Leading Service Provider Drives Out Interference, Boosts Quality and Efficiency

ABOUT THE CLIENT

INDUSTRY:
MOBILE NETWORK OPERATOR

PRODUCT:
UHANA BY VMWARE

CHALLENGE:
Identifying and fixing radio interference is a slow, expensive, manual process.

RESULTS:

- **Improved customer experience** by detecting and eliminating interference that impedes quality

- **Lower costs** by reducing truck rolls and helping field teams remediate interference more quickly

- **Improved operational efficiency** by visualizing sources of interference in real-time

- **Improved network troubleshooting** with AI-based root cause analysis

- **Increased and protected revenues** by prioritizing issues by severity and location

Tier 1 Mobile Network Operator leverages AI-based analytics to rapidly identify and triage cellular interference.

The Problem: Rooting Out Interference Too Slow, Manual and Expensive

One of Australia's largest service providers was suffering from a problem all too common among mobile network operators (MNOs): interference in their radio access network (RAN). As consumers and businesses depend more heavily on mobile connectivity, interference—whether from power lines, unlicensed radios, rogue cable modems or even aging TV antennas—can seriously diminish wireless quality and reliability. Unfortunately, pinpointing the source of interference is a notoriously difficult and expensive technical challenge.

The service provider uses automated systems to detect major sources of interference, but those systems can't track issues lasting less than 15 minutes at a time. That leaves a huge number of incidents—around a thousand per year in just two of the operator's major coverage areas—that must be investigated manually. Each investigation to locate a source of interference, identify its root cause and fix it entails a difficult, expensive and time-consuming process. Effectively, field operations teams have to drive around large urban and suburban regions block by block trying to isolate these issues.

In all, the company was spending thousands of personnel hours and millions of dollars annually to deal with these problems. And, they were likely to grow worse when the service provider rolls out 5G network services, which have 10x more control variables that can affect quality than LTE, along with many more distinct vertical use cases and customers competing for connectivity. The MNO's leaders knew they had to find a faster, more efficient solution. They needed more accurate real-time insights. They turned to Uhana by VMware.

Solution: Fine-Grain Visibility with Real-Time RAN Analytics

Uhana is an AI-based analytics platform that helps mobile operators improve customer experience and lower costs by providing actionable insights into 4G and 5G radio access networks. The platform gathers and enhances streaming data from mobile network elements and provides operators with real-time visibility in the RAN, down to the level of individual subscribers.

Using machine learning and AI, Uhana automatically identifies, localizes and classifies issues affecting RAN quality. Leveraging neural networks, Uhana determines the root cause of these issues and recommends remediation. It provides a prioritized list of search areas based on severity and customer impact, with heatmap visualizations and ranked

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REDUCED OPERATIONAL COSTS

on complex, manual investigations to locate interference

REDUCED TIME TO REMEDIATE ISSUES

by helping field teams identify interference sources in minutes instead of hours

INCREASED CUSTOMER SATISFACTION

by improving the quality and reliability of wireless services

polygons isolating the interference to a small area. These results can be overlaid on Google Maps, reducing the area of interference triangulation from miles or kilometers to just blocks—and saving field teams thousands of hours of reconnaissance time annually.

With Uhana by VMware, the service provider can:

- **Improve customer satisfaction** by more quickly identifying and repairing interference that diminishes quality

- **Improve operational efficiency** by easily visualizing and prioritizing root causes of interference

- **Reduce operating costs** by minimizing truck rolls and helping field operations teams fix problems in a fraction of the time

- **Optimize network investments** by increasing capacity and making better use of the operator's spectrum

- **Reduce risk for new 5G rollouts** by ensuring that the operator can maintain higher levels of wireless performance and availability, even as the network and services grow more complex