

Excelcomindo Pratama improves multi-vendor network quality, efficiency & traffic capacity with network performance optimization services



The Indonesian operator met and exceeded a slew of key performance indicators after Nokia Siemens Networks streamlined the operator's Ericsson-supplied 2G and 3G infrastructure.

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Dian Siswarini
Network Director
Excelcomindo Pratama

As one of the three major players in mobile network provision in Indonesia, Excelcomindo Pratama (XL) has to continually strive to differentiate itself while retaining market share. The company had focused on growing its infrastructure and competing on price in the past few years, but underwent a strategic change in 2008 as market conditions evolved.

Quality to the fore

“Our focus this year is on ‘quality improvement’,” explained Dian Siswarini, Network Director, XL. “In the last two or three years, XL had been busy increasing network coverage and capacity in accordance with the focus then, which was ‘rapid development’.

We are focusing on network quality now that we have sufficient coverage and capacity.”

The key challenge for XL, said Siswarini, has to do with maintaining customer loyalty and thus market share. With more and more communications service providers (CSPs) offering attractive incentives for users to switch operators, customer acquisition costs have increased and profitability is affected as a result. “From the business strategy point of view, the competitive landscape in the past two years had been about pricing. Price wars are now history. It’s more about service quality now, so optimization is now more important than ever,” she said.

XL assessed its networks and found that network quality needed enhancing in some cities where the company has leading market share. This was a problem especially in Lombok, Bali, and Madura - areas that generate high volumes of revenue for XL and thus critical for retaining market share.



Proven track record

The company turned to Nokia Siemens Networks to optimize its network infrastructure, which was supplied by a major competitor, in order to maintain customer satisfaction. XL had previously worked with Nokia Siemens Networks on a service quality optimization project in Bandung, so it was familiar with the stellar results that Nokia Siemens Networks could achieve. At Bandung, XL had enjoyed significant improvements in key performance indicators (KPIs) such as daily drop call rates and handover success rates on its network after optimization.

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The network performance optimization extension project on XL's 2G and 3G networks was more ambitious this time round, covering more areas.

The networks in Surabaya, Yogyakarta, Semarang, Malang, as well as the high-traffic areas of Madura island, Bali and Lombok, specifically Denpasar, capital of Bali, and Mataram, the largest city in Lombok, were addressed. More KPIs were also tracked, including indicators for network efficiency, network quality, voice traffic volumes, as well as data services traffic.

Nokia Siemens Networks radio parameters are a hit

Nokia Siemens Networks introduced its proven network parameter optimization service on the Ericsson radio networks in the various cities and towns. Optimization of a similar nature was never carried out on XL's networks in the past.

The project lasted from August 2008 to February 2009, and comprised a four-stage process accompanied by frequent benchmark tests and regular reviews. Nokia Siemens Networks performed all four stages in parallel, namely performance assessment and analysis; radio frequency tuning; manual frequency planning, as well as Synthesizer Frequency Hopping (SFH) planning and implementation as needed.

Siswarini only has compliments for the Nokia Siemens Networks performance optimization team. "Their level of expertise is as high as we expected. They were also very pro-active, giving us input and suggesting unsolicited solutions that were focused on saving costs. They did not just solve problems that were encountered."

Better network efficiency, quality, and traffic capacity

Since the network optimization, XL has seen improved KPIs across the board for its networks. Efficiency for the 3G network has been enhanced, with a 77% improvement in the radio resource control (RRC) success rates, for example.

The soft handover success rate for the 3G network, a measure of network quality, is now between 98% and 100% in both Bali and Lombok, up from 95% and 97% respectively, and this was achieved in just three months. In the course of the project, Nokia Siemens Networks introduced several optimization techniques and managed to increase the erlangs (a measure of voice traffic intensity) for XL's 3G network, translating into higher revenues for XL.

Voice traffic capacity for 3G circuit-switched traffic has risen, with the network in Bali now handling 6,000 erlangs, a 33% improvement from pre-optimization days. The Lombok network can now process 2,500 erlangs, a 150% jump from before.

For packet switching on the 3G network, drop call rates (DCRs) have fallen from highs of 11% in Bali and Lombok to meet the KPI of 2% in Bali, and exceeding the KPI at up to 3% in Lombok. Standalone dedicated control channel (SDCCH) and call setup success rates (CSSRs) also went up, with Lombok alone seeing 92% in average SDCCH success rates and 85% in average CSSRs.

Upping the ante

With subscriber churn reduced, lower operating costs and better network performance all round - thanks to Nokia Siemens Networks, XL can now look forward to going beyond offering voice as a basic service.

“We need something new that is based on value-added services and on data services. It’s not proven where the money is yet, but we will definitely go that way, because if we focus on voice, we’re going to be left behind. The priority will be given to supporting the data side,” said Siswarini.

Challenges

- Poor network quality in areas where Excelcomindo Pratama (XL) has leading market share
- High subscriber churn due to competitive incentives to switch operators
- Surge in voice traffic volumes in various areas

Solution

- Network performance optimization of the operator’s Ericsson-supplied 2G and 3G radio networks

Benefits

- Improved network quality from 95-97% to 98-100% in just three months, leading to increased customer satisfaction, lower subscriber churn and more stable market share
- 77% improvement in network efficiency
- 33% and 150% improvement in handling of voice traffic volume in Bali and Lombok respectively, resulting in higher voice revenues
- Packet switched data services traffic dropped is reduced to 1-3% in Bali & Lombok
- Average standalone dedicated control channel success rate improved to 90-95%
- Increased call connection rate in Lombok from below 80% to an average of 85%

Key performance indicator

After network performance optimization project

Radio resource control success rate	77% improvement in network efficiency
Soft handover success rate	Network quality improved from 95-97% to 98-100%
Circuit switch traffic	33% and 150% improvement in handling of voice traffic volume in Bali and Lombok respectively
Packet switch drop call rate	Drop call rates reduced to to 1-3%
Standalone dedicated control channel success rate	Rose to an average of 90-95%
Call setup success rate - Lombok	Rose to an average of 85%