CORPORATE ENGINEERING

ESG

CASE STUDY

TECHNOLOGY CONSULTING FOR EV-DO COMMERCIALIZATION

Delivering technical evaluations and services to operators

Qualcomm Corporate Engineering's ESG provides network deployment and optimization services to help operators worldwide efficiently and cost-effectively deploy advanced wireless networks.

SITUATION

Meeting the demand for advanced 3G services

Demand for smartphones continues to grow and expand to the masses; in January 2012 Gartner estimated 2011 smartphone sales reached 477 million, representing an increase of 60% year-over-year. To meet the continually growing demand for wireless data services, operators in both established and emerging markets continue to deploy 3G technology and its evolutions. 3G adoption continues at a rapid clip, with approximately 1.6 billion 3G connections globally as of Q4 2011 and another 1.5 billion expected by the end of 2015.

(Wireless Intelligence, Jan '12)

CHALLENGE

Implementing best practices during deployment

A CDMA operator in an emerging market was facing the challenge of incorporating 1xEV-DO Rev. A (EV-DO) data services on top of its existing multi-vendor 1xRTT network.

Although the operator had significant experience deploying CDMA2000, they lacked in-house expertise for an EV-DO deployment. To ensure a smooth transition from CDMA2000 to EV-DO, Qualcomm ESG educated the operator's engineers on data core and core RF, network planning and platforms. After assessing the capabilities of the operator's infrastructure vendor, Qualcomm ESG also provided objective expertise and recommendations for developing a core set of processes, procedures, requirements and documentation to carry out the deployment.

SOLUTION

Collaborating with Qualcomm experts

A Qualcomm subject matter expert (SME) identified several pre-deployment projects, including developing a network infrastructure Request for Proposal (RFP); evaluating vendor proposals; and assessing the operator's capabilities and deficiencies.

COMPANY

- CDMA operator in an emerging market
- Large-scale deployment of EV-DO Rev. A
- Project targeted a region of 20+ major markets covering more than 3400 sites

SITUATION

- **Mature CDMA 1xRTT (1X) operator with no prior EV-DO deployment experience**
- **Operator working with relatively new infrastructure providers**
- **Operator desired cost-effective network deployment and device solutions**

SOLUTION

- **Exchange knowledge via classroom training, workshops and on-the-job training**
- **Guide the operator through the RFP process for infrastructure providers**
- **Evaluate and improve network design for non 1-to-1 overlay**
- **Analyze network planning tool parameters**
- **Formulate and execute network and device acceptance test plans**
- **Optimize network parameters via performance assessment exercises**
- **Recommend core set of processes to monitor network health using Key Performance Indicators (KPIs)**

RESULTS

- **Successful and accelerated commercial EV-DO launch**
- **Quick identification of launch gating factors for device and network**
- **Effective knowledge transfer to core technology and operational teams**

CASE STUDY

TECHNOLOGY CONSULTING FOR EV-DO COMMERCIALIZATION

Qualcomm ESG worked closely with the network planning team to develop inputs that were used to determine site selection and design the EV-DO network as a non 1-to-1 overlay with the existing CDMA network (Figure 1).

To verify network design and performance, Qualcomm ESG worked with the operator to develop and execute a detailed acceptance test plan. Test results were analyzed to verify optimal network parameters and identify gating factors affecting a commercial launch.

Post launch, Qualcomm ESG helped the operator to identify Key Performance Indicators (KPIs) and develop processes and procedures to better identify and predict network deficiencies going forward.

RESULTS

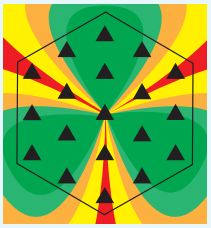
Successful, on-schedule commercial launch

With the assistance of Qualcomm ESG, the operator was able to successfully launch its commercial EV-DO network on time.

Overall, the consultative services provided the operator with:

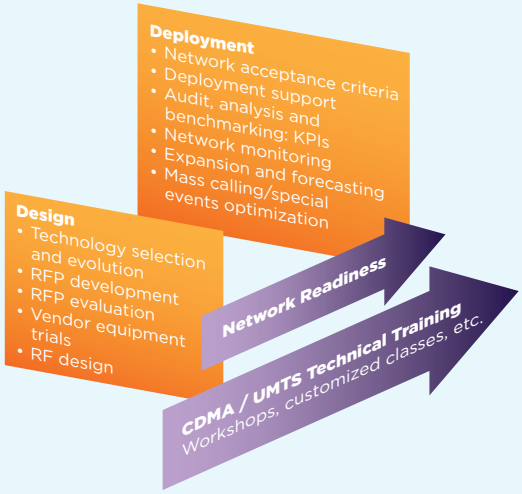
- a solid understanding of EV-DO
- comprehensive RFP evaluations
- test plan for device and network acceptance, including development, execution and results analysis
- core set of technical training, processes, and procedures to roll-out EV-DO

Figure 1: Network Planning for Non 1:1 Overlay



Key Considerations
- *EV-DO Site Placement*
- *EV-DO Coverage*

Figure 2: ESG Services and Technical Consulting



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