CASE STUDY

YTL COMMUNICATIONS TRANSFORMS SUPPORT SYSTEMS TO IMPROVE CUSTOMER EXPERIENCE AND CUTS COSTS

JOHN ABRAHAM
Executive summary

YTL Communications is a leading provider of broadband services in Malaysia over its WiMAX network. In June 2016, YTL launched 4G LTE network signalling its intent to expand its play in the communications market. It is the all only all-IP network in Malaysia and was the first to launch VoLTE services.

Malaysia is a highly competitive, price-sensitive and predominantly prepaid market. In order to compete effectively in this market, YTL Communications needed to offer high-quality data services to its customers while reducing its operating costs. It also required to launch innovative new offerings to the market quickly while also improving customer experience on its network.

In order to meet these requirements, YTL Communications underwent a transformation programme that deployed an all new BSS and OSS support system from Elitecore, replacing solutions multiple existing vendors. The deployment was completed in under 10 months, allowing YTL Communications to launch its new 4G network on schedule. The transformation has been very successful for YTL Communications, allowing it to offer new services rapidly while also cutting down on the support costs by simplifying the overall architecture and improving platform flexibility.

For writing this case study, Analysys Mason spoke with representatives from both YTL Communications and Elitecore.
Business environment: Rising smartphone penetration and demand for faster data access will drive growth in a highly competitive market

Malaysia is a highly competitive communications market with four large mobile operators and fixed broadband service providers. In mobile, traditional voice and messaging revenues has been in decline mainly due to the growing popularity of OTT applications for voice and messaging. Demand for data has soared, driving adoption of 3G and 4G data plans.

CSPs across the country are investing to strengthen their 3G coverage and building new 4G sites to support the growing demand. Smartphone penetration is currently under 50%, which offers substantial room for growth. Affordable and feature rich devices strengthened by strong network quality and coverage will drive the growth in mobile penetration and mobile data usage.

YTL Communications plans to cash in on the surging demand for high speed data services by offering both mobile and fixed service plans on its all-IP network with a very aggressive data pricing plan.

![Figure 2: Fixed and mobile service revenue, mobile penetration and fixed broadband penetration, Malaysia, 2010–2014](image-url)
YTL Communications: Part of the YTL conglomerate, it has set out to disrupt the telecom industry in Malaysia with an all-IP high speed network

YTL Communications is a subsidiary of utilities company, YTL Power International Berhad. It serves as the telecommunications arm within the wider YTL Corporation Berhad Group. Both YTL Power International and YTL Corporation are listed on Bursa Malaysia (the Kuala Lumpur Stock Exchange).

YTL communications, under the ‘yes’ brand, offers data and connectivity services in Malaysia. It is the only all-IP network in the country and claims coverage of 85% of the population. YTL Communications was also the first to launch VoLTE services in the country.

YTL Communications launched the WiMAX network in 2010 and has several million subscribers currently. The 4G LTE network was launched in June 2016 and has already gained over 300k customers. The new 4G network was launched with much fanfare and YTL expects to add around 2 million subscribers annually.

In order to better compete with the larger mobile incumbents in bringing new offerings to the market and providing better customer service, YTL Communications decided to undertake a complete transformation of its underlying support systems. The support systems deployed during the WiMAX deployment was nearing end of life and was expensive to upgrade since it involved multiple vendors. YTL decided to adopt the best of suite approach to transformation and outsource the support operations as a managed service. The project has helped YTL improve customer service, reduce support costs and launch innovative new offers.
Simplify support infrastructure, improve customer service and launch new services swiftly were key drivers for the transformation

After winning the spectrum for LTE services, YTL set itself a bold target of becoming the largest LTE service provider in Malaysia and acquire two million subscribers every year. It planned to launch nationwide 4G LTE services within 12 months and provide coverage to over 80% of the country’s population. YTL also wanted to become the first CSP in Malaysia to offer VoLTE services. Besides, YTL had also tied up with Samsung to launch their new smartphone exclusively on YTL network on the day the LTE network went live. In order to ensure the timely and successful launch of its 4G mobile network, YTL had to put in place the necessary support systems.

At the same time, the support systems deployed by YTL for the WiMAX services some years earlier was nearing end of life and required expensive upgrades. Besides those systems were from multiple vendors which increased the complexity of managing the support infrastructure.

In order to ensure a seamless customer experience across both its 4G LTE and WiMAX networks, YTL decided to invest in upgrading its entire BSS support framework alongside the deployment of the new LTE network. This would allow YTL to leverage its fixed and mobile infrastructure to offer customised bundles to customers, which was expected to improve loyalty and stickiness. Besides, YTL also wanted to improve its time to market for new offerings and services, which would allow it to compete more effectively against the larger mobile incumbents.
Strong portfolio, ability to deliver in a short time frame without third party involvement were key criteria in vendor selection

YTL had millions of WiMAX subscribers, and the support systems were provided by four different vendors for provisioning, billing and policy management systems. The new vendor was expected to consolidate all these functions into a single platform. This was further complicated by a very tight schedule, which did not allow for phased migration of subscribers and parallel runs of the new system alongside the old one.

In order to select the vendor who would lead the transformation project, YTL conducted an extensive review of key vendors including the incumbents. Based on previous experience of the complexity of dealing with multiple vendors, YTL favoured a single vendor who could offer the entire stack as a turnkey project. YTL was also keen on doing multiple references before making a final decision.

Following extensive analysis, YTL selected Elitecore as the lead vendor for the transformation. Even as POC for the project was underway, Elitecore was deploying the AAA server in YTL. This gave Elitecore an added advantage since YTL had first hand knowledge of working with Elitecore. During discussions with Analysys Mason for this case study, YTL highlighted that Elitecore was not selected because of any advantage on price but rather the decision was based on multiple customer references, Elitecore’s firm commitment to deliver within very aggressive timelines and their overall responsiveness to specific YTL demands.

Figure 5: Key criteria considered by YTL Communications for vendor selection

<table>
<thead>
<tr>
<th>Vendor selection criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong portfolio, ability to provide the entire stack</td>
</tr>
<tr>
<td>Ability to integrate and deploy solution without SI support</td>
</tr>
<tr>
<td>Ability to deliver on very aggressive timelines</td>
</tr>
<tr>
<td>Ability to provide multiple customer references</td>
</tr>
<tr>
<td>Flexible, accommodative of specific YTL requests</td>
</tr>
</tbody>
</table>

“We wanted a vendor who was hungry to work with us, who would give us the right attention”

Ali Tabassi
COO, YTL Communications

Source: Analysys Mason
The implementation was completed successfully in record time, allowing YTL Communications to launch 4G LTE services on schedule

The entire implementation was treated as a greenfield one and done in two phases. In the first phase, YTL stationed its team at the Elitecore development centre in India to ensure project stayed on schedule and on scope. They had frequent reviews with the team even as the development was going on, which helped ensure there were no deviations from the plan.

The second phase kicked off once the development was complete. The teams moved to YTL offices in Malaysia, where the testing took place. Since there was no plan to do a parallel run, YTL and Elitecore focussed on extensive testing with several hundred use cases. The system went live in June 2016, within 10 months of project initiation.

The new system has a single BSS/OSS stack for provisioning, policy management, mediation and billing. The new system simplified network and upstream routing while also creating a single repository for all customer information.

The deployment supports both LTE and WiMAX use cases and also hybrid ones that depend on both these networks. The solution was deployed on YTL premises as a managed services wholly administered by Elitecore. Elitecore managed the entire lifecycle of the project with support from the YTL team and no SI was involved in the process. Elitecore has stationed around 25+ people in Malaysia to support the managed services on an ongoing basis.

<table>
<thead>
<tr>
<th>Business Function</th>
<th>Solution deployed</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSS Suite</td>
<td>Elitecore BSS</td>
<td>Enables and supports&lt;br&gt;  - E2E Customer Life Cycle&lt;br&gt;  - Product Life Cycle Management&lt;br&gt;  - Inventory Life Cycle Management&lt;br&gt;  - Rating &amp; Charging&lt;br&gt;  - Payment &amp; Collection Management</td>
</tr>
<tr>
<td>AAA</td>
<td>Elitecore AAA</td>
<td>EliteAAA centrally manages the authentication of subscribers and devices and authorizes them for appropriate level of service and ensures reliable accounting of usage.</td>
</tr>
<tr>
<td>Work Order Management (WOM) &amp; Provisioning</td>
<td>Elitecore Provisioning</td>
<td>The WOM and provisioning processes is key to precisely configuring the network to meet specific customer requirements around ordering and fulfillment etc.</td>
</tr>
<tr>
<td>Policy Control</td>
<td>Elitecore PCC</td>
<td>Elitecore Convergent PCC Solution is a 3GPP 11 compliant next-generation Policy and Charging System designed to meet the evolving CSP requirements of service agility, data monetization and process optimization that allow CSPs to differentiate its offerings and enhance their customer experience.</td>
</tr>
<tr>
<td>Component Access Layer</td>
<td>Elite CAL</td>
<td>This is a light weight software oriented architecture (SOA) based layer that provides seamless integration with third party systems and integrates Elitecore solution with upstream and downstream systems.</td>
</tr>
</tbody>
</table>

Source: Elitecore and Analysys Mason
The migration strategy adopted was big bang followed by three delta iterations to transfer over all subscriber and data information

The migration strategy was a critical part of the overall deployment of the new platform. The tight deadline that YTL was sticking to meant that migration of customers in phases where both the old and new systems would be run in parallel over a period of time was a non-starter.

YTL and Elitecore went for the big bang migration approach, where most of the customers and their information were migrated onto the new platform in a single go, followed by multiple runs of migrating the incremental delta until all current data and subscribers were fully on the new platform. This approach, while much quicker than doing the migration in phases, was much more risky since services could be disrupted if there was any unplanned incident in the migration process.

In the first stage all data older than 25 days was moved over onto the new system, followed by three incremental migrations until the current data was on the new platform. Each stage of the migration involved extraction of data from the old systems, followed by transformation of the data into appropriate formats and loading into the new systems and finally extensive reconciliation of the loaded data with that from the old systems to ensure no missing records.

In order to ensure a successful migration, YTL and Elitecore worked together to trim down over 1500 unique offers to 75 plans with 250 add-ons. Over five years of operational data (around 800 million CDRs) was also migrated over onto the new system.

![Migration Strategy Diagram](source:image-url)
The transformation program has been very successful for YTL, allowing it to offer new services, cut cost and improve customer experience

The transformation of the supporting infrastructure has very been very successful for YTL, allowing it to launch the highly publicised 4G LTE network on schedule. It has also helped with partner relationships with vendors such as Samsung, which launched their new smartphone in the country to coincide with the launch of the network.

In general user experience has improved as well, since customer support representatives are now able to view all relevant customer information in a single place. Moreover, having a single support infrastructure for both its 4G and WiMAX networks has helped streamline customer experiences across these networks. YTL Communications has since launched the successful ‘Double’ plan, which offers one of the lowest data tonnages in the country and provides customers a single plan for both mobile and broadband usage. The new plan has been well received and supports real time tracking of customer usage across both networks, which was not possible earlier.

The transformation has also realised substantial cost savings, thanks to the move from a complex multi vendor environment to a single vendor model which has simplified the overall architecture. The day to day operations of the new systems is run as a managed service by the vendor, which has resulted in opex savings of around 40%.

<table>
<thead>
<tr>
<th>Old system</th>
<th>New system</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separate systems required for different BSS functions such as policy, AAA and charging.</td>
<td>A single convergent platform that can support the entire BSS stack functions</td>
<td>Moving from a multi vendor environment to a single vendor environment has resulted in simplified architecture and up to 2x opex savings.</td>
</tr>
<tr>
<td>Supported only WiMAX network. Required separate platform for LTE</td>
<td>Can support both networks from a single platform</td>
<td>Significant savings in cost and resourcing.</td>
</tr>
<tr>
<td>Turnaround time for launching new products and offerings was several months</td>
<td>Consolidated system allows much faster turn around times for new offerings</td>
<td>Considerably improves service agility and the ability to respond quickly to market demands</td>
</tr>
<tr>
<td>System upgrades were cumbersome as multiple vendors had to be involved in any changes to ensure continuity</td>
<td>Single vendor environment allows for seamless upgrades and simplified support requirements</td>
<td>Seamless upgrades allows for a futureproof architecture that can support new and emerging use cases</td>
</tr>
</tbody>
</table>

Figure 8: Some of the key benefits from the transformation
About the author

John Abraham (Senior Analyst) is part of the BSS practice in Analysys Mason’s Telecoms Software Research team. He leads our Revenue Management programme and also our initiative in covering the telco related professional services segment. Besides John is also leading the research on digital experience for monetisation platforms, as part of the Digital Experience programme. John has been part of the telecoms industry since 2006, and joined Analysys Mason in early 2012. He has worked on a range of telco projects in Africa, Europe, India and the Middle East. Before joining Analysys Mason, he worked for Subex, a provider of BSS offerings. John holds a bachelor’s degree in computer science from Anna University (India) and an MBA from Bradford University School of Management (UK).

Sterlite Tech - Elitecore Contact

L K Pathak  
VP - Marketing and Corporate Communications  
M: +91 9925012059  
E: l.k.pathak@elitecore.com
Analysys Mason’s consulting and research are uniquely positioned

CONSULTING
- We deliver tangible benefits to clients across the telecoms industry:
  - communications and digital service providers, vendors, financial and strategic investors, private equity and infrastructure funds, governments, regulators, broadcasters, and service and content providers.
- Our sector specialists understand the distinct local challenges facing clients, in addition to the wider effects of global forces.
- We are future-focused and help clients understand the challenges and opportunities that new technology brings.

RESEARCH
- Our dedicated team of analysts track and forecast the different services accessed by consumers and enterprises.
- We offer detailed insight into the software, infrastructure and technology delivering those services.
- Clients benefit from regular and timely intelligence, and direct access to analysts.