quantiphi
Solving What Matters

Zero-Touch Network Configuration Agent for **Telecom Operations**

The Challenge: Limits of Manual Tuning

Modern telecom networks must manage thousands of interdependent parameters that dictate coverage, throughput, interference, and user experience. Traditional manual or rule-based tuning is officially obsolete; it is no longer scalable or cost-effective.

The Solution: An Enterprise-Ready AI Agent

A cutting-edge multi-agent workflow powered by NVIDIA AI Enterprise that fully automates and optimizes the configuration of RAN parameters. This intelligent framework analyzes real-time and historical network data to recommend and apply optimal settings, drastically reducing manual effort and maximizing performance.

Continuous KPI Monitoring
Tracking various network KPIs such as signal-to-noise, bitrates in real-time.

Prescriptive Intelligence
Delivering data-driven tuning suggestions with explainable reasoning.

Closed Loop Action
Automatically validates and implements configuration changes.

Operational Efficiency
Reducing operational complexity, speeds resolution time, and improves QoS.

How Does it Help Your Telecom Operations?

Accelerated Operational Efficiency: Systematically reduces operational complexity, accelerates resolution times, and improves Quality of Service (QoS).

Optimized OpEx: Automating complex configuration workflows significantly minimizes manual labor costs and proactively eliminates the risk of human error.

Maximized Network Yield: AI-driven parameter tuning enhances throughput and spectral efficiency while actively mitigating interference.

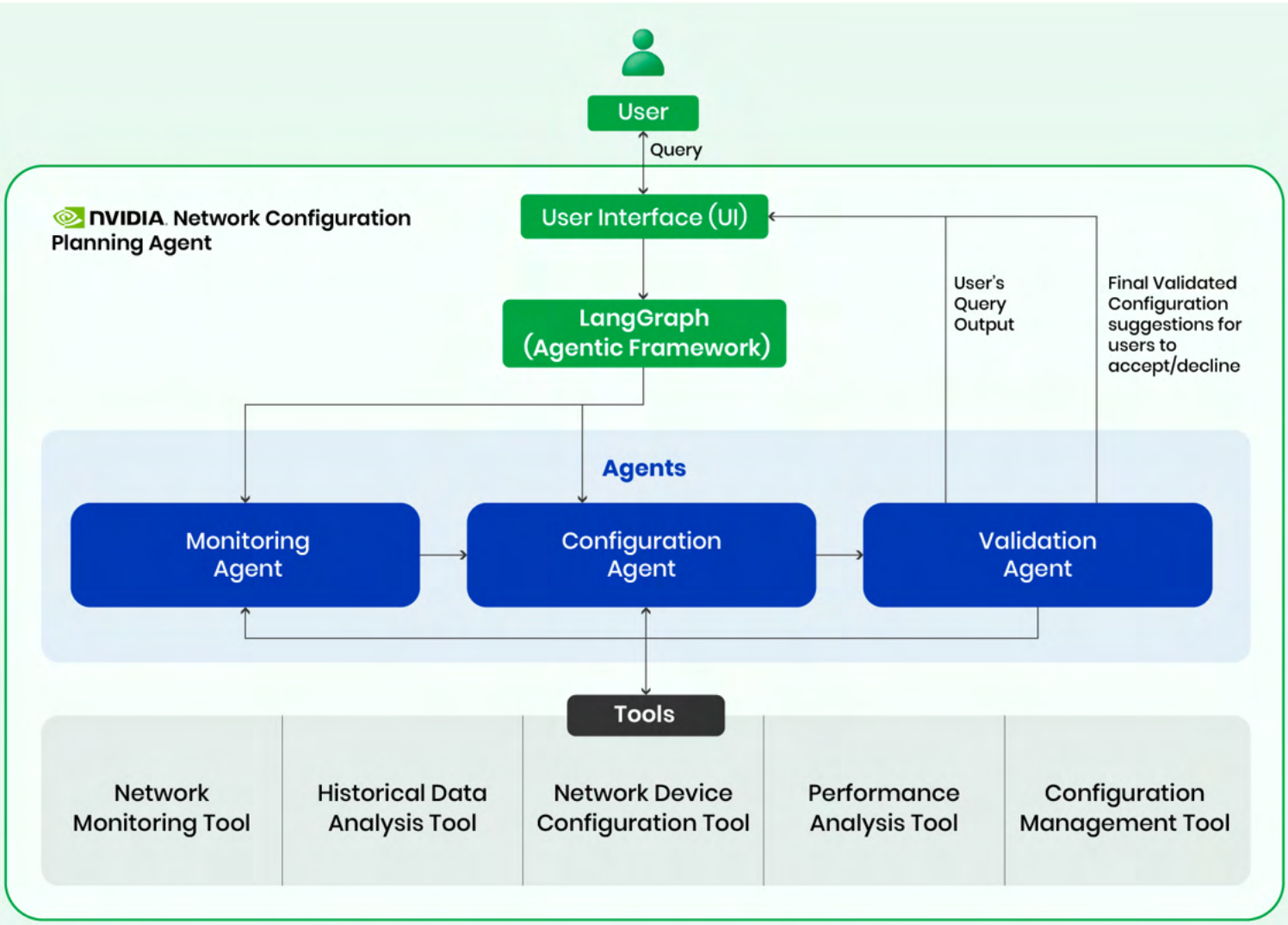
ROI-Focused Solution

Before Network Agent	After Network Agent	Your Gain (Projected)
Manual configuration takes hours	AI optimization in seconds	~60% faster resolution
Reactive troubleshooting	Proactive prevention	~40% fewer outages
High OpEx from manual labor	Automated workflows	~30% cost reduction
Inconsistent performance	AI-driven optimization	~50% performance boost

Note: Projections based on validated industry benchmarks for AI-driven network operations

How Does It Work?

Built on NVIDIA's computing platform and NIM microservices, Quantiphi's solution utilizes LangGraph to orchestrate a sophisticated multi-agent system. This architecture moves beyond simple automation to a reasoning-based workflow, where specialized agents collaborate to manage the complexities of the RAN environment.



Stay ahead of the connectivity curve. **Learn more** about AI-Driven Transformation in Telecom

Core Agent Modules Used

Monitoring Agent:
Continuously ingests high-fidelity telemetry to track KPIs like SINR and PRB utilization, identifying performance anomalies in real-time.

Configuration Agent:
Functions as the "reasoning engine" to evaluate complex interdependencies and prescribe parameter adjustments with detailed technical justification.

Validation Agent:
Acts as a safety checkpoint by testing adjustments in a controlled environment to ensure net improvement before finalizing wide-scale deployment.

Key Capabilities

- **Autonomous Optimization:** Optimizes complex tradeoffs (e.g., DL bitrate vs. SNR) with minimal manual intervention.
- **Real-Time Decision-Making:** Uses machine reasoning on live KPIs to instantly adapt network settings to shifting conditions.
- **Closed-Loop Validation:** Evaluates configuration impacts and triggers immediate rollbacks if performance degrades.
- **Multi-Vendor & Multi-Layer Support:** Unifies management across heterogeneous networks and the PHY, MAC, and RRC layers.

Secure and Flexible Deployment

Flexible Architecture: Deploys via secure cloud APIs or on-premises for strict data and security compliance.

Seamless Integration: Provides rapid engineering oversight via an intuitive web dashboard or specialized chatbot.

Schedule a 30-minute consultation with our engineers to identify the top 3 manual workflows in your network costing you the most OpEx.

Schedule a Call