



## Private IP Push to Talk Communication Over LTE/Wi-Fi

Walkie Talkie

Private and Group Calls

- Voice
- Messenger, GPS Tracking
- Group Operations

# PROMPT WIRED & WIRELESS COMMUNICATIONS

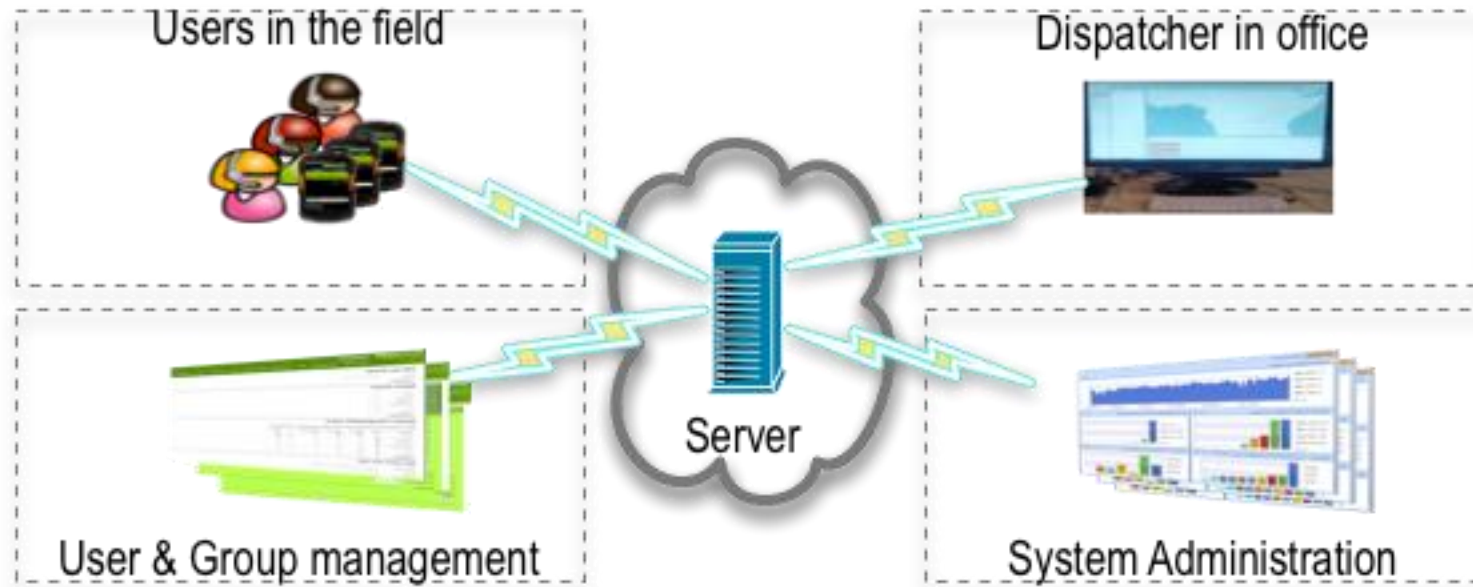
- Founded in 2004
- Based in Cochin, India
- **Wireless** Radio **Se**rvices & Communication **T**echnologies
- Engaged in the Business of Wireless Communication, Safety & Security Equipments, Access Control etc..

# Industry Trends, Opportunity

Public Safety LTE & Mission Critical PTT (3GPP Rel 13 and later)

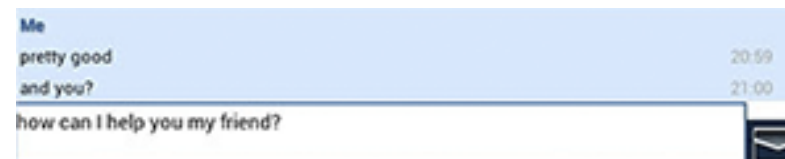
- Global \*LMR/PMR market (to be replaced by PUSH ToTalk-type of solutions):
  - USD9 billion annual spending and growing (source: Sepura 2010)  
Currently dominated by proprietary technologies, such as TETRA, APCO-25, MPT-1327 and various analog and digital handsets and trunked solutions
- Public Safety LTE (PS-LTE) deployments has started in large scale; Mission Critical PTT (PTT over LTE) is mandatory part of PS-LTE:
  - USA: USD 7.2 bln government allocation for FirstNet to replace P25 and others by PTT over LTE
  - UK: GBP 1.2 bln allocation to replace TETRA (Airwave) by MCPTT
  - South Korea: USD 840M allocation to replace current TETRA, VHF & iDEN by MCPTT
- This trend will open opportunities in private sectors (=our target)

# Functional entities

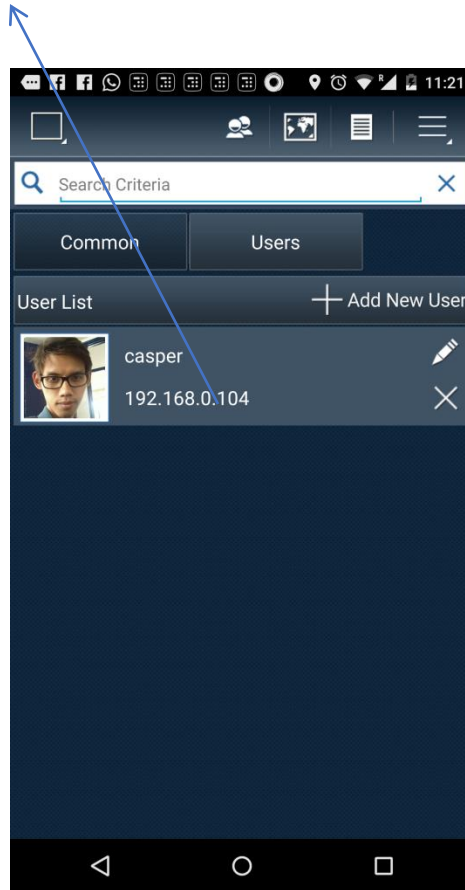


# PTT Pro Ace is for Communication

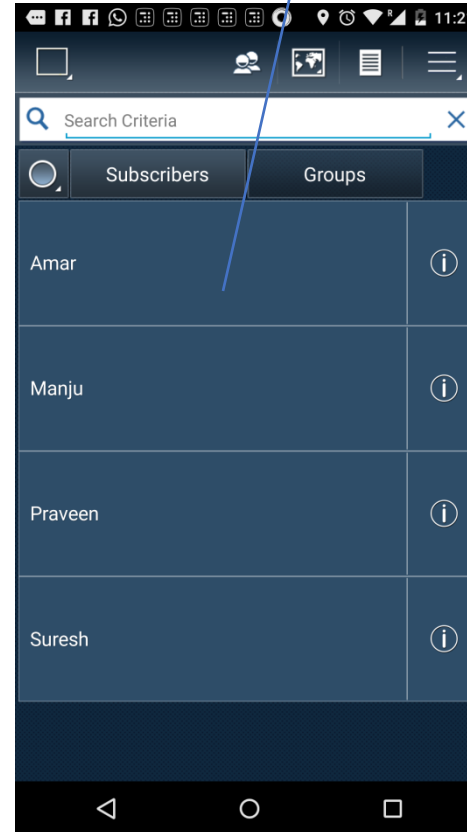
- Push to Talk Voice Calls
- Messenger. Text, Images and File Exchange
- GPS Tracking
- Legacy system Patch
- Dispatcher Console



USER



User /Group List



Location



# PC Dispatch Console

Activity Log

Dispatch Console

View Tools Reports

Calls

Amar PTT

Reset Group PTT

11:02 AM WF

Administrator PTT

Amar PTT

11:02 AM WF

Administrator PTT

Casper PTT

Fleet

WF

Reset Group PTT

Amar PTT

Casper PTT

Manju PTT

Praveen PTT

Suresh PTT

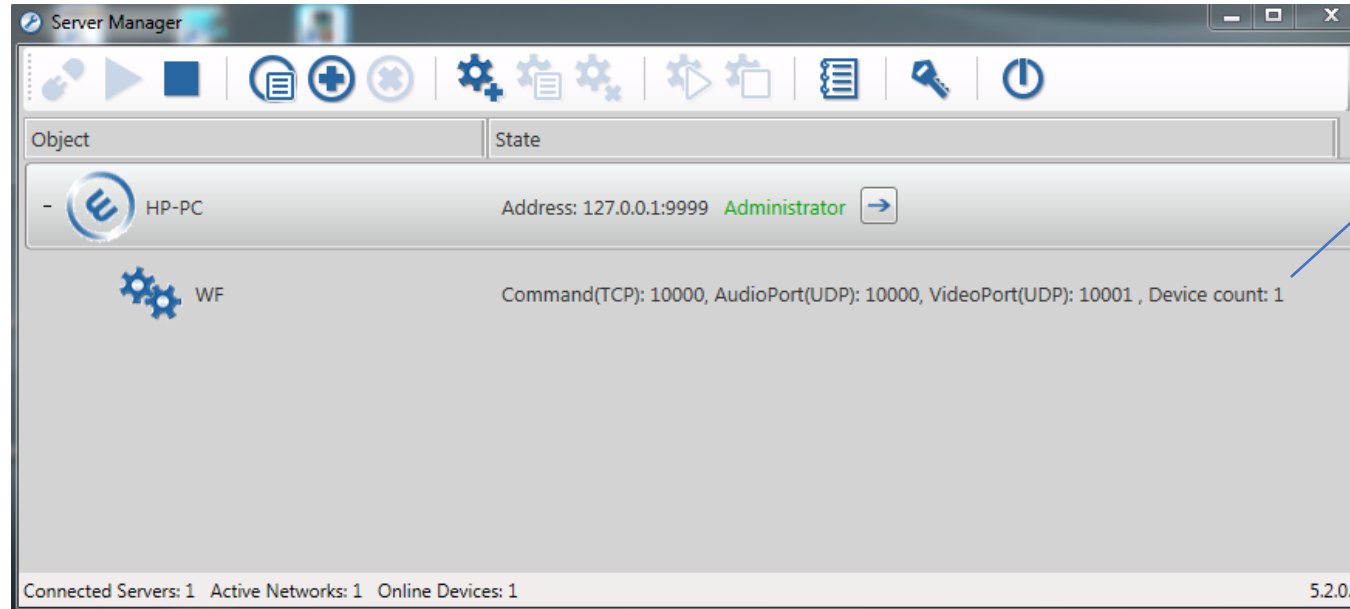
Event Log

Event Type	Date/Time	Dispatcher	From	To	Duration, s	Description
Voice PTT Emergency	08-Jun-18 11:02 AM	administrator	Amar	Reset Group	0	+Amar
Voice PTT Private	08-Jun-18 11:02 AM	administrator	Administrator	Amar	5	
Status	08-Jun-18 11:02 AM	administrator	Amar			status: No Status
Voice PTT Private	08-Jun-18 10:59 AM	administrator	Administrator	Casper	9	
Voice PTT Emergency	08-Jun-18 10:58 AM	administrator	Casper	Reset Group	1	+Casper
Voice PTT Private	08-Jun-18 10:58 AM	administrator	Casper	Administrator	5	
Status	08-Jun-18 10:58 AM	administrator	Casper			status: No Status
Voice PTT Private	08-Jun-18 10:58 AM	administrator	Suresh	Administrator	7	
Voice PTT Emergency	08-Jun-18 10:58 AM	administrator	Suresh	Reset Group	3	+Suresh
Message Private	08-Jun-18 10:57 AM	administrator	Suresh	administrator		hi how are you ?
Message Private	08-Jun-18 10:57 AM	Administrator	Administrator	Suresh		i am good thank you
Voice PTT Private	08-Jun-18 10:56 AM	administrator	Administrator	Suresh	6	
Message Private	08-Jun-18 10:56 AM	Administrator	Administrator	Suresh		hello
Status	08-Jun-18 10:56 AM	administrator	Suresh			status: No Status
Video PTT Private	08-Jun-18 10:55 AM	administrator	Administrator	Manju	9	
Voice PTT Private	08-Jun-18 10:55 AM	administrator	Manju	Administrator	19	
Status	08-Jun-18 10:55 AM	administrator	Manju			status: No Status
Voice PTT Emergency	08-Jun-18 10:54 AM	administrator	Praveen	Reset Group	2	+Praveen
Voice PTT Emergency	08-Jun-18 10:54 AM	administrator	Praveen	Reset Group	3	+Praveen
Voice PTT Private	08-Jun-18 10:54 AM	administrator	Praveen	Administrator	8	
Status	08-Jun-18 10:54 AM	administrator	Praveen			status: No Status
Voice PTT Emergency	08-Jun-18 10:53 AM	administrator	Amar	Reset Group	4	+Amar
Voice PTT Private	08-Jun-18 10:53 AM	administrator	Amar	Administrator	7	
Voice PTT Private	08-Jun-18 10:53 AM	administrator	Administrator	Amar	6	
Status	08-Jun-18 10:53 AM	administrator	Amar			status: No Status
Voice PTT Private	08-Jun-18 10:52 AM	administrator	Administrator	Casper	7	
Voice PTT Private	08-Jun-18 10:52 AM	administrator	Casper	Administrator	7	
Voice PTT Emergency	08-Jun-18 10:52 AM	administrator	Casper	Reset Group	2	+Casper
Voice PTT Emergency	08-Jun-18 10:52 AM	administrator	Administrator	Reset Group	2	+Administrator
Voice PTT Emergency	08-Jun-18 10:51 AM	administrator	Administrator	Reset	1	+Administrator

5.2.0.0



# PTT Pro Ace Server



Server  
Networks

- Works on Windows Platform
- Supports multiple communication networks
- Control over dispatchers, users, groups, statuses, etc.



# Push to Talk Voice Calls

- Private and Group PTT Calls
- Everything is recorded
- AES256 encryption



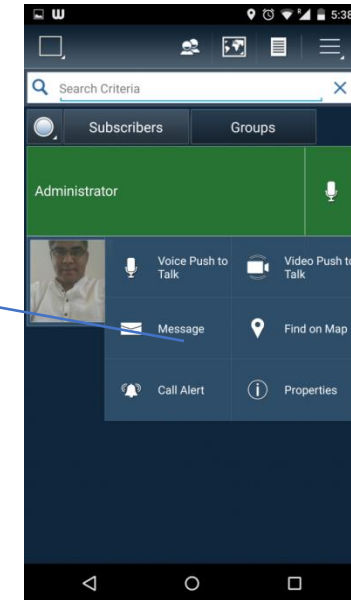
Like professional radio, but:

- Cheaper
- More functional
- Easy to deploy

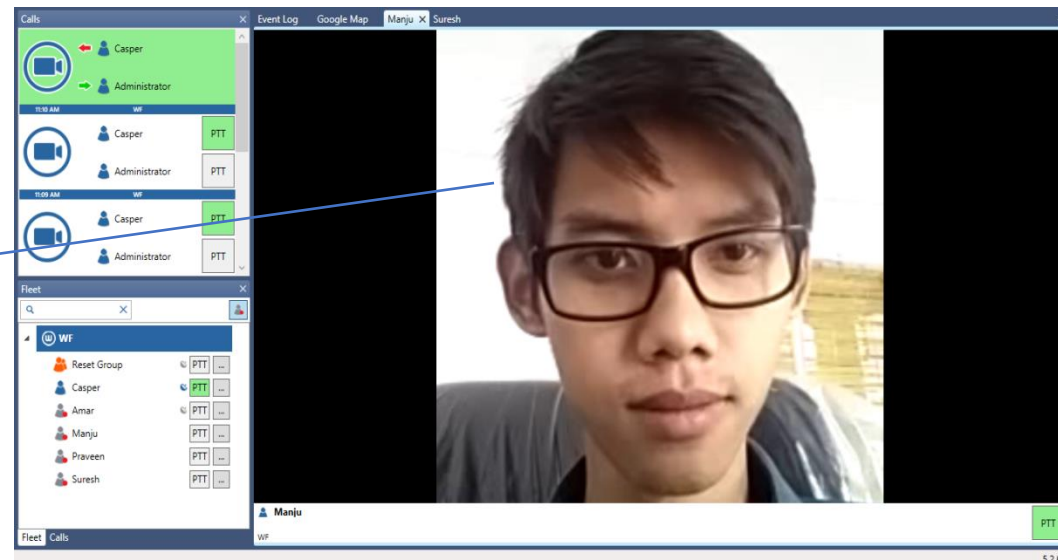


- Private and Group PTT Video Calls
- Front and rear cameras supported
- Everything is recorded
- AES256 encryption

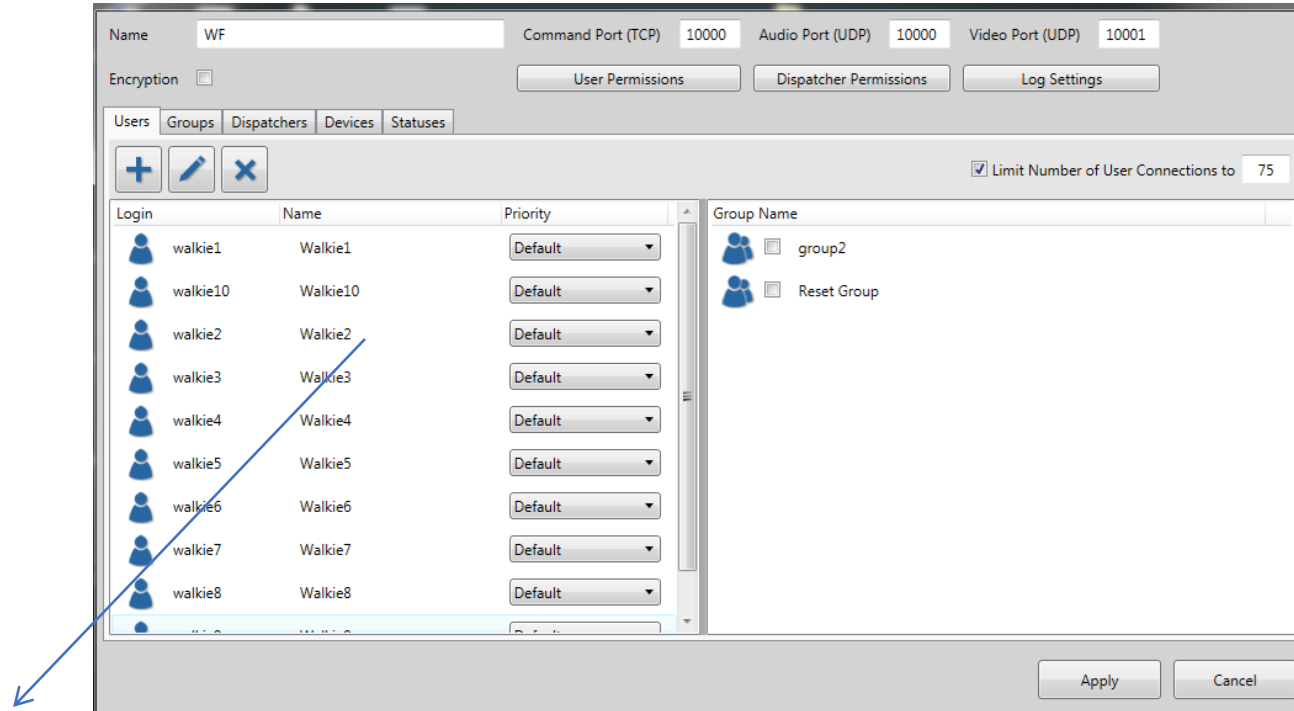
Various Call Options



PTT Video Call

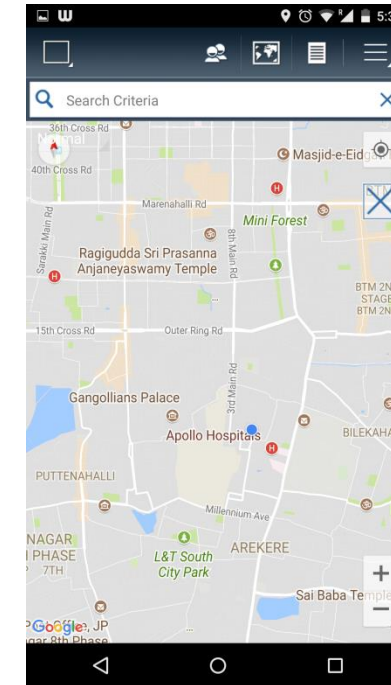
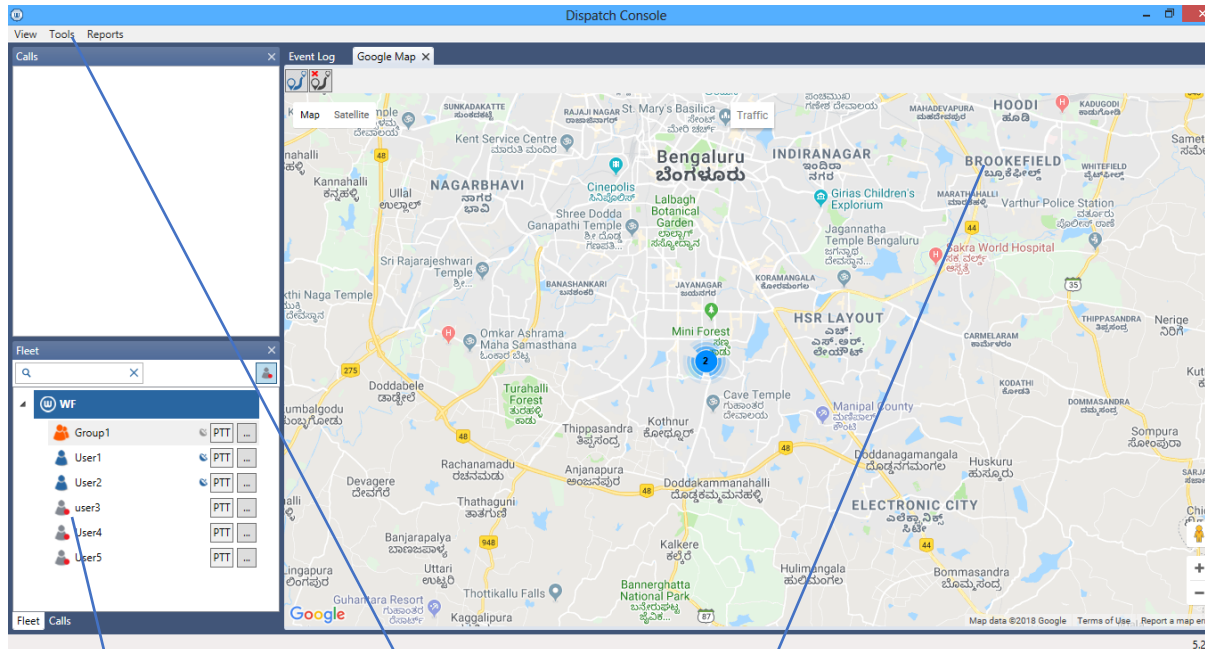


# Group and User Priorities



- Group with higher priority supersede group call with lower priority
- Emergency group call is highest priority and supersede any other type of call
- User with higher priority can supersede user with lower priority in scope of ongoing group call

# GPS Tracking

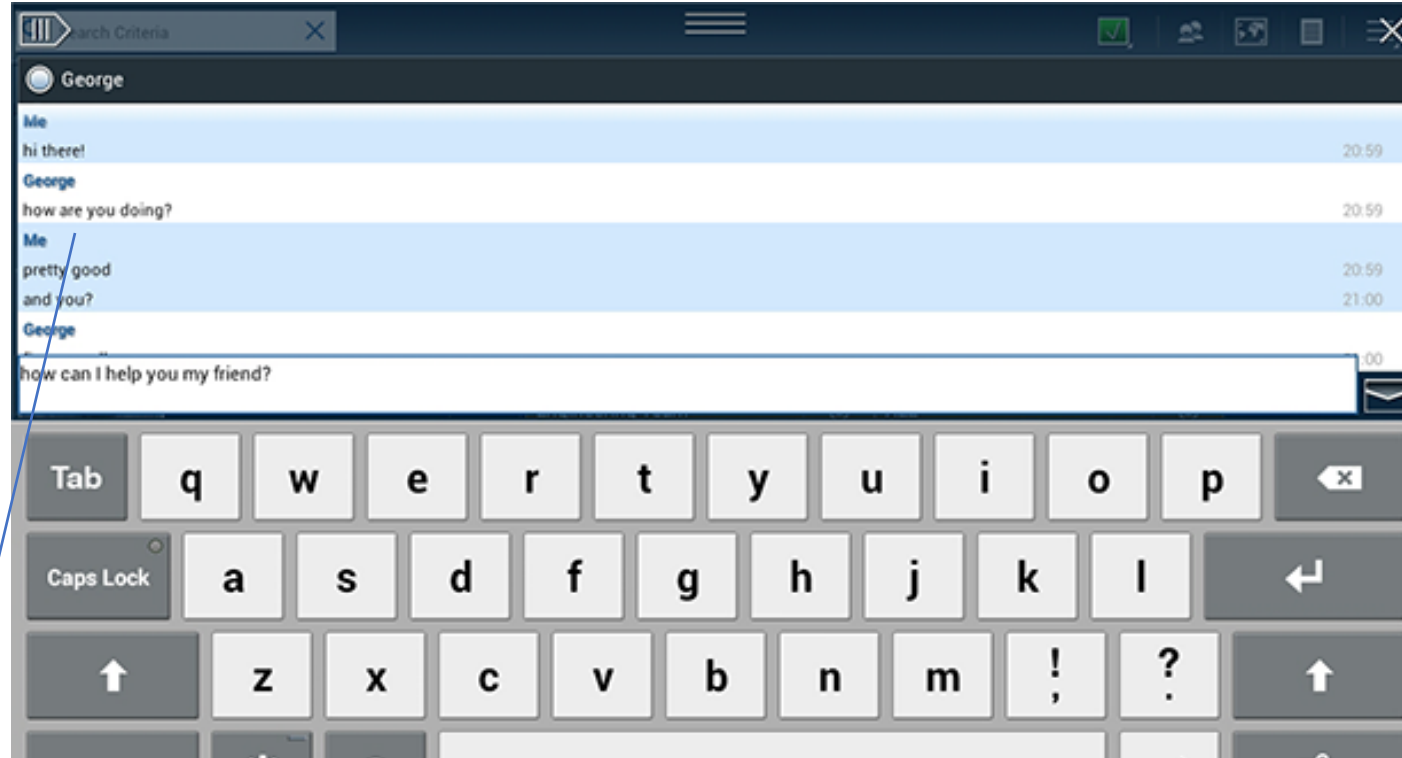


- Google Map and OpenStreetMap Support
- Private and Group GPS Tracking
- Location by request (where are you?)
- Automatic tracking (location every N seconds)



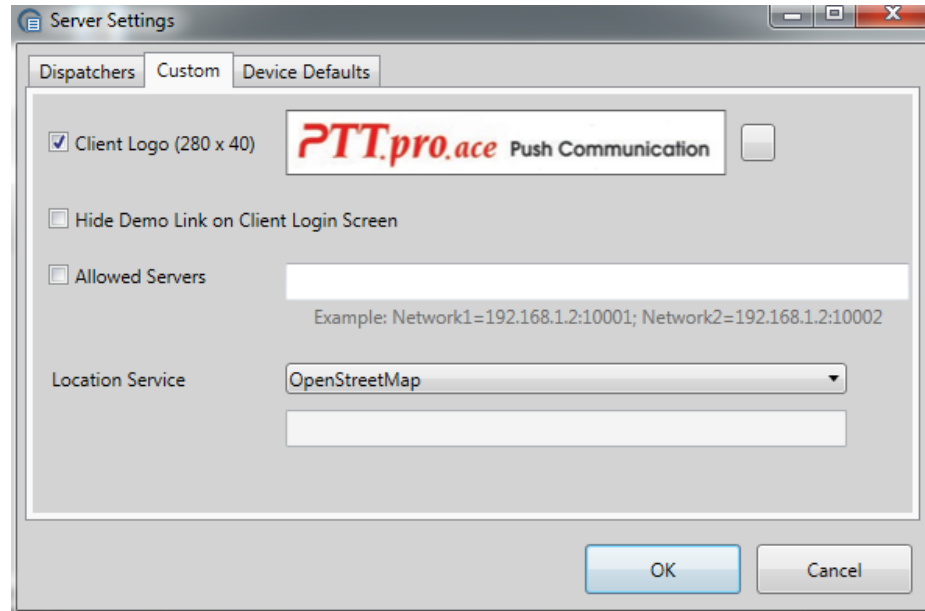
# Prompt Extended Messenger

*Wired & Wireless Communications*  
An ISO 9001-2008 Certified Company



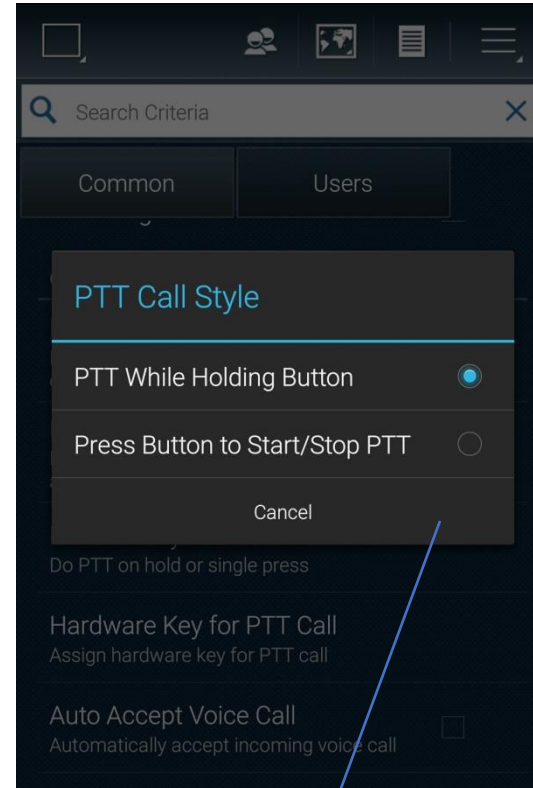
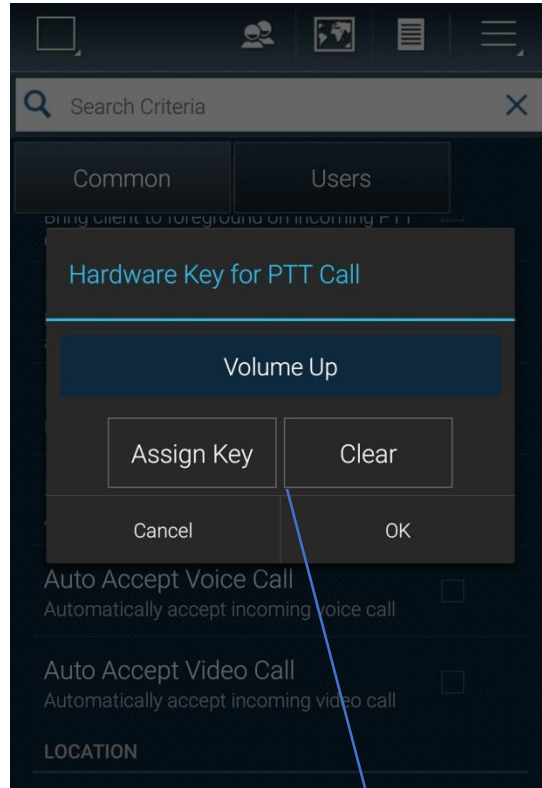
- Private and Group Messages
- Text, Image and File Exchange
- AES256 Encryption

# PTT Pro Ace Customization



- Custom settings are applied at first login or by predefined files

# PTT Pro Ace Client PTT settings



- Hardware PTT button
- PTT Style – Hold or Single Press



# Client for Mobile Devices



- Available for Android Tablets and Smartphones
- Supported in Android 4.0 or higher
- Free download from Play Market

# PC Dispatch Console Functionality

- Control over multiple PTT Pro Ace Networks
- Voice and Video PTT Calls
- Text Message Exchange
- Location tracking (Google Map)
- Location History Tracks
- Call Recordings Playback



# Prompt SME – In Plant Communication

*Wired & Wireless Communications*

An ISO 9001-2008 Certified Company

- Wi-Fi, Mobile Data and wired extenders to build desired coverage
- In Plant coverage
- Unlimited channels
- All Calls, Broadcast and Emergency calls
- ROIP Patch with Legacy Radios
- Zero Licensing
- Wide/ Unlimited coverage
- ATEX/ IS Options
- Local or Cloud based deployment



# Support for Professional Devices and Accessories

- K-Mobile F22, F25, R887 Smart Radios
- Sonim XP7
- Hytera 370, 380
- Talkpod etc
- 3G/4G/LTE

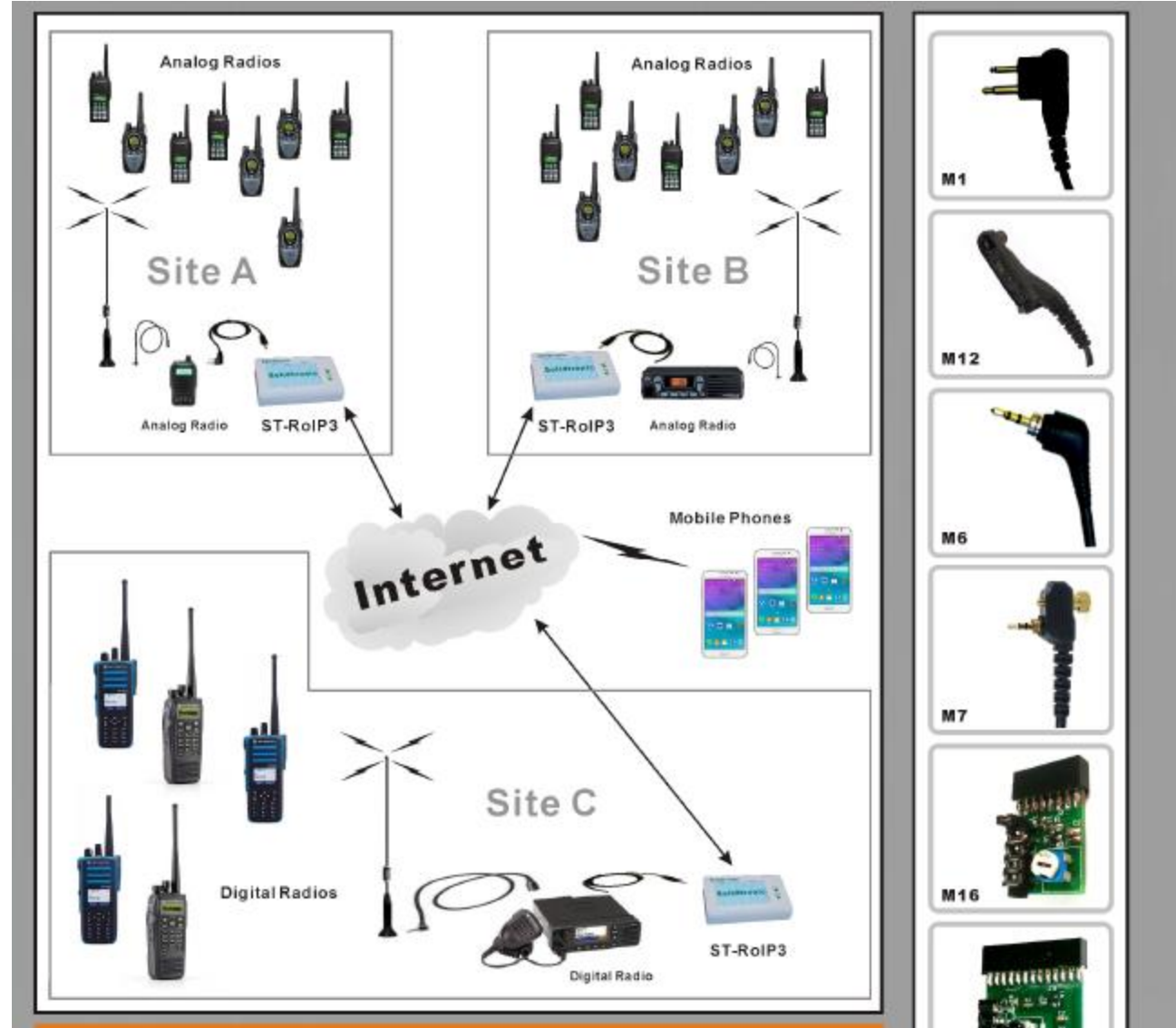


# Patch with Legacy Radios

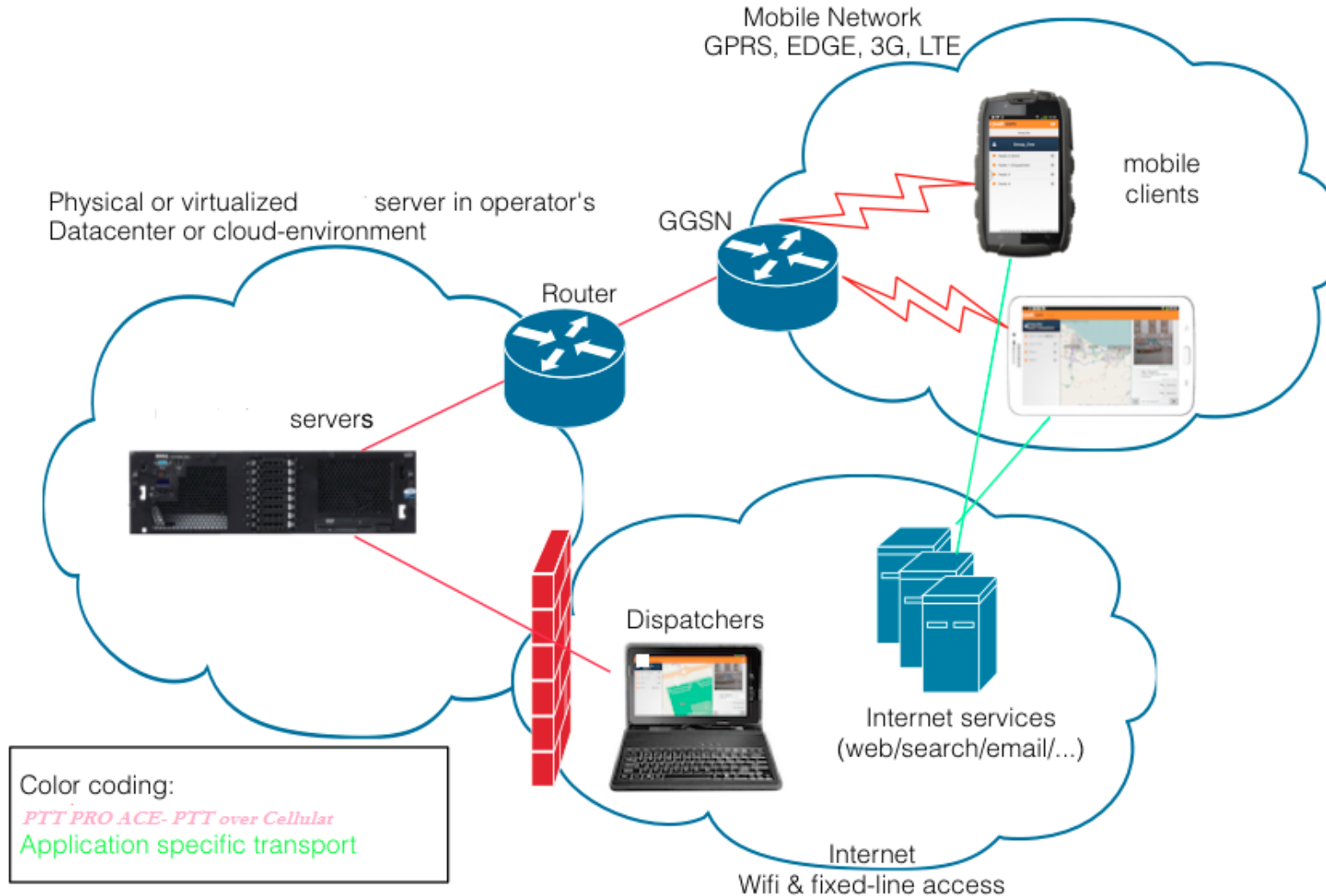
- Dc 5v
- 600mA
- 10/100 Base T
- ARM
- 4.3" Touch Screen
- Carrier Detection<0.5s
- 450Gms



Add disperse  
networks  
over IP-  
Legacy Radio,  
IP, LTE, 3G



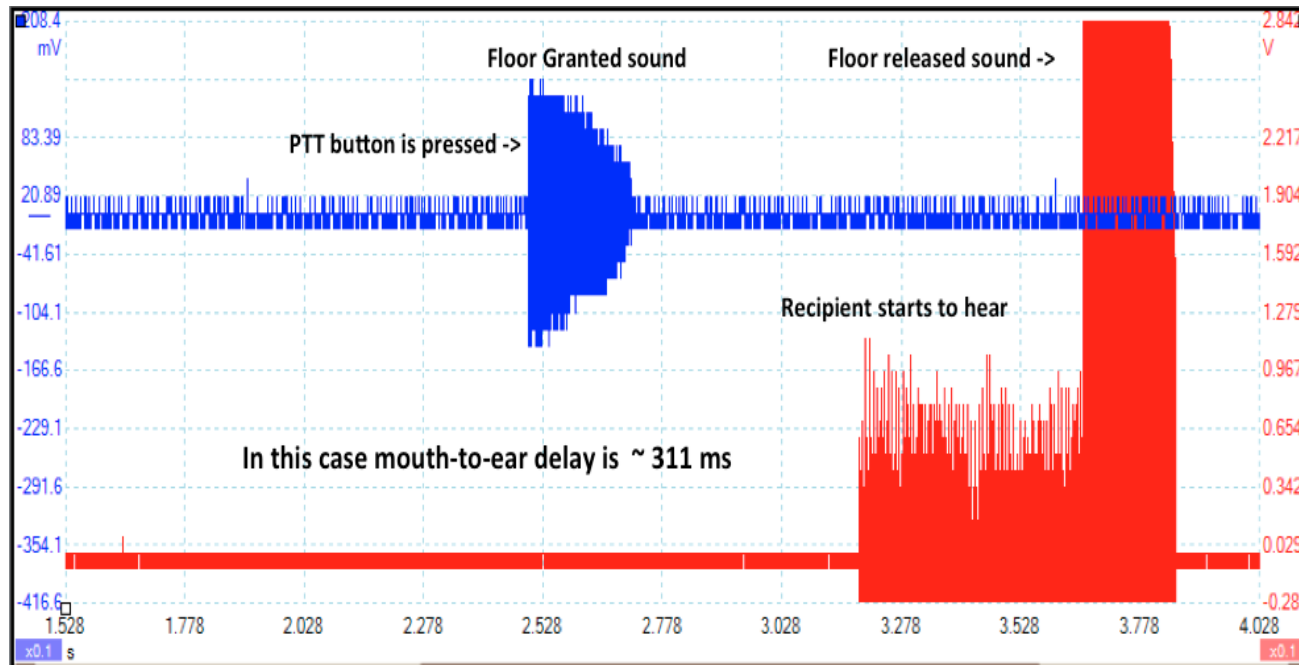
# Network





# Audio Speed and Latency

- Server's internal latency <50ms
- Delays in 2G (GPRS) network: (*from "mouth to ear"*)
  - First call: ~3 seconds (PDP-activation takes slightly longer than subsequent calls)
  - Subsequent calls: ~2 seconds
- Delays in 3G network:
  - First call: ~2 seconds:
  - Subsequent calls: ~1 second
- Delay in LTE-network: 300-600 milliseconds (Note that setup was non-ideal: no QoS and server outside of core-network which increase delay remarkably)

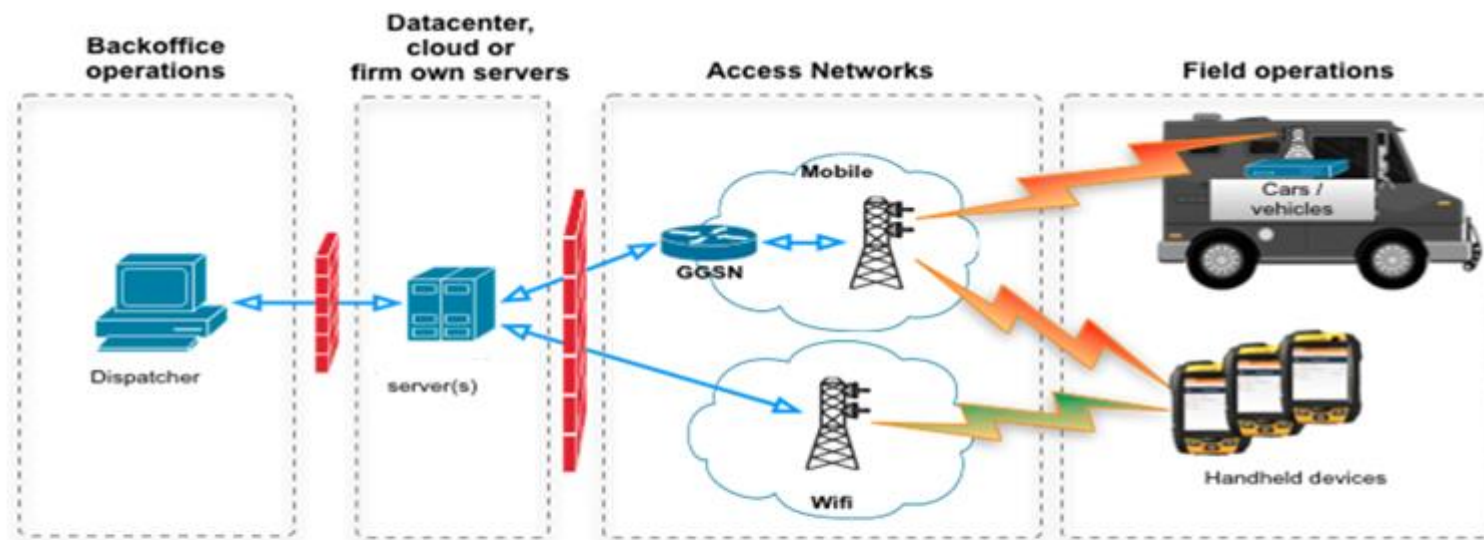


**Image left:** measurements in LTE-network, from mouth to ear in \*LTE-network: 300-600ms  
(\*Measured in LTE-network, server located outside of core-network without QoS setup)

Delays over Wifi are same level as over LTE.

# What is Needed? Devices & HW

- **For the FIELD:** Android based mobile phones and tablets (either a standard or ruggedized device)  
**For the OFFICE:** Android, Win PC-Dispatchers  
**For a DATA CENTER:** servers to load PTTPROACE control center software.  
This can be with physical in house software or virtualized on the cloud



## PROMPT WIRED & WIRELESS COMMUNICATIONS



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