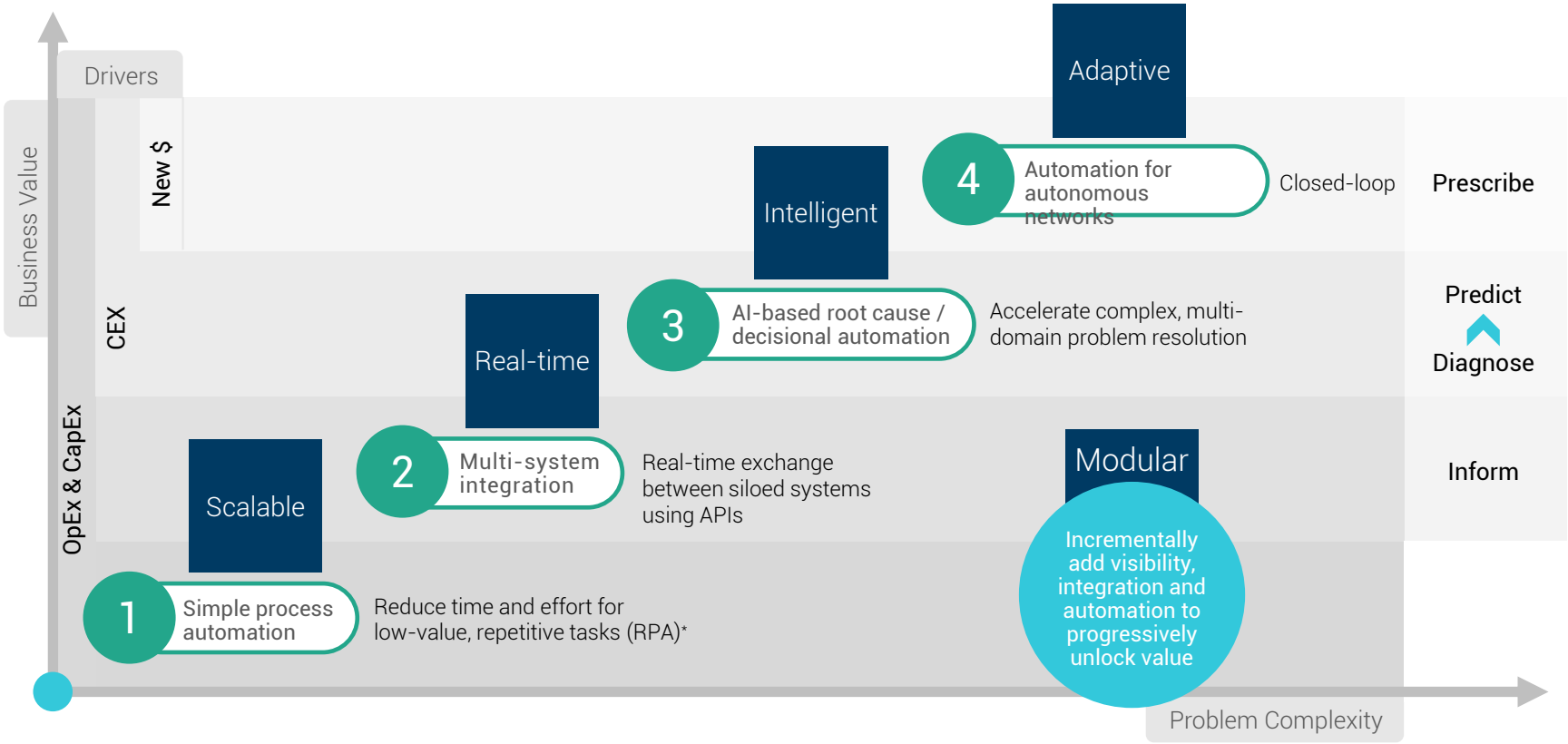
Platform components



NOVA adaptive service assurance

Progressively unlock the value of automation

Automation is a journey. Each step adds incremental value. Delivering a new level of customer experience and generating new revenue requires intelligent automation that learns and adapts to current conditions. AI is required to move from simple scripted automation to predictive insight and autonomous action. Effective automation simplifies and accelerates operations.



RPA = Robotic process automation

NOVA adaptive service assurance
for orchestrated, automated networks

Cloud-native networks require close collaboration between man and machine. Because every automation journey is unique, the Nova platform is modular. Add components selectively to build an open, multi-vendor orchestrated network, incrementally.

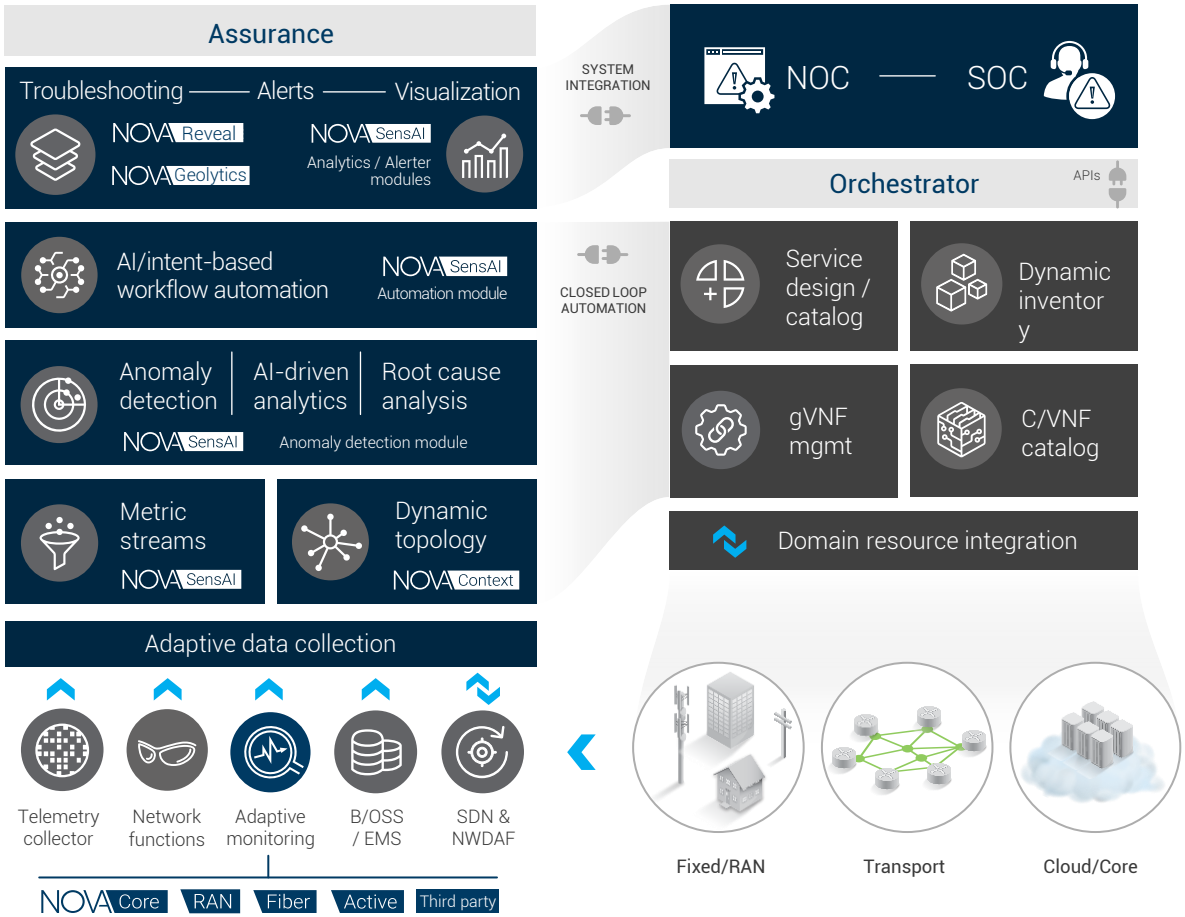
Current, predictive and trend analytics, insight and alerts

Responsive closed-loop feedback automation

AI-driven detection, analysis and diagnostics

Contextual, distributed stream processing

Source-agnostic monitoring and reference data ingestion



NOVA adaptive service assurance

Platform coverage

Cloud-native 3G-4G-5G passive monitoring and troubleshooting from core-to-RAN

Wireless
RAN and core

5G SA, MEC and enterprise SLAs

Wireline
transport and services

NOVA Core — In-depth visibility into network, services and subscribers across multi-vendor networks.

NOVA RAN — RF, device and network geo-analytics across multi-vendor networks, vRAN and ORAN.

Full stack assurance from core to cloud, edge to customer

NOVA Active — Integrated QoS and QoE visibility to assure network, voice, video, and application performance.

NOVA Fiber — Remote, proactive physical layer testing, monitoring and analytics for transport and access fiber networks.

NOVA SensAI
Automated detection, diagnosis and predictive analytics for customer-impacting events.

Adaptive data collection from existing third-party systems.

NOVA Context
Dynamic topology maps relationships between infrastructure, services and customers for accurate fault isolation and root cause analysis.

xHaul, slices, MEC • Business services • DCI/Cloud • FTTx/Triple-play • IP transport

NOVA adaptive service assurance

Solution coverage

Service providers use the Nova platform to overcome operational challenges, advance automated cloud-native networks, accelerate new revenue and deliver a differentiated customer experience.

Modular solution components integrate with existing systems to provide real-time, prescriptive insight that breaks down siloes to get things done—simply and efficiently.

NOVA platform	Solutions and components*	SensAI	Core	RAN	Active	Fiber	Context
Network performance	Assure and optimize networks to enhance customer experience with an integrated view of network and service performance.	●			●	●	●
Service quality	Ensure every user and device gets the experience they need with an integrated view of application, network and infrastructure performance.	●	●	●	●		●
5G and mobile	Accelerate the deployment of 5G. Monitor and optimize 3G/4G/5G networks and services from core to RAN to customer.	●	●	●			
Automated assurance	Adaptive, automated insight for orchestrated networks with fast AI-driven problem detection and diagnostics for closed-loop control.	●	●	●	●	●	●
Fiber monitoring	Deploy, optimize, maintain fiber networks for 5G, enterprise and residential services with continuous physical layer monitoring and analytics.	●				●	
OTT QoE	Deliver exceptional quality of experience to differentiate and drive loyalty with network-aware OTT video and application monitoring.	●	●		●		

The Nova platform also assures the adoption of MEC, slices, private networks, and O-RAN.

NOVA adaptive service assurance

Unique viewpoint

Monitors quality of experience for every service, customer and device

Customer centric

Topology relates QoS/QoE with the underlying infrastructure

Contextual

All-layer, end-to-end visibility from core-to-customer across multi-technology networks

Integrated

Modular, orchestrator-driven. Ingests data from—and shares insight with—existing systems.

AI-driven detection, diagnostics and analytics for open and closed loop control.

Automated

Automatically measures and analyzes what's needed, when needed

Adaptive

Benefits

- Detects, predicts and diagnoses customer impacting events
- Extracts new value from existing systems
- Simplifies operations and problem resolution
- Unlocks network automation at scale
- Accelerates market adoption and new revenue

260
Service assurance platforms deployed globally

5,000
Pro-services projects completed over 10 years

1st in growth
Fastest growing service assurance vendor in 2020[1]

Proven expertise

1. Analysys Mason: Automated Assurance market report, 2021. EXFO Nova ranked #2 globally while growing 25% faster than the leading vendor

Glossary

AI	artificial intelligence
AMPU	average margin per user
API	application programming interface
CNF	containerized network function
CSP	communications service providers
eMBB	enhanced mobile broadband communications
IoT	Internet of Things
LLC	low latency communications
LTE	long term evolution (4G)
M2M	machine to machine
MEC	mobile edge compute
ML	machine learning
mMTC	massive machine type communications
NFV	network function virtualization
NFVI	network function virtualization infrastructure
NPS	net promoter score
OTT	over the top
PNF	physical network function
QoE	quality of experience
QoS	quality of service
SLA	service level agreement
SP	service provider
UR	ultra reliable
VNF	virtualized network function
VoIP	Voice over IP
VoLTE	Voice or LTE

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