



# Teltai (Taiwan) Limited

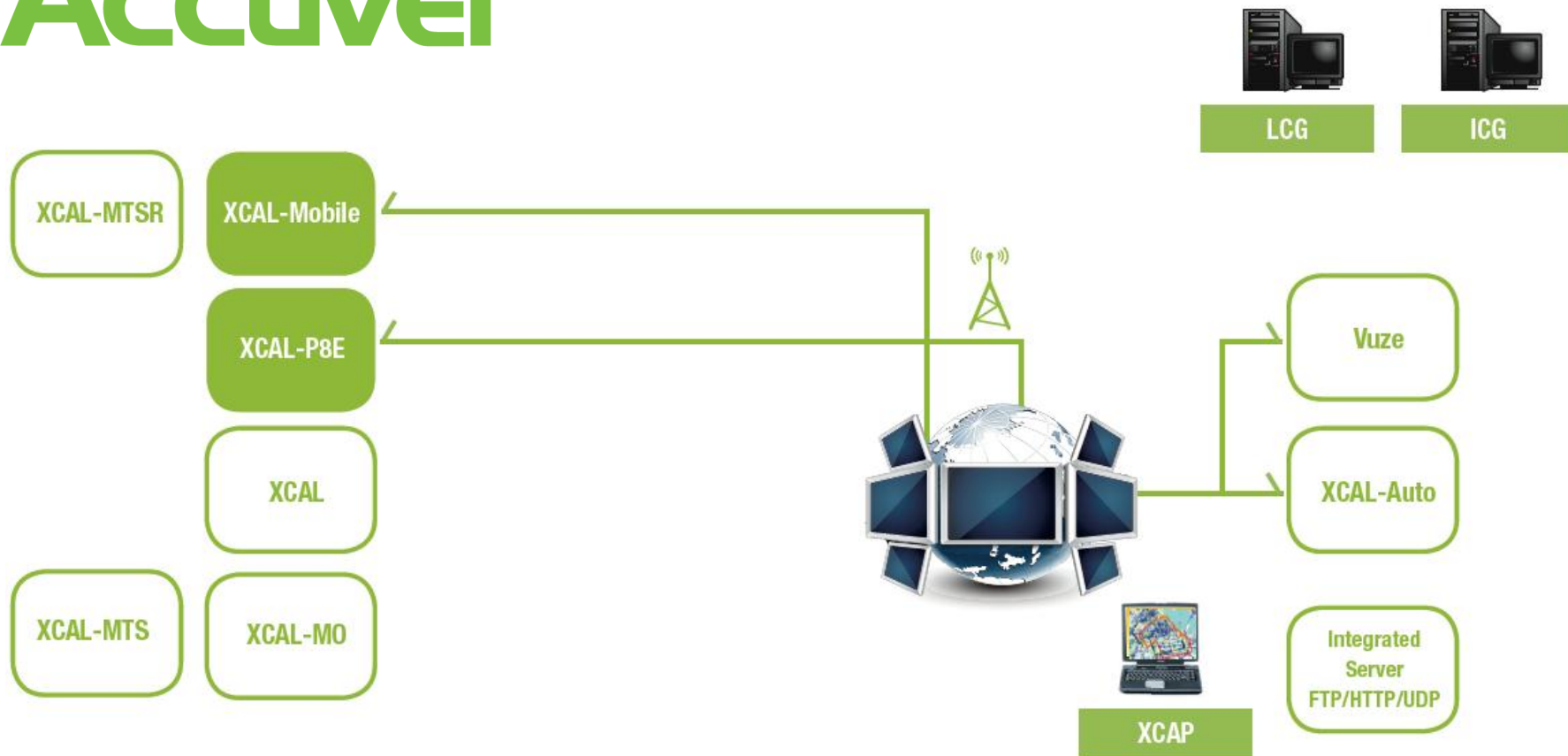
## XCAL-Mobile SmartPhone Solutions





# Accuver Optimization Solutions

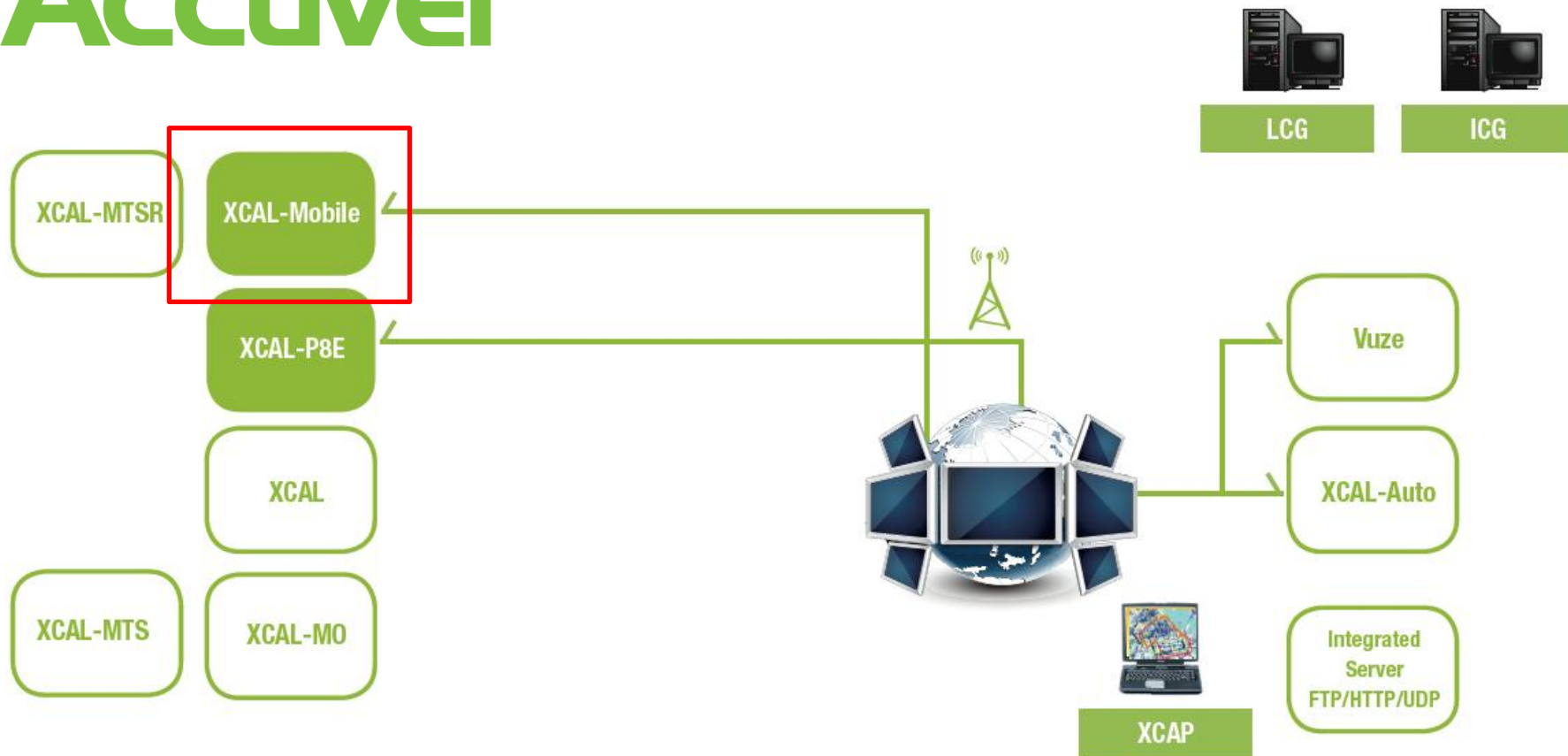
# Accuver





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# Accuver





# XCAL-Mobile SmartPhone Solution

- Business requirement
  - SmartPhone users are key revenue generating subscribers for an operator
  - Android will reach a market share of 50% of the smartphone market in 2015, according to iResearch (Computex – 24 June 2011)
  - Deliver the best possible user experience for value-added services and applications
  - Simulate real users doing real things on real devices
  - Test from the end user's perspective any service
  - Identify issues that affect user experience
  - Pinpoint performance and availability issues
  - Speed up issue resolution
  - Reduce churn



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# XCAL-Mobile SmartPhone Solution

- Enables call testing and data collection using Apple iPhone and Android devices
- Supports the measurement of network data, throughput performance, and voice quality (PESQ)
- Handheld based stand-alone application running on SmartPhones
- Measures and displays basic RF parameters
- AutoCall script feature for voice, web browsing, FTP download/upload and e-mail services
- SmartPhone internal GPS is used for location information





# XCAL-Mobile – Product Description

- XCAL-Mobile SmartPhone Product Description (1)
  - Standalone handheld drive test solution on iPhone and Android devices
  - Compact and versatile for both outdoor and indoor measurement
  - Good for measurements in crowded areas
  - Supported Technologies: GSM/GPRS/EDGE/UMTS/HSDPA/HSUPA
  - Call Test: Voice Call/FTP/HTTP/Ping/e-mail/Wi-Fi Connect/SMS
  - Capable of uploading the log file automatically
- XCAL-Mobile SmartPhone Product Description (2)
  - GalaxyS full DM version supports Qualcomm GSM/UMTS/HSPA parameters with L3 messages
  - Connect to a laptop running XCAL for Voice MOS (PESQ) call tests
  - GalaxyS FD version collects data and displays layer 1, 2, 3 messages of GSM/ WCDMA/HSDPA/HSUPA
  - GalaxyS provides Wi-Fi testing for analysis of Wi-Fi coverage and data throughput performance
- XCAL-Mobile SmartPhone Usage
  - iPhone and Android SmartPhones – standalone or can be connected to XCAL or XCAL-P8E or XCAL-MO for voice quality (PESQ), FTP, Web, e-mail, iPerf and Ping testing
- Log file post processing and analysis in XCAP or Actix





# XCAL-Mobile – Deployment Scenarios

## ➤ XCAL iPhone and Android Smartphones

- Standalone



- Connected to XCAL (Drive Testing)



- Connected to XCAL-P8E (Indoor backpack)



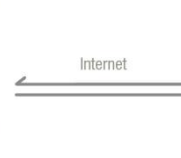
- Connected to XCAL-MO (Benchmarking tool)



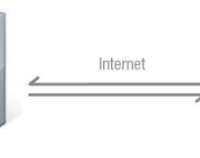
- Controlled remotely by XCAL-Auto



XCAL-Auto Controller  
(Remote Controller)



XCAL-Auto Server



XCAL-P8E





# XCAL-Mobile - Specification

## ➤ Technology

- GSM/GPRS/EDGE/  
UMTS/HSDPA/  
HSUPA

## ➤ Devices

- Apple iPhone  
iOS3.2 or above
- Android 1.5 or  
above

## ➤ GPS

- SmartPhone built-in  
GPS for indoor  
testing

## ➤ Call Tests

- FTP, HTTP
- Android only: Voice Call, Ping, e-mail, SMS, Wi-Fi  
Connect, Multi-RAB

## ➤ Measurement

- Parameters & Call Options (iPhone):
  - RSSI, Ec/No, PSC, RSCP, ARFCN, MCC, MNC CID, LAC
  - FTP download/upload, Web Browsing
- Parameters & Call Options (Android):
  - RSSI, MCC, MNC, CID, LAC / Voice, FTP  
download/upload, Web Browsing, Ping, SMS, MMS, App  
Play, Wi-Fi Connect, Gmail, Multi-RAB
- Parameters & Call Options (GalaxyS FD version)
  - WCDMA – Rx Power, Tx Power, Tx Adjust, Ec/Io, RSCP,  
BLER, UL Interface
  - HSDPA – CQI, Requested Physical Layer Throughput,  
Physical Layer(served) Throughput, Physical Layer  
(scheduled) Throughput, Throughput (kbps) measured in  
MAC-hs Layer, No. of Codes
  - HSUPA – RG, AG Index, SG Index, E-TFCI, UE Pwr  
Headroom, SF Codes, Non Serving Cell ACK, Happy Bit

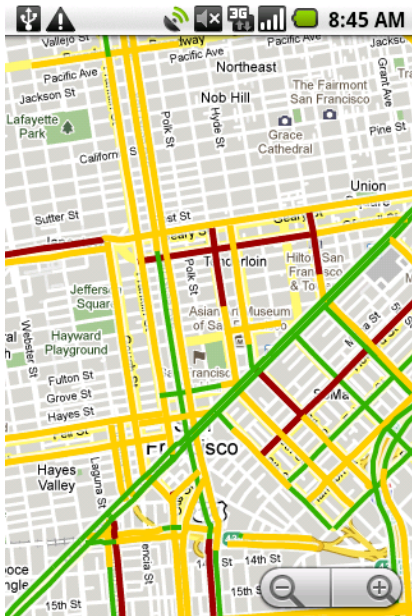




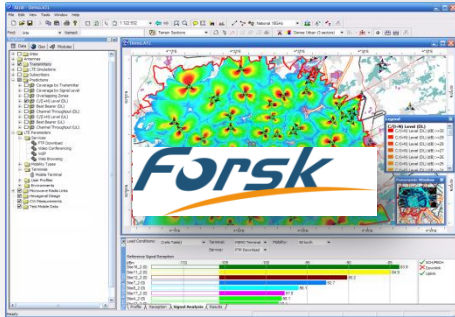
# XCAL-Mobile – Road Map

## ➤ Road Map

- Enhance GUI of Android and iPhone
- Add New Features:
  - Real time Map display of Google Map
  - Import BTS site information
  - Add Voice Call, VOD and multiple call type in iPhone

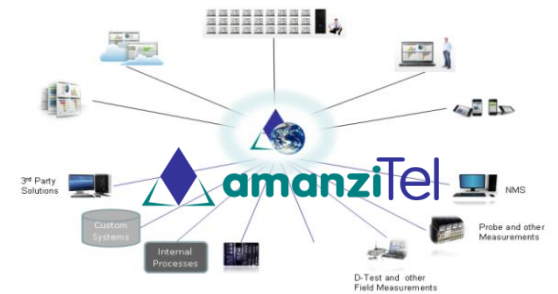
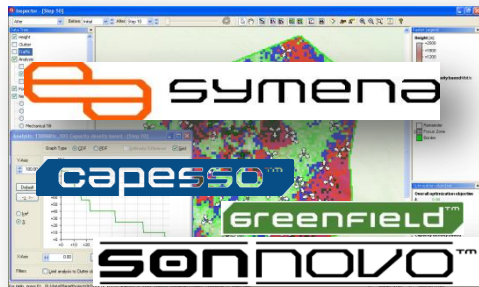


# Solutions available from Teltai



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**XCAL-LTE**  
**XCAL**  
**X2**  
**S1**  
**SGi**  
**LCG**  
**ICG**



THANK YOU