

**xora**

*Powering the Mobile Enterprise*



# From Dial Tone to Location Tone

Phone-based applications in mobile  
workforce management

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# The Perfect Storm - 2002 (USA)

## ➤ The handset evolves

- Not just for talking anymore, phones get Internet, Java, GPS, etc.
- E 911 (Emergency Location) mandate from the FCC
- GPS-enabled cell phones enter the market
- Sprint-Nextel shows leadership in September 2002 with the i88 phone model release – AGPS + J2ME + APIs from Motorola to access GPS (SiRF chipset)

## ➤ A market materializes

- Carriers looking to increase ARPU due to voice minute saturation
- SMBs, pressured to cut costs and improve service, seek out new technologies for managing mobile workers
- Existing market dominated by In-vehicle (Black Box) solutions with high recurring costs (\$35+).....not attractive for workforce management for the SMB customer
- Location “aware” applications emerge.

- Everyone wants to know...
  - Where are my mobile workers right now?
  - Where have they been?
  - What are they doing?
  - Have they been speeding or stopped?
  
- Just a few degrees of separation ....  
between the desire to locate...and the  
desire to communicate

- Control Plane or Network-initiated location
  - The server finds the phone
  - No application required on the handset to locate the phone
  - 'Stealth' mode – attractive for certain businesses
  - Does not work out of coverage
  - Can sample location only at larger intervals (typically 10 mins or more due to scalability concerns)
  
- User-Plane or handset initiated GPS
  - Requires installation of an application on the handset
  - Can sample GPS very fast
  - Works out of coverage
  - Higher likelihood of precision
  - Distributed computing across phones – scalable
  
- In both cases, fallback to cell ID or triangulation (if supported by carrier) when GPS not obtainable

## ➤ After the location sizzle...

- When and where did their shifts start and end?
- Who is the closest tech to the next job and how can we alert him?
- Has a worker gone off his/her route or ventured into an off-limits area?

- Time sheet and event statusing (job, stop, load/unload)....the final units of field work
  - Location-aware and network time aware (Where, When)
  - Office staff with access to web-based maps and business reports
  - Eliminate manual reporting, data entry
  - Integration with back-end systems for route optimization, dispatch, payroll, etc.

## Turn it up a couple of notches

- Bluetooth
- Bar code scanning
- RFID
- Signature capture
- Printing
- Engine monitoring (JBUS)



- Image Capture with Camera Phone: When, Where, What
- Location + Skill + 'Can the driver make it' (drive time from previous job to next job)
- Route optimization
- Predictive traffic
- Back end integration




- I started a building inspection at 8:05 AM, 100 main street and BTW, here's what happened
- What is happening right now ....Video streaming.....EVDO/Mobile Broadband phones



# You can do a lot with a (typical) handset

Spanning capabilities across Field  
Force Management, Field service  
Management and Field Asset  
Management.....

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- You can do a lot with a typical phone – it'll just keep getting better
- Simple yet comprehensive Mobile Workforce Management solutions now available—for a fistful of dollars
- ROI is nearly immediate—sometimes, too good to be true
- As location-based services become more prevalent, affordable and in-the-box, “Location Tone” is expected

- Xora has been in the mobile products business since August 1999
- Company reinvented itself in 2003 by moving to a SaaS (Software as a Service) business model focused on location-aware MRM applications
- Leading provider of the phone based location-aware MRM applications (#1 in the Sprint 'Track' category in 2004 and 2005)
- 6000+ customers. From SMEs to Fortune 500
- Privately held; venture funded; HQ in Mountain View, CA
- Product Development and customer support center in Bangalore, India