Case Study

Amdocs 5G NR & mMIMO Services: Tier-1 NA operator becomes first to deploy true mobile 5G NR service in US

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The background

This Tier-1 North American service provider had launched massive MIMO (multiple-input, multiple-output) and 5G to support key markets. Massive MIMO offers significant gains in wireless data rates and link reliability, enabling data consumption by more users within a dense area without consuming additional radio spectrum or causing interference. The result is better capacity and better-quality data transmission, without impacting the increasingly scarce radio spectrum.

The challenge

Given that 5G must support both future capacity constraints and existing challenges – such as network reliability, coverage, and latency – efficient massive MIMO deployment and optimization was required.

To achieve this, the operator needed to:

Launch 5G using massive MIMO and NR in key markets

Ensure a seamless customer experience on LTE and 5G with low latency and high throughput

Maximize coverage and capacity by optimizing 5G NR and LTE

The solution

Amdocs provided 5G NR and massive MIMO optimization services for the operator's mobile 5G roll out in its first markets, enabling them to remain on track to meet its goals of building out a blazing-fast, high-capacity mobile network, and delivering true mobile 5G services to its customers ahead of its competitors.

Amdocs' approach

- Measure mMIMO and 5G NR using drive testing and measuring areas where customer download experience was poor
- Combine drive data with antenna profile and RAN performance data to optimize performance
- Provide insights into 2D/3D beamforming, visualization and cell shaping for coverage, quality and throughput
- Provide process flow and guidelines around massive MIMO and 5G Optimization
- Ensure KPIs are met to enable a seamless customer experience

Amdocs' solution for massive MIMO optimization covers the end-to-end process of data collection, analysis and actionable recommendations. The rich data processed includes field device test data, antenna profiles, trace data and RAN performance metrics. Advanced analytics performed on the data covers sector and location analysis, coverage and quality analysis, antenna optimization, all the way through to beam analysis. 5G NR optimization deliverables comprise cell shaping recommendations, MIMO parameter tuning, converge break point, SINR, RF shaping and more.

Summary

By implementing Amdocs' mMIMO and 5G NR optimization services, the operator gained the ability to provide an exceptional subscriber experience, while significantly improving the bottom line.

Business benefits

Significant improvement in throughput and other KPIs across 5G and LTE

Improved mMIMO performance based on parameter and feature implementation

Drive-based advanced optimization including mMIMO, beamforming and 5G NR, leveraging Amdocs' ActixOne platform

Vendor-agnostic

Exceptional subscriber experience

Improvement in peak 5G NR throughput

Improvement in average EN-DC throughput

Reduction in secondary cell group (SCG) failures

For more information, visit Mobile Network Services.

Amdocs helps those who build the future to make it amazing. With our market-leading portfolio of software products and services, we unlock our customers' innovative potential, empowering them to provide next-generation communication and media experiences for both the individual end user and large enterprise customers. Our 28,000 employees around the globe are here to accelerate service providers' migration to the cloud, enable them to differentiate in the 5G era, and digitalize and automate their operations.

Listed on the NASDAQ Global Select Market, Amdocs had revenue of $4.3 billion in fiscal 2021.

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