

# amdocs customer experience geo-location

## Optimize the RAN for maximum customer impact optimization

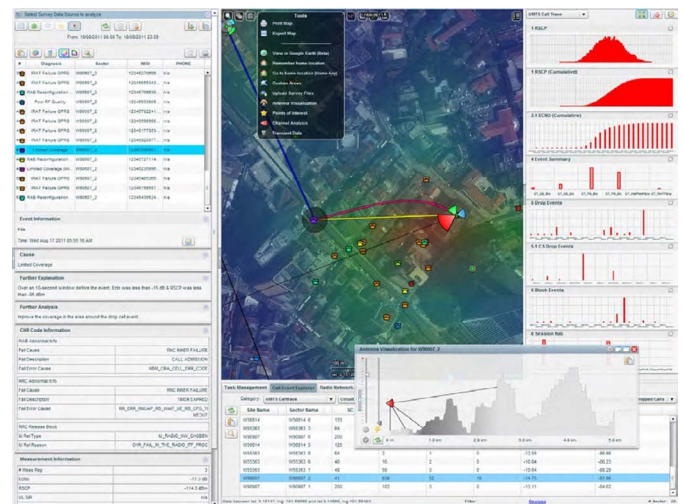
Increasing competition and rising subscriber expectations to consume large volumes of data where and when they want, on any device, is catapulting the importance of the customer's network experience to the forefront. It's only with a clear picture of the customer experience that service providers can accurately target their network investment and optimization activities to improve the customer experience where it will drive the most revenue and provide competitive differentiation.

Customer experience is the primary differentiator for operators – especially in saturated markets where operators are transitioning from customer acquisition to customer retention. However, operators have traditionally based their success on the ability to improve the overall network key performance indicators (KPIs) rather than on the customer experience. For operators to gain a better understanding of the customer's experience in the radio access network (RAN), what's needed is to therefore implement an effective customer focused strategy.

Lacking a keen understanding of the RAN experience and business impact, operators will face several challenges:

- Aligning resources to improve the experience for VIPs
- Targeting the deployment of 5G new radio mmWave for maximum return on investment
- Understanding the impact of IoT devices on the network and customers
- Isolating customer experience problems caused by the RAN
- Triaging RAN-related problems effectively

A customer-focused strategy enables operators to gain insights about signal strengths for roamers using data cards in a transportation hub, identify poor performance areas causing VIP customer churn, and assess call drop rates for specific phone brands in key enterprises.



Customer Experience Optimization

Amdocs Customer Experience Geo-Location, a component of our comprehensive Centralized Management and Optimization solution, enables operators to leverage critical insights by combining real customer experiences, business data and analytics to provide visibility into the entire customer experience. It does this by automatically building accurate traffic and quality of experience (QoE) maps that enable the identification of congestion hotspots, customer-impacting quality issues and network problems. Furthermore, it ensures that all management and optimization activities are customer value-driven, enabling mobile operators to:

- Isolate the subscriber, location, handset and activity to resolve issues faster
- Target optimization to improve customer experience where it matters (e.g. corporate customers)
- Plan network investment with street-level insights into demand, coverage and capacity

**75% drop in problems related to the customer experience and ability to target new capacity at street level**

### Real Customer Experience

Amdocs Customer Experience Geo-Location allows operators to move away from a network-centric view, by creating a profile of the true customer experience through the capture of call measurement data. This includes geo-locating call measurements to establish where the subscriber is, generating quality of experience KPIs, and then segmenting them according to customer, handset type, call type, roaming status, indoor/outdoor location and time of day.

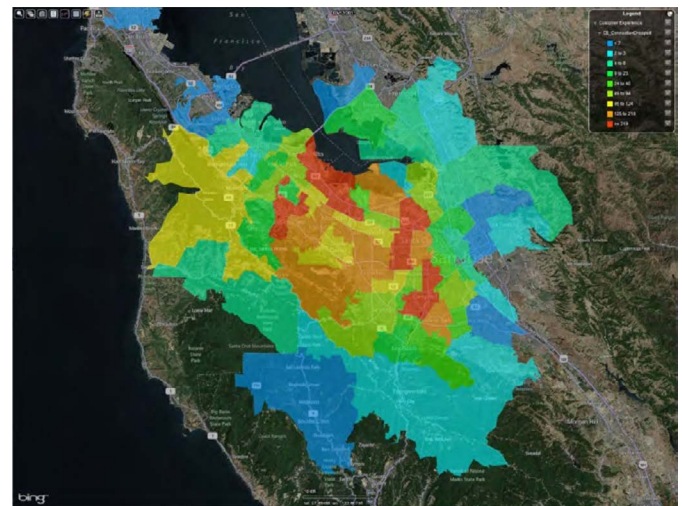
This customer-focused strategy then allows operators to understand the source of network data capacity issues, dropped call rates for all devices and roamer coverage at transportation hubs.

### Link Customer Experience to Customer Value

Amdocs Customer Experience Geo-Location allows operators to correlate key business data and customer experiences to determine business implications of the customer's network experience. It does this by utilizing information from churn records, customer complaints, account information and information of key business locations to identify where customer experience problems are causing business impact. By aligning customer experience to business impact, operators can therefore understand:

- If VIP cooperate customers have poor indoor coverage at corporate headquarters
- Where poor coverage results in customer complaints
- Locations where poor data performance causes iPhone customers to churn

Fully integrate into Amdocs' Insight Big Data Analytics platform to link customer experience to customer value.



Customer Experience KPIs

## Analytics

By combining real subscriber and business data, Amdocs Customer Experience Geo-Location provides unique visibility into how customer experience impacts the operator's revenue and reputation.

The next step is to allow actions to be taken using this new information.

Dashboards and reports allow customer experience data to support work prioritization, management decision making and ROI analysis. Dashboards enable better support of marketing activities and improved management of outsource partners. Meanwhile, flexible analytics combined with out-of-the-box functionality allows key engineering processes to be streamlined, including planning and network performance optimization.

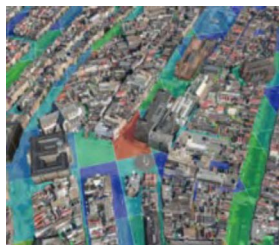
With Amdocs' analytics capabilities, operators can leverage customer experience data to quickly address issues that impact both subscribers and the business, such as network quality, congestion and performance.

Our customer-focused analytics portfolio features two key categories — customer experience visualization and radio analysis. The following is included in each category.

## Customer Experience Visualization

### Traffic Maps

Interactive maps based on real customer location and experience enables the identification of congestion hotspots, customer-impacting quality issues and network problems. For example, the map can be configured to show the locations where congestion-related drops are impacting iPhones during busy hours.



## Customer Network Analytics

Our customer network analytics capabilities proactively monitor network issues impacting enterprise customers and prioritize them based on network quality. Furthermore, it enables engineers to be proactive and focus on how to improve the enterprise customer experience.



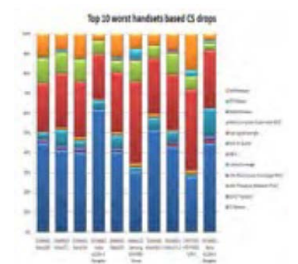
## Smart Cell Placement

Detailed data on customer demand and network performance enables the identification of the best locations for new network capacity, from small cells to macro network expansion.



## Handset / Device Analytics

Handset/device analytics builds a detailed picture of the performance of individual devices/handsets, while ranking reports enable the identification of handset models causing problems.



## High-Value Customer Tracking

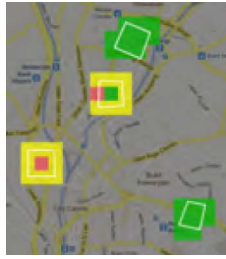
This capability enables the investigation of network activity associated with an individual or a group of subscribers. It establishes where they use the network, their experience and underlying causes of problems. It also allows proactive management of the VIP experience rather than merely reacting to customer complaints. Automatic notification of VIP call failures provides an understanding of where and why VIPs are experiencing poor customer experience. Reports support the management of VIP customer's perceptions of the operator.



Subscriber Analytics

## Key Location Analysis

Key location analysis tracks network performance and customer experience delivered to key locations. It enables operators to quickly see how the network supports critical business locations such as corporate customer offices, retail stores, transport links and so on, (e.g. filtering KPIs to focus on data coverage at train stations).



## Radio Analysis

ActixOne leverages the vast amount of radio measurements collected by the RAN from customer calls and data sessions during normal network operations. It then uses this information to troubleshoot each problem experienced by individual subscribers, and aggregate the results to provide KPIs at the cluster, market or country level.

The optimization process is enhanced and accelerated by our set of radio analyses:

- **RF Analysis** embeds functionality for capacity, coverage, interference and neighbor analysis optimization. It allows engineers to drill down from KPI dashboards and interactive performance maps into a detailed RF analysis. Customer experience data can be combined with network statistics in order to perform a complete analysis. What-if tools allow engineers to understand the impact of proposed changes.
- **Call Failure Analysis:** Advanced call failure diagnostics, based on the Analyzer event engine, automatically establishes the reason for dropped and blocked calls. Actix provides additional diagnostic information over and above that contained in vendor messages, while Drilldown enables detailed layer 3 analysis of individual calls.

For more information, visit

[Amdocs 5G Fast](http://www.amdocs.com)

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- **Handset Analysis:** Rich RF, call and data session information builds a detailed picture of the performance of individual devices. Handset ranking reports speed identification of problem handsets based on drop call rate and RF measurements. These reports provide handset-level information on: data session failures and their underlying cause, RSRP & RSRQ, RRC request types, RAB type breakdowns, accessibility, retainability and mobility.

As a vendor and technology-agnostic solution, Amdocs Customer Experience Geo-Location empowers operators to focus on improving customer experience, increasing engineering effectiveness and targeting marketing campaigns. Complemented by powerful RAN optimization capabilities that allow customer experience problems to be diagnosed and resolved, service providers can:

- Target the complete set of HetNet access technologies (macro, small cell and Wi-Fi)
- Focus network rollout and optimization activities where they will drive greater profitability
- Build accurate location-specific demographics and revenue depictions by linking to Amdocs BSS data
- Use information about customer, location, usage behavior and handsets to design compelling services, target them more accurately, achieve better responses and generate more revenue

