

# Crowd Sourcing



Ever wondered what is the real customer perception of your network? ... and where network improvement is important?

Understanding where subscribers are, service usage habits and perceived network performance, is essential knowledge to effectively optimise networks to improve customer experience and maximize benefit from network investment.

The Streambow Crowd Sourcing solution provides the answer. With a CEM approach database, designed to capture and provide the Operator with a comprehensive set of detailed customer experience metrics, a complete picture of service utilization can be obtained from the real users. With metrics ranging from device status, to network information, associated with georeferencing and service usage details, the solution provides a full overview of the real customer experience.

## Why do you need the solution?

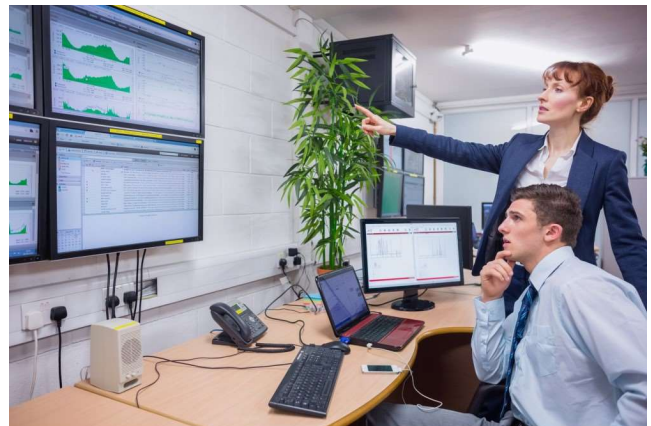
Know coverage footprint, geo-referenced performance countrywide, device behaviour, or service deployment and effectively identify where the trouble spots are from end user's perspective. With this know-how, you can gain a stronger foundation to base your investment/optimisation priorities. Network improvement budgets can be surgically vectored to the real trouble spots where it matters most, where maximum impact on end user experience is obtained.

## Solution highlights

With a flexible measurement methodology covering passive and optional active testing, network performance, network capacity, or App specific constraints may be identified. The powerful Business Intelligence customised dashboards tailored to meet your needs, aggregate, correlate and present the information that matters most to your teams.

The easy to use dashboards simplify staff training needs, existing staff can quickly extract useful information from day 1.

Satisfaction surveys may also be sent to all or to a smaller group of users, to obtain user perception related to an event.



## Technical Solution

Our Xperience solution is based on a simple architecture with probes on end user devices like Smartphones or Tablets, in listen only mode or doing active tests to collect the relevant metrics for uploading to the Xserver.

Testing methodology is flexible, allowing altered scenarios to be distributed to all users, as market needs may dictate.

The Streambow SDK is easily and transparently introduced into your apps, allowing you to manage its customer base and retain full control.

## Remote Management

Central configuration of all registered probes in terms of test policy and scheduling.

## Active Test Data

- HTTP upload, download
- Browsing tests
- ICMP test with round trip time, jitter and packet loss
- App specific tests

## Passive Data Collection

- Collection of device information such as model, operating system and version
- Collection of mobile network data
- Collection of mobile radio and Wi-Fi data
- Localization and time stamping

## Supported devices

Android Smartphones ( $\geq$  V4.1)

## Report Functions

- Predefined report set and customization with Dashboards to meet your needs
- High level aggregated QoS and QoE management reports
- Detailed reports from National level down to cell and device level
- Flexible integration through standard interfaces



## Integration with other systems

- Software Defined Networks (SDN)
- Customer Experience Management (CEM) servers
- Internal workflow management servers
- Weekly Work Plan / Business Planning
- SQM (Quality Management)

## Probes

- Xperience Android App