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SUMMARY

A visionary organization, Spectranet was the first service provider in Nigeria to launch a 4G LTE network. Motivated by its commitment to provide customers with fast and reliable wireless services, Spectranet made the decision to transition its network from WiMAX to LTE in 2013. To get there, Spectranet enlisted Alepo – an expert in 4G data networks.

To facilitate a smooth network transition from WiMAX to LTE, Spectranet needed a complete solution for policy and charging control, billing, and customer management that would support new LTE services as well as legacy business plans during the transition. Flexibility and feature-richness were high priorities, as Spectranet

wanted to be ready to respond to swift market changes. In addition, Spectranet required a solution that was readily scalable, vendor neutral, and future-proof.

After a rigorous selection process, Spectranet chose Alepo to help usher in the launch of LTE services.

“For a rapidly growing business, it was crucial that we found a solution that was future-proof and flexible, without sacrificing robustness,” said Mahesh Bhanarkar of Spectranet. “With Alepo, we found a partner with the experience and innovation necessary to support our business as we entered new markets.”

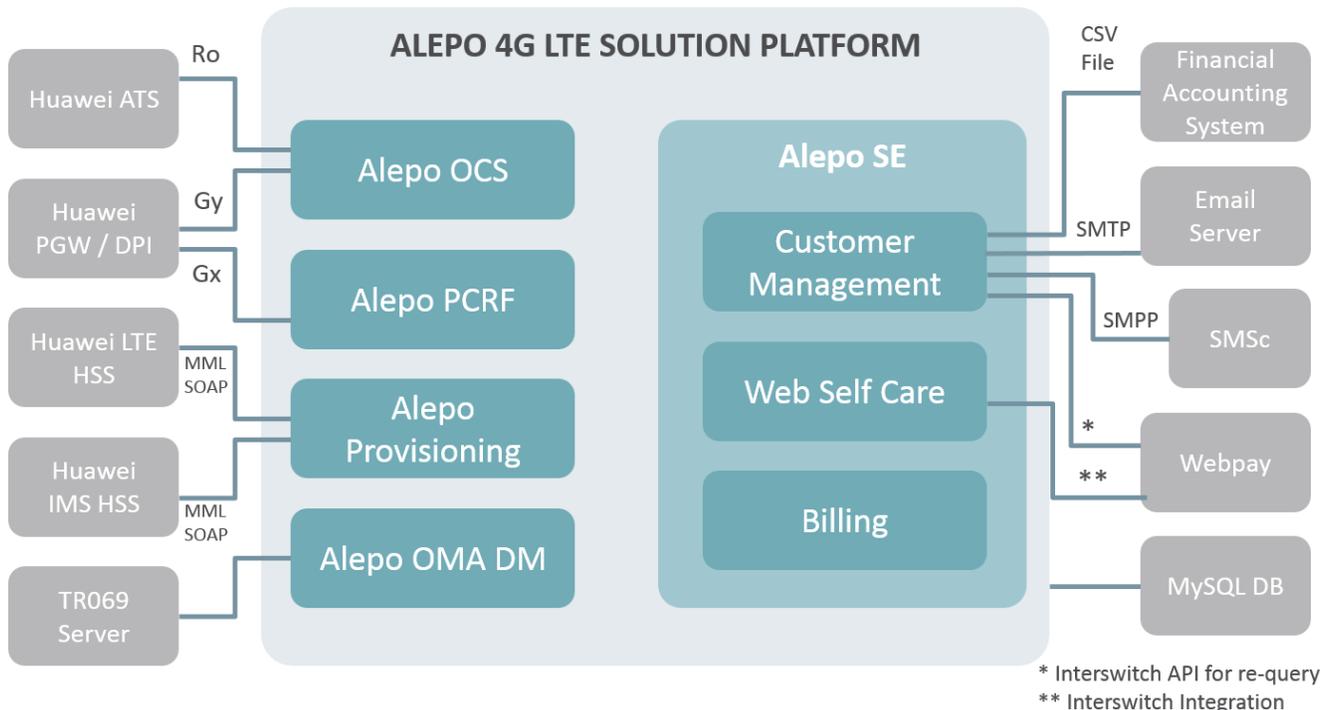
A COMPLETE 4G DATA SOLUTION FROM ALEPO

Alepo provided an end-to-end 4G LTE solution perfectly suited for Spectranet and its diverse, evolving network environment. Alepo's proven, market-ready solution offered Spectranet a solid foundation upon which to launch new LTE services immediately and as its business grows into the future. With full support for both new and legacy data plans and pricing models, Spectranet was able to make a smooth transition from WiMAX to LTE without unwanted disruption to customers or excessive downtime.

Main components and functions of the solution included:

- Alepo Online Charging System for Innovative LTE Pricing Models
- Alepo PCRF for Advanced Policy Control
- Alepo OMA DM for Mobile Device Management
- Alepo Service Enabler for Product, Customer, Enterprise Management
- Alepo SE Web Self Care Portal for a smart and sophisticated customer experience
- Alepo SE Enterprise Portal for daily operations and management
- Alepo SE Agent & Customer Care Portal to manage an ecosystem of Customer Service Agents, Partners, Resellers
- Professional Services: Integration towards LTE (PDN GW), Migration
- Alepo Web Services for external systems integration

HIGH LEVEL SOLUTION ARCHITECTURE



SOLUTION FEATURES & HIGHLIGHTS

Online Charging & Innovative LTE Pricing

With a complete **Alepo Revenue Management** solution, featuring Alepo's 3GPP Online Charging System (OCS), Spectranet is able to monetize LTE services with highly granular and targeted plans, bundles, and promotional offers to its residential and corporate customers. For example, Spectranet can offer different plans in Lagos than in Abuja, different rates for days, nights, weekends, and public holidays, prepaid or postpaid plans with real-time balance management, and can charge for add-on services such as voice over LTE (VoLTE). As desired, Spectranet can readily create targeted promotional offers and loyalty rewards for specific types of users, such as a lower rate for VIP customers or a discount for customer referrals.

The feature-richness and intuitive interface of Alepo's revenue management, charging and billing tools mean that Spectranet can capitalize on the growing demand for high-speed LTE services and stay ahead of its competition to lead the LTE marketplace – today and tomorrow.

Advanced LTE Policy Control

Policy control plays a critical role in the protection and monetization of LTE networks, especially in an era of explosive demand for data services. Spectranet understood this priority and so implemented an **Alepo 3GPP Policy Control and Rules Function (PCRF)** to provide the most advanced LTE policy control. With it, Spectranet is able to prevent bill shock by enforcing real-time policy parameters, sending customer alerts, and performing hotlining of expired customers. Spectranet is also able to extend corporate and parental controls to customers, adding to a smart customer experience.

A Better Customer Experience with Auto-Provisioning & Device Management

Over-the-Air (OTA) provisioning and firmware updates allows for automated provisioning and updates of devices such as LTE CPEs without any required manual intervention by the customer or customer service agent. A hands-off, automated customer experience increases customer satisfaction while reducing the operational costs and burden on customer support centers.

ALEPO SERVICE ENABLER

Alepo Service Enabler is a complete, carrier-grade BSS / OSS software framework that enables the delivery, monetization, and management of the latest IP data services including 4G LTE. With SE, service providers like Spectranet can bring new services to market sooner and manage their day-to-day business operations with ease and efficiency.

Alepo SE's modular architecture allows for a tailored configuration of tools and functions to meet the unique business needs of any service provider, incumbent or Greenfield. The following are featured SE components of Spectranet's LTE deployment.

SE Intuitive Web Portal Management

Alepo's dynamic web portal interfaces bring to life the full functionality of the Alepo SE in a centralized framework, presented in familiar and dynamic Web 2.0 interfaces. Designed with each user in mind – whether a system administrator, billing manager, customer care agent, reseller, warehouse manager or end customer – the web portals empower all Alepo SE users to carry out their individual tasks simply, accurately and efficiently.

Spectranet deployed with the following SE Portals:

- **Alepo SE Enterprise Portal** for operations, system administration & maintenance (OAM)
- **Alepo SE Agent & Customer Care Portal** for sales and customer service representatives
- **Alepo SE Subscriber Portal** for web self-registration and web self-care

SE Unified Customer Management

Intuitive and comprehensive customer management is at the core of Alepo's Service Enabler. With it, service providers like Spectranet are able to:

- Give customer care agents a complete, 360° view of all relevant customer information from a single, intuitive portal
- Easily accommodate any customer type, including family and corporate accounts
- Empower customers to purchase, activate, and manage services and accounts online

Spectranet leveraged Alepo SE's Customer Management tools to support three channels of customer engagement: direct sales via retail shops and over the phone, indirect sales via partners and resellers, and online self-purchase and self-care. Across all of these channels, Alepo SE and portal solutions offered a rich set of advanced features to enable smart, sophisticated customer management.

ALEPO SE SELECT FEATURES

- Unified Customer Management with holistic 360° customer view
- Creation of innovative, granular LTE data plans, bundles, and promotions
- Flexible payment management, including complete voucher management module
- Intuitive, Web-based Management Portals
- Real-Time Reporting and Dashboards
- Robust Inventory Management
- Advanced Trouble Ticketing system and customer audit trail of all transactions
- An enhanced notification framework for real-time SMS and e-mail communications
- Role-based system user management with customizable permissions
- Complete partner and affiliate management

Direct sales and customer care agents have access to a complete, 360° view of all relevant customer information from a single, intuitive portal page. The careful, tabular design ensures efficiency and ease when creating a new customer or addressing concerns. Pop-up notifications prompt agents when maintenance items are needed, such as a password update or account refill, proactively reducing customer issues and frustrations.

For indirect sales and support, Alepo provided a dedicated partner and vendor management solution. Designed to ease daily management and prevent revenue leakage across the partner chain, service provider resellers and affiliates have access to specific customer management tools via the online portal, and they can also be granted a branded portal for use with their own customer base.

Alepo's Web Self Care portal gives Spectranet customers a reliable and convenient way to manage their accounts and services independently. Through a branded online web portal, customers can purchase, top up, pay bills, change services, review account history, submit and track trouble tickets, and more. Online self-care means a more enjoyable customer experience while saving costs in a call center.

Centralized Product Management

All products created in Alepo SE are contained in a centralized product portfolio for ease of management. Alepo SE also supports **market segmentation**, permitting subscribers to be associated with different locations, services, account types, devices, inventory items and other parameters. This allows for extremely targeted marketing campaigns and more personalized service offerings. To ease service purchase and activation, **service fulfillment** in Alepo SE is a fully automated process, from device provisioning to add-on service activation and more.

Real-Time Reporting and Dashboards

Alepo SE offers a robust set of built-in reports and network maintenance dashboards. Spectranet is able to run reports on any specific KPI (key performance indicators), and the reports are presented in graphically rich form. Reports can be configured to be automatically sent via email at set times. As part of Spectranet's deployment, Alepo delivered additional customized reports to suit the service provider's unique business goals.

PROFESSIONAL SERVICES

Integration

As part of the solution deployment, Alepo integrated its standards-based products with multiple third-party vendors. All of Alepo's LTE Evolved Packet Core network elements are 3GPP-compliant with many successful IOTs and real-world deployments, making for an efficient rollout and use. For Spectranet's LTE network, Alepo integrated with the following external systems -

Huawei E-UTRAN:

- LTE Data HSS for IMSI provisioning
- HSS for IMPI / IMPU provisioning (voice)
- P-GW (Gx interface with Alepo PCRF)
- P-GW (Gy interface with Alepo OCS)
- ATS (Ro interface with Alepo OCS for IMS calls)

Additional Systems Integration –

- Accounting
- SMSc
- E-mail Server
- Payment Gateway (for use of credit or debit card in Alepo WSC)

Migration

Data migration is the process of moving required (and most often very large) volumes of data from existing systems to new systems. During Spectranet's data migration of subscribers and business plans from WiMAX to LTE, Alepo took a number of measures, including inspection, weeding, and cleansing to reduce risk and to ensure the integrity of the data and a smooth migration without interruption to services.

CONCLUSION

In choosing Alepo, Spectranet was able to make a smooth transition from WiMAX to LTE services for its customers across Nigeria. With Alepo as its strategic data solutions partner, Spectranet has continual assurance of a complete 4G LTE solution designed to monetize new data-driven services and to provide a smart, sophisticated customer experience. And, as the LTE market continues to grow along with Spectranet's business, Alepo's solution is a future-proof one that scales painlessly and has the flexibility to support changing business needs.

In addition, with Alepo's decade of industry experience and vast library of APIs, Spectranet is assured of a seamlessly integrated, best-of-breeds network. With round-the-clock support from Alepo's expert team of engineers and support specialists, Spectranet's network is sure to remain as powerful, reliable and efficient in the future as it is at launch.

To request more information on any of the products or components discussed in this case study or to discuss how your business can benefit from Alepo's suite of network and IT software solutions for LTE and other broadband technologies, please contact us today.

www.alepo.com

About Alepo

Alepo is a leading provider of IT and network infrastructure software solutions for communications service providers worldwide. Alepo works closely with market leaders including Vodafone, MTN, France Telecom, and Digicel, empowering them to compete aggressively and realize data opportunities across technologies and generations. Alepo is proud to support innovative market leaders as they evolve in the telecommunications marketplace.

Founded in 1994, Alepo is a major player in revenue and customer management, packet core evolution, carrier Wi-Fi, mobile data offload, fixed mobile convergence, and more. Today, Alepo's solutions reach millions of global subscribers, spanning technologies like LTE, HSPA+, ADSL, and Wi-Fi.

With core values of constant innovation, customer satisfaction, and recognizing and rewarding merit, Alepo strives to stay at the forefront of telecommunications technologies. Maturity, stability, and innovation make Alepo a leading solutions vendor for greenfield and established service providers.

Follow us online www.alepo.com | [Twitter](#) & [Facebook](#) @AlepoUSA

Global Headquarters

Austin, Texas, USA
+1 (512) 879 1030
sales@alepo.com

LATAM Regional Sales

Buenos Aires, Argentina
+54 11 4711 8235
latam.sales@alepo.com

EMEA Regional Sales

London, United Kingdom
+44 79 37 57 21
emea.sales@alepo.com

APAC Regional Sales

Mumbai, India
+91 9820145547
apac.sales@alepo.com