

Tier One Mobile Operator: 10% Decrease in Energy Costs with HCL Augmented Network Automation

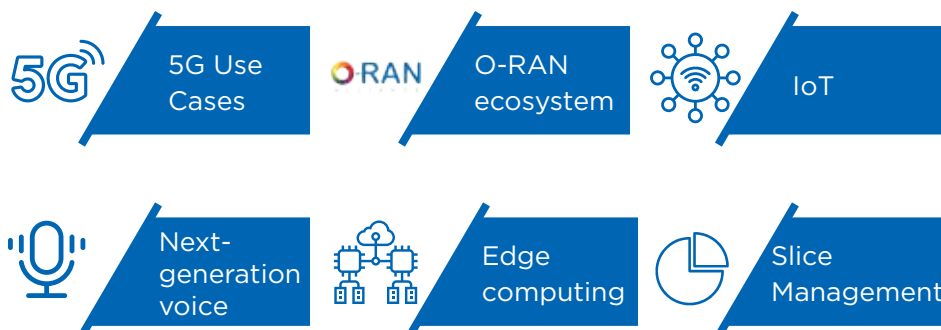


Across the telecommunications industry, evolving technologies continue to offer opportunities and challenges to existing mobile network operators (MNO). At a Tier One Operator, the team works with long-time partner HCL Technologies to deliver exceptional customer experiences with innovative approaches while managing legacy technologies across the network.

A Optimization and Planning Manager (RAN Manager) explains, “In addition to traditional speech, we now have to support varied services, such as IoT services, voice over 4G and 5G, voice over IP, and Wi-Fi calling.”

“And further complexities arise as we continue to phase out Legacy networks and technologies, such as 2G and 3G,” said RAN Manager. “We are migrating those users onto the 4G and the 5G layers for speech and data and converging with Wi-Fi.”

Other emerging technologies must also be integrated into the mobile infrastructure across multiple technology layers and coexist with legacy systems.



Mobile Operators' Business Challenges

- Network complexity: manage the network and multiple technologies in terms of layer management, mobility management, interference management
- Cost cutting: constant pressure to reduce OPEX while maintaining a good customer experience
- Performance: balance performance and return on the investment for optimal customer experience
- Power savings: manage this costly resource as consumption continues to increase
- Traffic management: understand where customers need capacity and how to deliver it in the most efficient way
- Backhaul integrity: ensure that transport networks are fully capable of adapting to any issues
- Mobility: managing all of the services to deliver fast-moving mobile experiences in a multi-technology and multi-layer environment

Support with Complex Transition

Regardless of the complexity, the Tier One Operator's customer's experiences cannot be negatively impacted. Service levels must be maintained as the Tier One Operator moves traffic away from traditional technologies. "Transitioning our traffic to newer technologies requires us to collect vast amounts of data from the different systems, assess the requirements, and then make infinite decisions around that," said the RAN Manager. "We could only do this by using HCL Augmented Network Automation (ANA) Platform."

Intelligent Data Manipulation

The Tier One Operator has a number of different services competing. In such a complex network, the team requires much more intelligent manipulation and use of data than they needed in the past. "The HCL ANA platform allows us to bring in many different data sources, such as the configuration of the network, the different types of knowledge across the network, and how that data has been used. Then HCL ANA allows us to assess that data using AI and ML to make the best decisions with that data, like traffic, capacity, and energy management," said the RAN Manager.

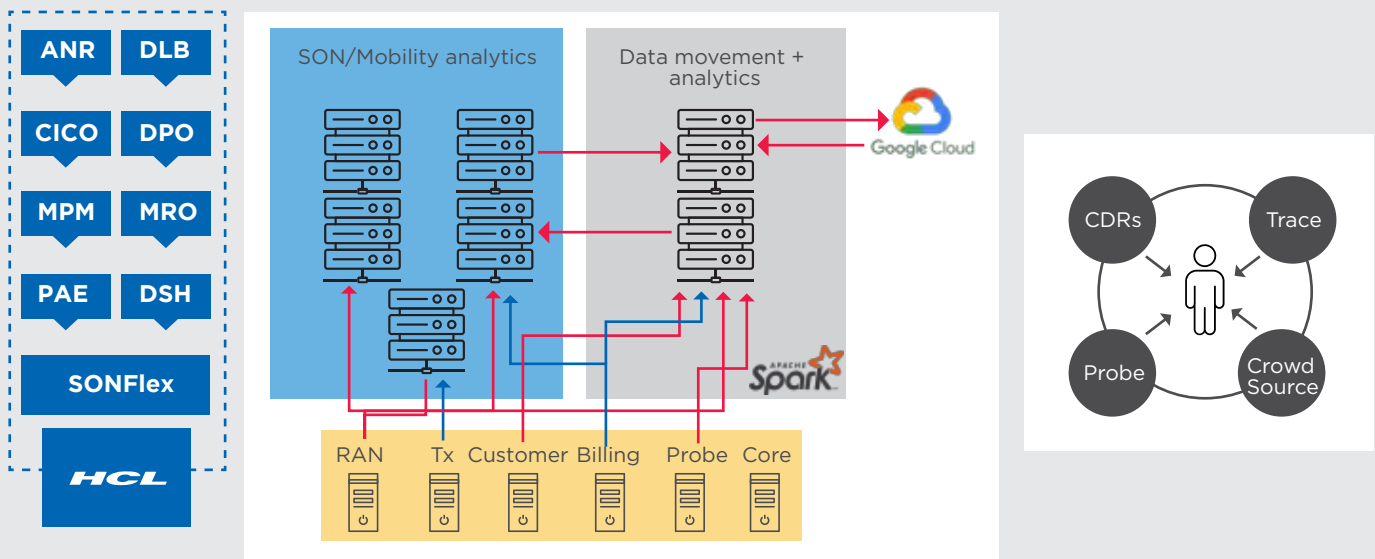
Integrating New and Legacy Technology

"HCL ANA also helps us with the integration of new technologies into the legacy technology that is still in existence, helping to make these these new and old coexist efficiently," said RAN Manager. The Tier One Operator parses and analyzes all data sources in a big data platform, then integrates them into the HCL ANA platform. Additionally, third-party developers leverage innovative, open API functionality to quickly develop custom ANA applications accelerating the time to market.

HCL Augmented Network Automation (ANA) Platform

Built on Cisco SON, HCL ANA is a next-generation SON platform that enables Mobile Network Operators (MNOs) to simplify network management complexity with closed-loop network automation that supports multi-vendor, multi-technology deployments. The HCL ANA Platform collects and processes vast amounts of data in near real-time from all network domains (i.e., radio to transport) to automatically predict, configure, and optimize multi-domain networks with self-healing techniques.

Customer's Big Data Architecture



Automating Network Optimization

“Trying to optimize different parameters to improve the performance of a new site involves peeling multiple layers that are interacting with each other on the network,” said RAN Manager. “It just goes beyond what individual engineers can do in a planned and controlled manner. As the network grew more complex, with more carriers and technologies, we would not have been able to keep pace without HCL ANA.”

The automated optimization delivered by HCL ANA allows the Operator to cope and evolve with the network, keeping pace with the demands and the requirements of the network. “Without an automated optimization system, we won’t be able to do that from a resourcing point of view. HCL ANA gives us the intelligence and automation required to maintain such a complex network and deliver the quality of experience and service we want to give customers. Once we identify a new process in the RAN that shows value, we automate it, something we couldn’t have done without HCL ANA,” said the RAN Manager.

Achieving Leading Customer Satisfaction

The performance and service levels enabled by HCL ANA support the Tier One Operator’s position as a leader in customer satisfaction driven by traffic, capacity, and network management. The RAN Manager said, “Over the last number of years, we’ve been number one from a customer satisfaction point of view. I do not believe that that would have been possible without HCL’s assistance in terms of optimization.”

Energy Savings

With predictive modeling, HCL ANA has helped the Tier One Operator realize material energy savings. “Through optimization and predictive modeling, HCL ANA has helped us improve our energy efficiency by nearly two and a half times or 2 Euros per day per base station. Reducing our total energy consumption by more than 10% per year has been a real benefit of HCL ANA,” said the RAN Manager.



Planned Use Cases for HCL Augmented Network Automation Platform (HCL ANA)

Based on the success with HCL ANA, the Tier One Operator wants to do more to tackle other pain points in the network to optimize quality for customers, including:

- Optimize customer experience by connecting the Tier One Operator's quality metric systems with the HCL ANA automation capabilities
- Help the operator launch 5G by automating and optimizing the 5G network on top of the existing 4G network.
- Assist the operator with the 3G shutdown and maintain service quality for customers as they are transitioned to other services.
- Ensure that the ORAN network works seamlessly with the Legacy Macro network.
- Use the data collected to identify granular customer issues, such as dropped calls or throughput on HD video.

"We look forward to continuing our long partnership with HCL to address these and other challenges. HCL ANA supports our customer-centric focus and helps us concentrate very much on localized issues. Being able to harness the power of HCL's ANA Platform system is invaluable to our efforts to continue to enhance quality and improve customer experiences," the RAN Manager concluded.

Benefits Realized with HCL ANA

- Savings in OPEX with a near 2.5 times improvement in energy consumption optimizations
- Reduced energy usage by over 10% per year
- Improved subscribers' Quality of Experience based on dropped calls, call setup failures, and throughput targets
- #1 in the marketplace in terms of customer experience
- NPS (Net Promoter Score) increased, resulting in the number one ranking for mobile network satisfaction
- Near real-time assessment of network performance
- Reduced OPEX spending on energy
- Optimized network management of subscriber traffic across all the available capacity
- Reduced mobile data congestion by 5% points

HCLSoftware

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