NOKIA | Asiacell

Delivering outstanding network performance for the Arbaeen Zeyara Pilgrimage

Case study

Over the last three years, Asiacell, part of the Ooredoo Group and a major provider in Iraq's telecom sector, has partnered with Nokia to offer customer-centric, multi-vendor network optimization services, including expertise in managing large-scale events.

Nokia's collaboration focused on advancing network technology and improving customer satisfaction, particularly during major occasions such as the high-profile Zeyara event. This partnership has played a pivotal role in Asiacell's positioning itself as Iraq's leading service provider, renowned for providing an exceptional network quality and user experience.

Business benefits

“Committed to delivering the best and most dependable telecommunications services across Iraq, consistently fulfilling our promise, Asiacell ensures that our valued customers and esteemed visitors enjoy top-notch services, including the fastest internet, excellent coverage and the best user experience.”

- 72M Sucessful phone calls
- 4M Customer Attendance
- Best Customer Experience during the visit
- 3,800 TB Data usage
- 3.6M International Roaming

Original data by Asiancell click here

The challenge

This year's Arbaeen Zeyara Pilgrimage, a huge annual religious event and the world's second largest annual public gathering, saw an unprecedented 25 million pilgrims visiting Iraq's Najaf and Karbala cities. As the dominant telecom provider in Iraq, Asiacell faced the formidable challenge of delivering a flawless network experience, particularly within Karbala's shrine area, covering approximately 1 square kilometer, and the surrounding roadways. Network utilization had skyrocketed, surging by an astonishing 1000% compared to that on a typical day.

Managing this extraordinary surge in network activity demanded meticulous planning and execution. The objective was clear - to ensure optimal network performance throughout the event, thereby safeguarding Asiacell's reputation for the third consecutive year and encouraging subscribers to continue to choose the provider.

The solution

Since 2021, Nokia has overseen end-to-end (E2E) multi-vendor network optimization for Iraq's primary operator, Asiacell, with its responsibilities including RAN, IP, transport, and core. For the third consecutive year, the team was responsible for preparing for the Arbaeen Zeyara event, building on two successful years of event management.

In 2023, technical challenges included the introduction of a VoLTE service, TDD Spectrum, and an extra FDD layer procured by the customer to manage exceptionally high traffic demands.

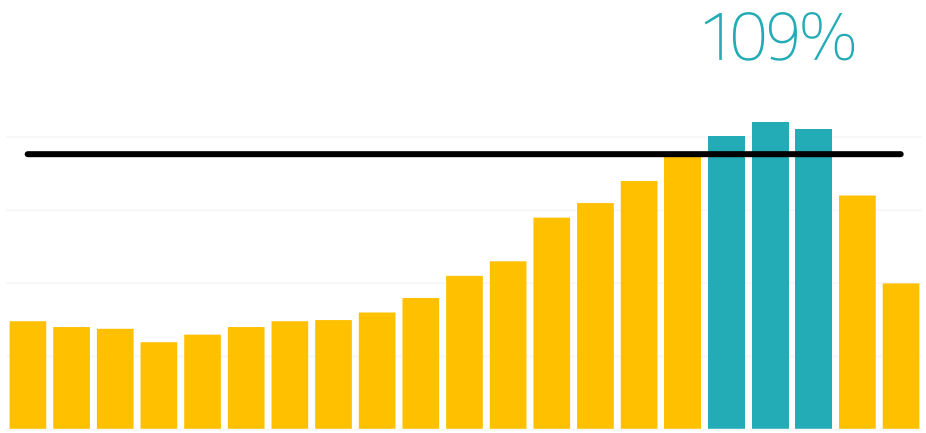
Asiacell and Nokia embarked on an extensive two-month preparation phase leading up to the event, building upon nearly a year of advance planning and making use of knowledge gained from two years of experience and the Lessons Learnt Tank.

This comprehensive readiness effort involved expanding the network, evaluating capacity, and upgrading various components within the entire infrastructure, including RAN, TR-microwave, IP, and core elements. As part of their preparations, Asiacell and Nokia conducted trials of innovative mobility strategies during the Ashura trial event the previous month, demonstrating the team's proficiency in managing large and complex events.

The trial highlighted the impact of incorporating the new TDD spectrum and the additional FDD layer, resulting in a remarkable increase of over 47% in total voice traffic (2G, 3G, and 4G) and a staggering surge of more than 109% in data traffic.

Actual traffic exceeded the forecast

(Karbala city)



How Nokia helped

However, with traffic increasing more than 300% compared to normal days and international roamers increasing by 1000%, operating on safe capacity margins was not possible due to the difficulty in acquiring new sites within the shrine area. Massive optimization work was conducted both before and during the event to handle this exceptional traffic volume, pushing the equipment to its limits in utilization and performance. Before the event, intelligent radio capacity actions had been implemented across all existing Asiacell technologies to maximize network capacity.

On the transport layer, in addition to the capacity planning and E2E audits, a major exercise was conducted to optimize network topology and localize traffic to cut transport layer risks and reduce latency.

A War Room was established to provide 24/7 support for any critical challenges and issues throughout the event and to shift traffic between technology layers (2G/3G/4G, IP and MW) to avoid congestion. During the event, more than 500 live optimization actions as well as over 1500 soft expansions were implemented successfully, with no degradation in user performance.

The teams addressed interference problems by reallocating traffic among various layers and technologies, aiming to reduce the effect of interference on the overall customer experience during the event. Concurrently, the delivery teams conducted field campaigns to identify sources of interference, reporting them to regulatory authorities for deactivation.

The Nokia team developed a set of traffic maps to facilitate the monitoring of pilgrims' movements in coordination with Asiacell's teams. There was also regular exchange of real-time updates among the teams, extending to the highest executive levels.

"For three years in a row, we have been excited to witness our partnership delivering exceptional results for the monumental Arbaeen Zeyara. Our anticipation remains high as we continue our collaboration with Asiacell, dedicated to steadfastly supporting them in delivering unmatched network performance, optimizing operational costs, and maintaining the highest quality of service for their esteemed customers."

Amr El-Shoubashy, Customer Team Head for Asiacell Iraq, Nokia

The result

The management of the event was extremely successful – no major incidents were recorded during the gathering, while there were over 8 million active data sessions during the peak hour. There was also a 55% increase in data compared to 2022 in Karbala only, mostly in the Shrine area.

Thanks to very detailed planning for the transport and core domains, multiple failover scenarios and traffic localization, the network achieved 99.999% availability, with significantly improved overall end-to-end latency.

Benchmarking showed that Asiacell's network had a superior performance compared to other operators — both in customer experience and throughput — with Asiacell achieving stable accessibility and retainability of more than 99%.

This was clearly a great success in ensuring superior network performance, particularly when the network witnessed one of the highest traffic densities worldwide in terms of Erlangs and Gigabytes per km2.

Asiacell has been declared the winner of Iraq's speed test for maintaining 100% LTE network coverage throughout the entire 20-day duration of the Arbaeen event.

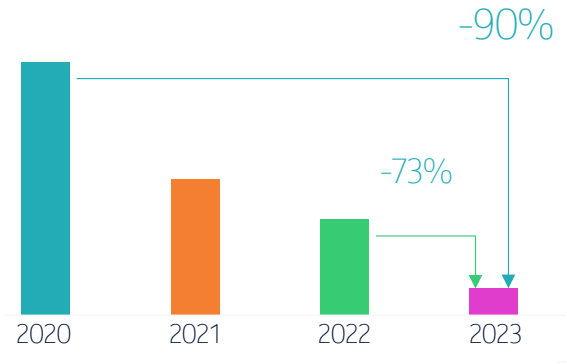
The ability to serve the predicted customer behavior and traffic trends significantly enhanced the overall customer experience, maintaining excellent service quality (QoS) even during peak hours and when the air interface was at maximum capacity.

This led to Asiacell being recognized as the top operator, accommodating over 3.6 million unique international roamers on its network.

This accomplishment was coupled with mobile call minutes of use surpassing the forecast by an impressive 78%.

Additionally, over the course of the 3-year partnership with Nokia, the Communications and Media Commission (CMC) reported a declining number of customer complaints. These achievements underscore how Asiacell has consistently outperformed its peers in nearly all key performance indicators (KPIs) and enhanced the end-user experience.

Arbaeen Zeyara, CMC annual number of complaints



The customer’s view

“The seamless achievement of the Arbaeen 2023 event, now for the third consecutive year, was made possible by the exceptional cooperation and experience exhibited by our staff in cooperation with Nokia’s multi-vendor optimization services team.”

Mr. Hisham Siblini, CTIO, Asiacell

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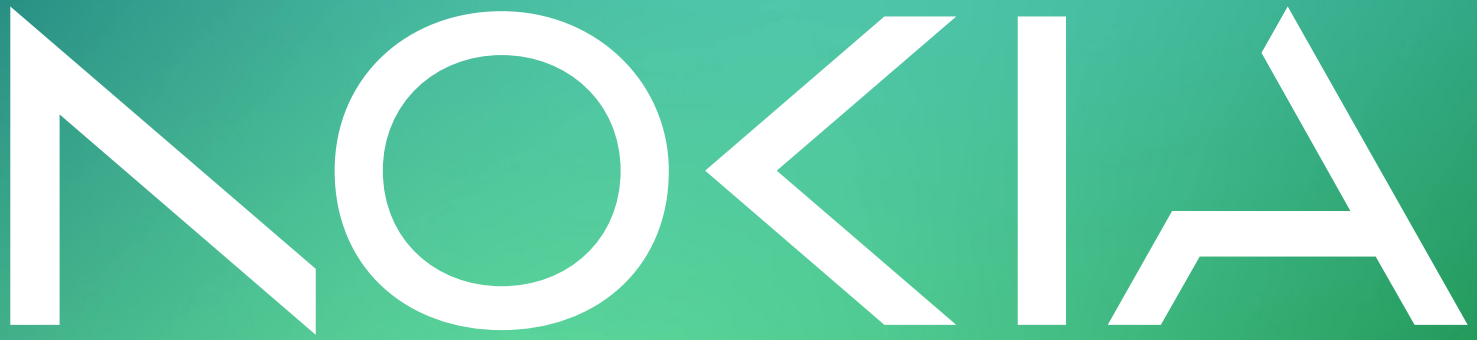

At Nokia, we create technology that helps the world act together.

As a B2B technology innovation leader, we are pioneering the future where networks meet cloud to realize the full potential of digital in every industry.

Through networks that sense, think and act, we work with our customers and partners to create the digital services and applications of the future.