FutureNet World Podcast Highlights

The Role of AI and Knowledge in Autonomous Networking

Giles Cummings, Founder and CEO, FutureNet World
Dale Skeen, CTO and Co-founder Vitria

Listen Now

Giles Cummings
Founder and CEO,
FutureNet World

Dale Skeen
CTO and Co-founder Vitria

WHY IS AI ESSENTIAL FOR AUTONOMOUS NETWORKING AND IS BASIC AUTOMATION ENOUGH ON ITS OWN?

While automation is a significant step, it can only take a network so far. AI brings the intelligence and adaptability needed for a system to truly understand and respond to what is happening in real-time. For AI to be useful and trustworthy, however, it must be combined with a strong foundation of knowledge.

HOW DOES KNOWLEDGE MAKE AI IN NETWORKS SMARTER?

Knowledge acts as the backbone, or context, for AI. The richer the knowledge base, the better AI can:

- Spot issues before they impact customers.
- Recommend effective fixes.
- Learn from every situation.

WHAT ARE SOME CONCRETE EXAMPLES OF KNOWLEDGE-DRIVEN AI IN ACTION WITH TELECOMS?

Several large telecom providers have seen impressive results:

- A U.S. internet service provider cut incidents by 65% in 90 days and began catching 90% of issues proactively.
- The largest U.S. carrier eliminated a quarter-million unnecessary technical visits annually, saving about $20 million per year.
- A Fortune 200 mobile carrier accelerated its 5G rollout by up to three months.

HOW DO NETWORKS SCALE THIS INTELLIGENCE, ESPECIALLY WITH PETABYTES OF DATA?

The only way to tame the immense complexity and data volume is by layering intelligence and knowledge on top of the raw data. This allows the system to make sense of the chaos and act quickly and reliably.

WHAT IS THE FIRST STEP FOR A TELECOM STARTING THIS JOURNEY TOWARD AUTONOMOUS NETWORKS?

The foundational first step is observability, not jumping straight to AI. You must first bring together all data from every tech stack and network layer to "see everything" before you can analyze or automate anything.

www.vitria.com

The Role of AI and Knowledge in Autonomous Networking

WHAT ARE THE STAGES OF DEVELOPMENT AFTER OBSERVABILITY?

The process moves through several stages:

1. Analytics: Detecting anomalies and correlating data.
2. Root Cause Analysis: Determining the source of issues.
3. Suggestion Engine: Using knowledge to recommend fixes.
4. Intelligent Automation: Allowing the system to fix issues itself or automate actions for humans.

WHAT DOES "KNOWLEDGE" ACTUALLY MEAN IN THIS CONTEXT?

Knowledge is more than just documentation; it's structured, machine-readable information. It's often visualized as a knowledge graph, which maps not just the elements of a network but also their interconnections and dependencies.

HOW ARE THESE KNOWLEDGE GRAPHS CREATED?

Knowledge graphs are enriched by mining data from various sources:

- Telemetry data
- Trouble tickets
- Field agent chats

This process uncovers hidden dependencies and provides real-world cause-and-effect context.

HOW DOES A KNOWLEDGE GRAPH HELP RESOLVE A 5G NETWORK ISSUE?

A knowledge graph can connect seemingly unrelated issues to find a single, hidden root cause. For example, what might appear to be multiple isolated router failures could be revealed as a single problem linked through one cell site router. The AI can then use this knowledge, plus other data like environmental factors (e.g., a heat wave), to explain its diagnosis.

WHAT IS AT STAKE IF A COMPANY SKIPS THE KNOWLEDGE STEP?

Without a structured knowledge base, AI becomes a "black box" that is difficult to trust, especially as networks grow more complex. Structured knowledge allows AI to explain its logic, operate within guardrails, and build trust and accountability. This knowledge is the key differentiator for creating resilient networks.

Listen to the full interview for more insights.

ABOUT VIA AIOps

VIA AI powers VIA AIOps to deliver the process automation capabilities required to transform operations and dramatically lower cost. VIA delivers intelligent automation from a powerful platform that combines AI, analytics, and machine learning in real time. VIA provides Telcos with a modern operating model that enables a superior customer experience and supports a leaner, more efficient, and effective operations staff.

VIA Ai