Transformation with Agentic AI – Appledore Podcast

The Role of Knowledge in Autonomous Operations

As telecom operators accelerate toward autonomous operations, many are discovering that foundational AI and automation alone are not enough to manage increasingly complex, multi-domain networks. While Agentic AI offers significant potential, challenges around "accuracy" and "trust" continue to limit large-scale deployment.

In this Appledore Podcast interview, Vitria CTO & Co-founder, Dale Skeen joins Robert Curran, Appledore Analyst, to discuss how knowledge-driven architectures are helping operators overcome these barriers and move toward more trustworthy and scalable AI-driven operations.

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Dale Skeen,
CTO & Co-founder, Vitria

Robert Curran,
Consulting Analyst,
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WHY AI NEEDS KNOWLEDGE

According to Dale Skeen, many operators are finding that Agentic AI "works for smaller deployments and simpler tasks," but when scaled to "more complex tasks and decision making," limitations in "accuracy" and "trust" become significant barriers.

To address this challenge, Vitria pioneered what it calls a Semantic Knowledge Plane: a layer designed to "infuse the AIs with better knowledge," leading to "better accuracy and better results."

Unlike traditional databases that only store relationships between systems, semantic knowledge models define the nature of those relationships and dependencies.

As explained in the interview:

"Data alone is not sufficient. You need knowledge."

The Semantic Knowledge Plane brings together knowledge from:

- Network inventory systems
- Telemetry and diagnostics
- Troubleshooting guides
- Institutional and operational expertise
- Closed trouble tickets and repair outcomes

This creates a continuously evolving operational intelligence layer capable of supporting more accurate reasoning, automation, and cross-domain correlation.

INCREMENTAL TRANSFORMATION

A major theme of the discussion is what Vitria calls incremental transformation.

Rather than attempting massive multi-year operational rebuilds, Vitria recommends focused deployments tied to measurable operational outcomes.

As described by Dale Skeen:

"Choose some use cases, preferably with measurable ROIs."

The methodology includes:

- Building a "minimum viable knowledge graph"
- Deploying in "90 to 100 day chunks"
- Expanding knowledge incrementally over time
- Continuously refining models through operational learning

Because "knowledge is cumulative," each deployment increases the value of future operational initiatives through richer correlation and reasoning capabilities.

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As Skeen explains:

"While each step in the journey is incremental, the overall journey is transformative."

OPERATIONAL IMPACT

The interview highlights several measurable operational outcomes achieved through knowledge-driven AI.

According to Vitria, customers have achieved:

- **95% proactive detection and triage before customer impact**
- **20–30% year-over-year NOC productivity improvements**
- Faster root cause identification and remediation
- Reduced MTTR for complex service degradations
- Smaller expert war rooms for difficult incidents

The discussion also emphasizes the importance of cross-domain correlation across:

- Radio access networks
- Transport infrastructure
- Cloud and data center environments
- Virtualized services

By combining semantic knowledge with AI-driven analytics, operators can better understand dependencies and identify root causes across highly distributed telecom environments.

EXPLAINABILITY, REASONING, AND TRUST

The interview also explores how semantic knowledge improves AI explainability and governance.

According to Skeen, knowledge-driven AI enables:

- "Better reasoning"
- "Improved accuracy"
- "Explainability"
- "Verifiability"
- Operational "guardrails"

One of the key concepts discussed is guiding AI systems through a "chain of reasoning" using knowledge graphs, helping reduce hallucinations and improve operational trust.

As Skeen explains:

"You can constrain your answer and your reasoning to the knowledge graph."

This creates a more transparent and verifiable approach to autonomous operations, particularly important in mission-critical telecom environments.

CONCLUSION

As the telecom industry evolves from foundational AIOps to autonomous operations, operators are increasingly recognizing that AI alone is insufficient to manage highly complex environments.

Knowledge-driven architectures like the Semantic Knowledge Plane provide the contextual understanding, reasoning structure, explainability, and governance needed to support scalable Agentic AI.

By adopting incremental transformation strategies and continuously evolving operational knowledge, operators can modernize operations pragmatically while building a stronger foundation for autonomous networks

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.