

Total Enterprise Access and Mobility (TEAM)



VoWLAN Integrated Voice and Data Solution

Making Enterprise Mobility Inside the Four Walls a Reality



Motorola TEAM VoWLAN Solution



What Does It Do

- Voice over WLAN
 - Toll quality telephony connected to PBX/PSTN
 - Push to Talk/Dispatch
 - Private
 - Group
- Email/calendar/contact sync
- Text messaging
- Internet/intranet access
- Line of business applications leveraging Windows Mobile 6.10

Who Uses It

Retail

- Store mgs, dept mgrs, associates

Healthcare

- Nurses, technicians

Manufacturing

- Mfg/process engineers, QA, maint.

Distribution

- Managers, material handlers

Office/Government

- In building office workers



What Is It ... A Complete Solution

Appliances & Software

- Wireless Services Manager (WSM)
- Network Services Manager (NSM)
- Client Access Licenses (CALs)



Enterprise WLAN Smartphones





Single Mode VoWLAN



Who Uses it

- Mostly in-building task workers (e.g., retail, distribution, healthcare, manufacturing)

What it is

- Voice over WLAN Solution
 - Telephony via PBX/PSTN
 - Push to Talk (PTT)
- Text messaging
- Mobile email/calendar/contact
- Windows Mobile applications

TEAM Express Voice Clients



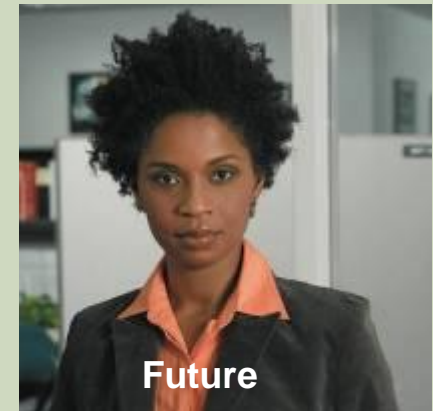
Who Uses it

Hourly workers that need PTT on mobile computers (e.g., Inventory staff needing voice capable scanning devices or mobile computing devices)

What it is

- PTT applications running on mobile computers
- Enabling right device for each job function

Dual Mode VoWLAN and Cellular



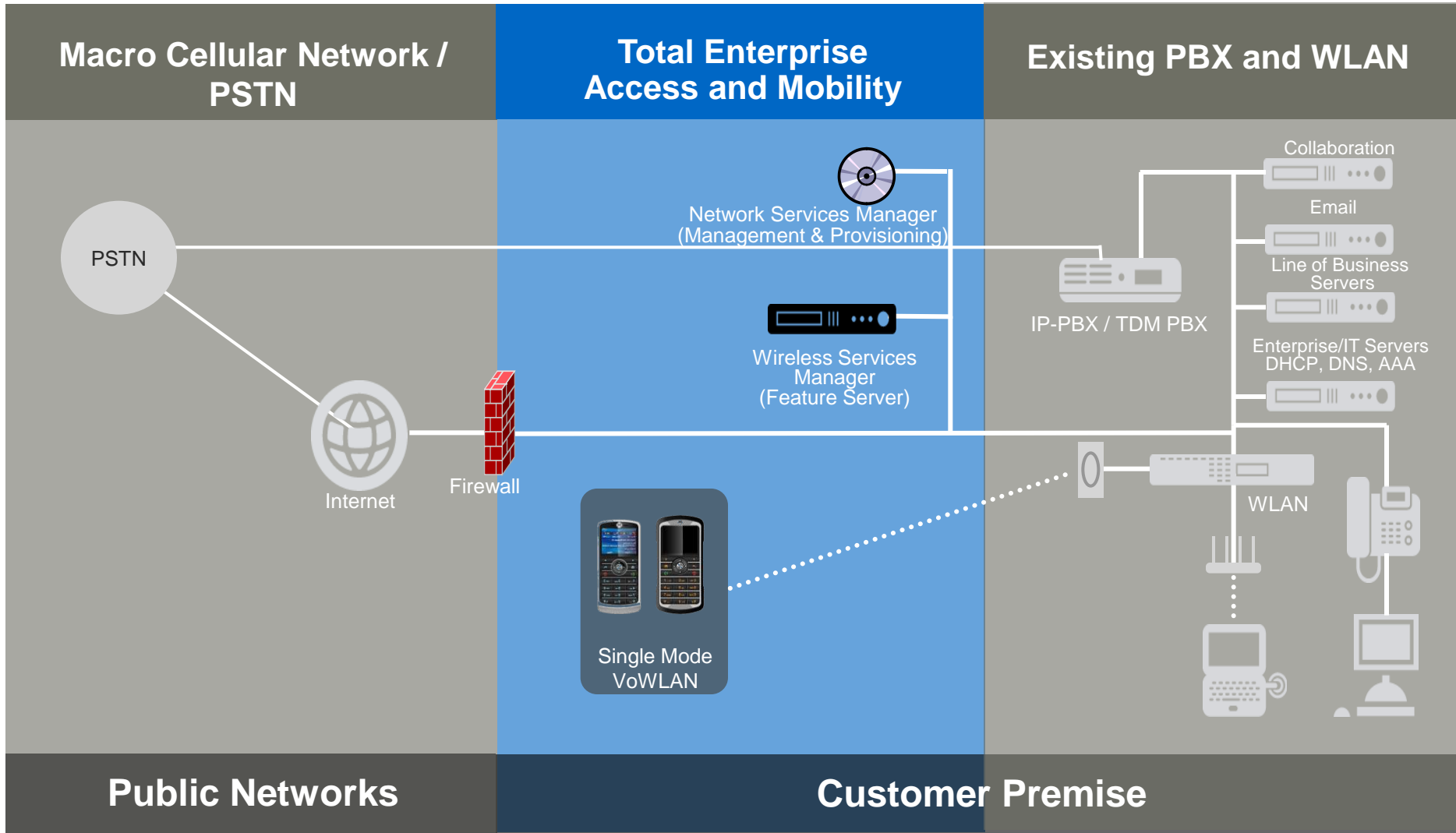
Who Uses it

- Knowledge worker that is sometimes off-campus
- Managers of task workers (eg. store mgrs)
- Physicians

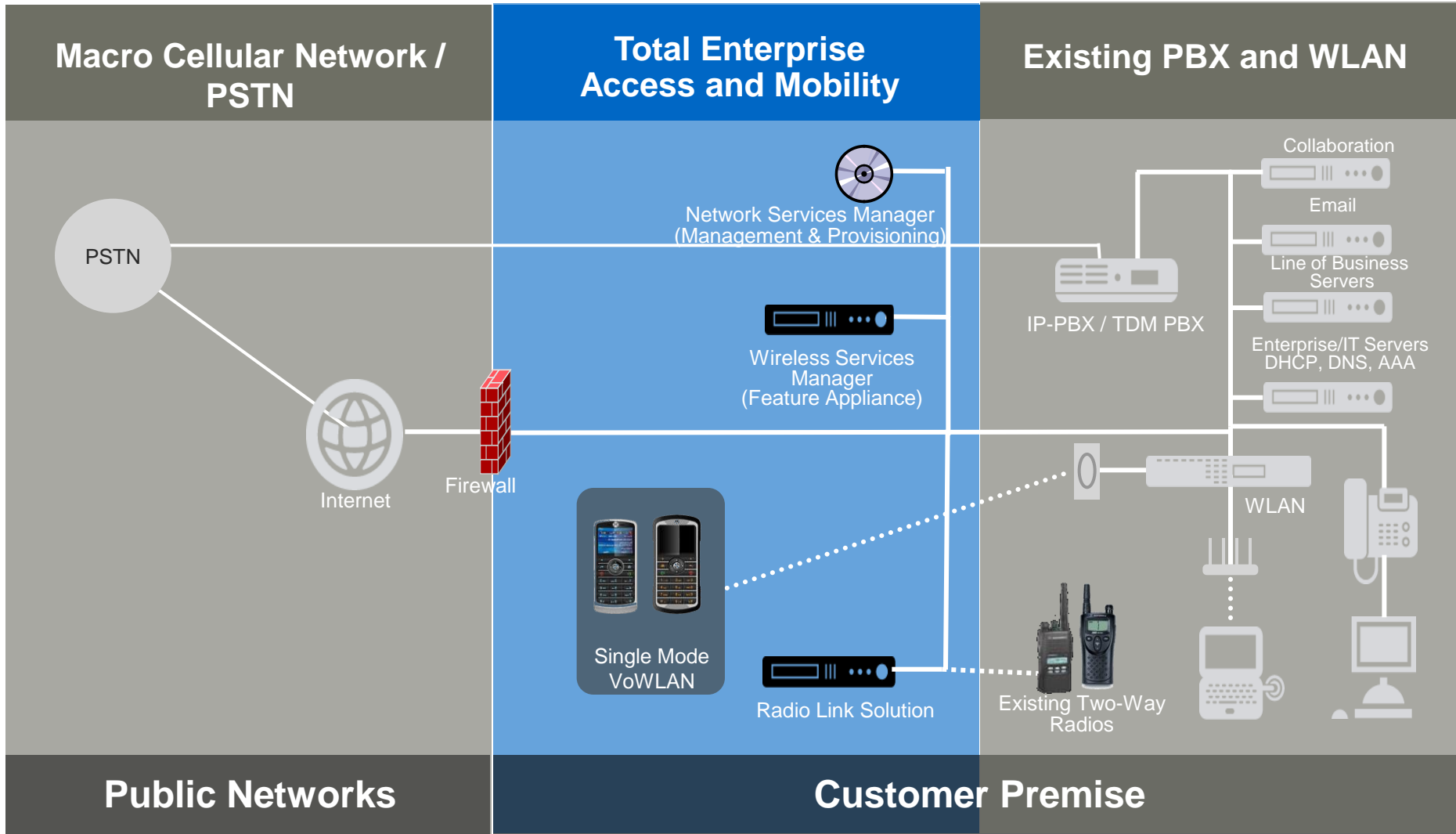
What it is

- Seamless roaming between WLAN and cellular with full VoWLAN capability (PTT) in building

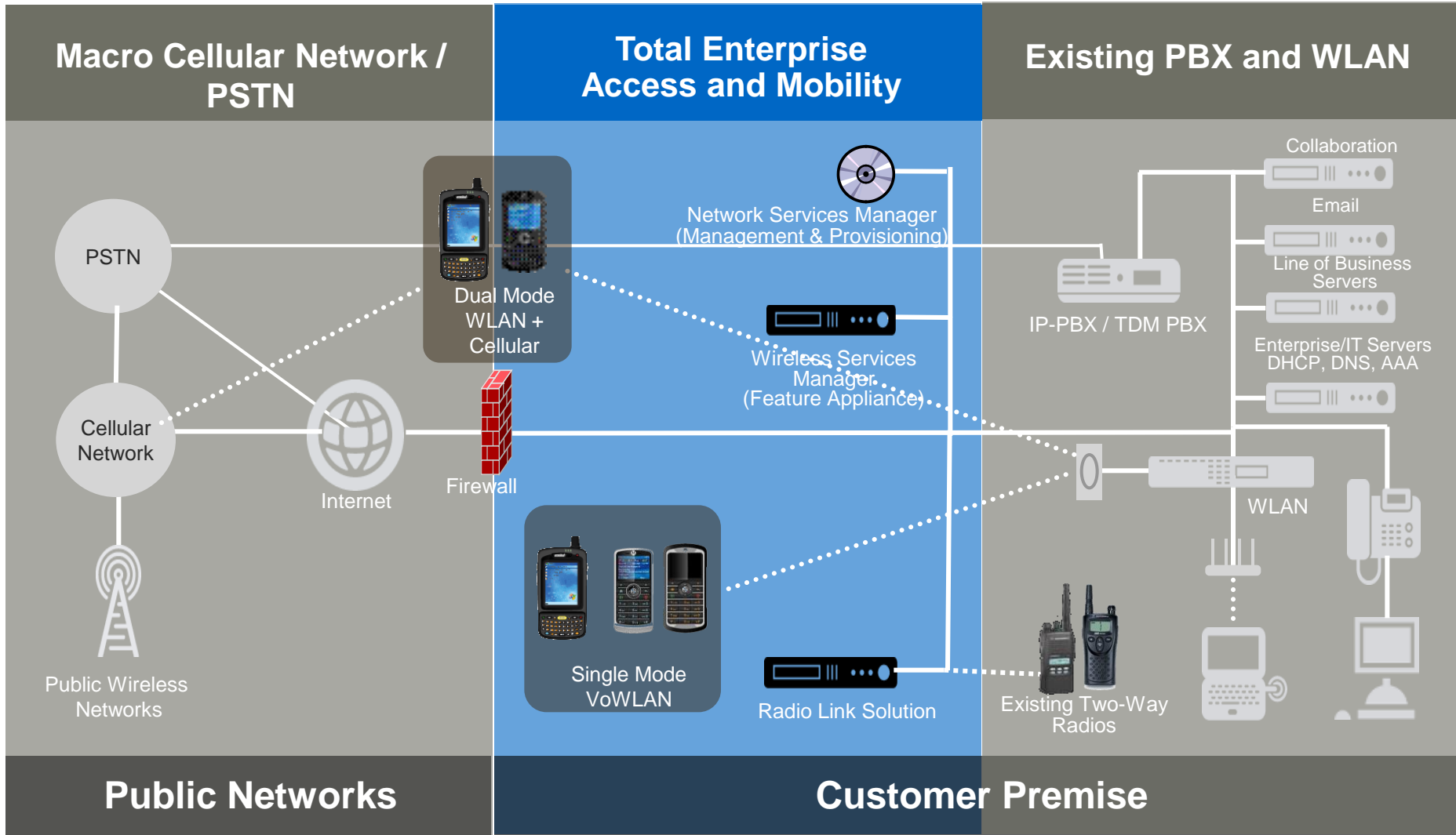
TEAM VoWLAN Solution



TEAM VoWLAN Solution – Radio Link Solution



TEAM Solution Architected to Enable Future Capabilities



TEAM EWP1000/2000 VoWLAN Smartphones



	PTT Call	03:05
	Jim Weimer	m
	On hold	3 mins
	Bert Van Der Zaag	m
	On hold	2 mins
	Jason Wintersteller	m
	[Mute]	Menu

SOFTWARE and APPLICATIONS

- Enterprise over the air push e-mail and push-based sync of calendar, contacts, tasks Microsoft ActiveSync
- Voice recognition
- Integrated document editing
- Text messaging
- Security - 2 Factor Authentication, VPN Client built in
- Remote device management – device info., provisioning, kiosking
- Motorola API services framework
- TEAM Express

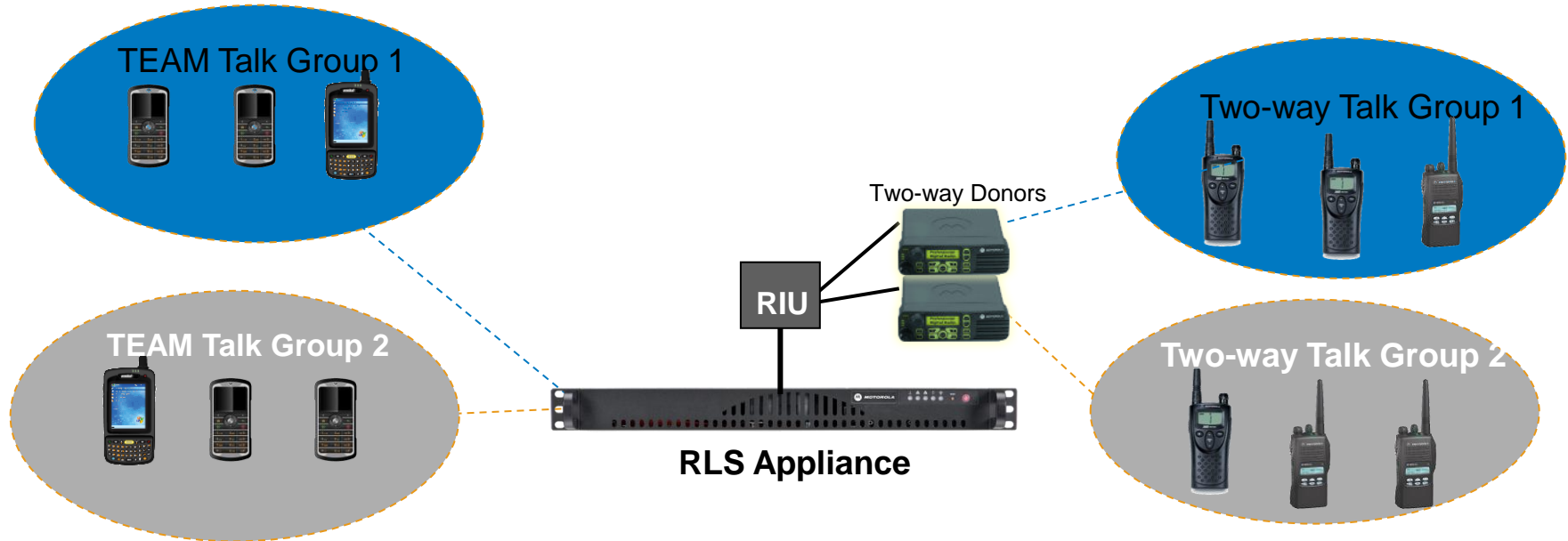
DESCRIPTION

VoWLAN enterprise multi-services Smartphone supporting instant communications, mobile office applications and enterprise telephony services

SPECIFICATIONS

Bands/Modes:	WLAN Tri – Band 802.11a/b/g
Weight:	145g (EWP1000) / 152g (EWP2000)
Dimensions:	120 x 52 x 17.2 mm (EWP 1000) 120.5 x 54 x 18.7 mm (EWP 2000)
Talk Time	up to 7-9 hours (Standard/ExCap battery)
Standby Time:	up to 170-200 hours (Std/Excap battery)
Display:	2", 320 x 240 265K TMR color display
OS:	Microsoft® Windows Mobile® 6.1
Browser:	HTML/WAP 2.0 compliant
Audio:	High audio speaker, receiver, microphone PTT 2.5mm headset jack, dedicated quick connect PTT button
Connectivity:	USB 2.0
Bluetooth	Class II, v 1.2
Memory:	128MB RAM / 256 MB ROM Micro-SD removable (up to 2GB)

RLS2 System Overview



- The TEAM RLS2 provides PTT talk-group communication between the TEAM solution (TEAM Express) and a two-way radio solution).
- PTT talk-groups are established between the TEAM (Express) talk groups and two-way radio talk groups by utilizing a two-way mobile radio "donor" device. Each talk-group requires a dedicated two-way donor mobile radio which is connected to the RLS via the Radio Interface Unit (RIU). The donor devices act like a transceiver, with the field devices communicating with the donor.
- The RLS is connected to the enterprise WLAN, creating the connection to the TEAM devices. Talk groups are selected on the device. (Software resides on the RLS appliance, acting as the donor(s) for the TEAM devices).
- When a TEAM user in talk group 1 initiates a PTT group call, communication is carried over the enterprise WLAN to the RLS appliance through the IP network. The RLS routes communication to the 2-way donor device for the associated talk group, which in turn, sends communications out to the user 2-way devices. The process works the same in the reverse direction.

Most Robust VoWLAN Offering Available



Telephony

- Make and receive phone calls
- Call Forwarding
- Call Waiting / Multiple call appearances
- Call Hold/Resume
- Call Transfer (blind and attended)
- Caller ID (number, name, blocking)
- Abbreviated dialing
- Three way calling / Meet-me conference
- Voice Mail Indicator
- E911
- Over dial
- Ad hoc conferencing (Avaya only initially)

Email / PIM (Personal Information Management)

- Email, calendar, contacts, tasks access via Messaging or Microsoft Active Sync

Intranet/Internet Access

Text Messaging

Push to Talk (PTT)/ Dispatch

- Private call – one to one call within enterprise users
- Group call – group communication within a talkgroup
- Multiple Talkgroups – up to 255 groups
- Call Alert – ability to leave an alert for user to respond quickly with a Private call
- Quick call set up – Call set up time between button push and talk permit tone typically less than 1s
- System and Spectral efficiency – solution does not require a dedicated connection for each dispatch call

Application Flexibility - Windows Mobile 6

- Database/line of business applications
- Text Messaging

Multi-Vendor Interoperability

Interoperability with 2-way Radios (RLS) and Mobile Computers (TEAM Express)



Thank You....



TEAM Express 1.0 Overview



Enable simple voice interoperability across EMB products throughout the enterprise

Defining Features

- Group-to-Private PTT Communication
 - Group PTT Broadcast
 - 32 Talk Groups
 - Private PTT Response
- Communication between previously disparate devices (MCs, EWP)
- Future 2-Way Radio interoperability with Radio Link Solution (RLS) when available

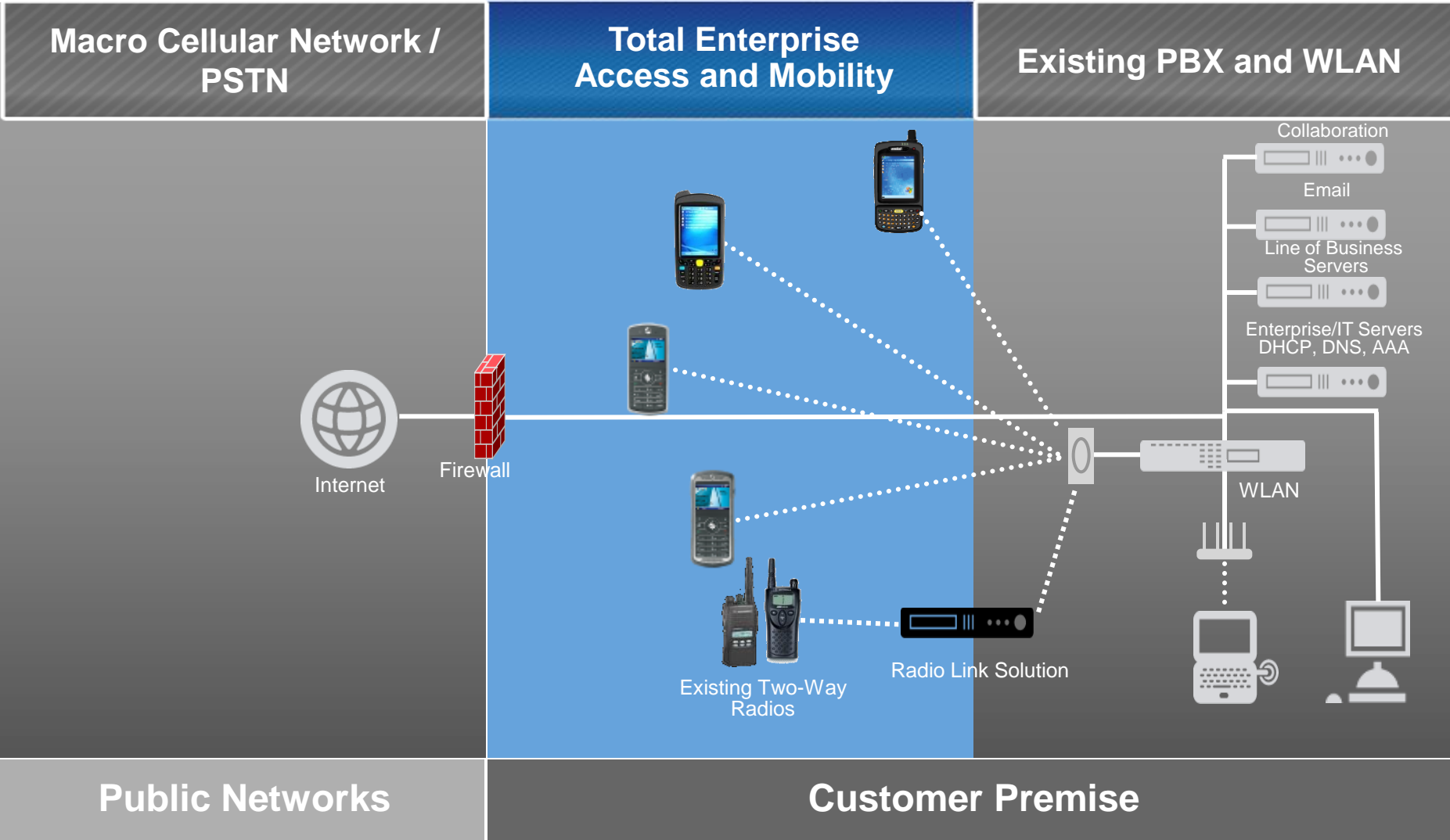
Customer Benefits

- Improve internal managers & associates communications
- Improve associates productivity
- Improve operations
- Easily deployable on supported devices
- Leverage existing devices and WLAN network



Market Fundamentals

- Target Market: Retail primarily; also warehouse, manufacturing
- Supported Devices: Initially MC5590, MC7090/94/95, MC7596/98, EWP1000/2000





- **TEAM badge incorporates TEAM Express push-to-talk client for basic, cost effective, easy to deploy voice communications**
 - TEAM badge to TEAM badge
 - TEAM VoWLAN
 - Motorola MCs (with TEAM Express)
 - Motorola two-way radios (with TEAM RLS)
- **Status**
 - Currently finishing beta series
 - Expected general availability
 - North America: Q1, 2010
 - APAC, EMEA, LATAM – to follow NA



Simple, Intuitive User Interface



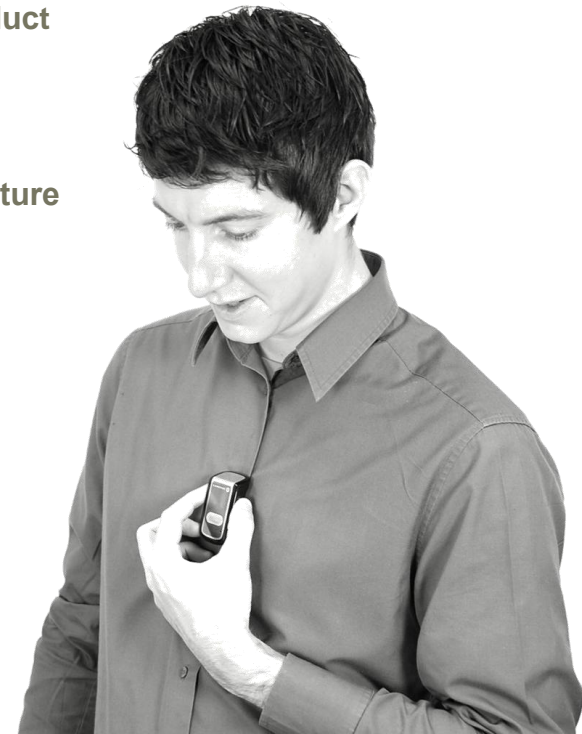
Center button is backlit with tricolor LEDs to provide visual feedback



TEAM Badge (EWB100) Specifications



- **WLAN communication on 802.11b/g**
- **Simple User Interface**
 - 5 buttons
 - Audio prompts
- **Audio headset connectivity**
- **Truly wearable**
 - 1.6oz (45g), light enough to be clipped to users' shirt collars
- **Integrated 590mAh Li-Ion rechargeable battery**
 - Delivers over 10 hours of continuous use throughout the life of the product
- **Enterprise ruggedness**
 - IP54 (dust/water sealing)
 - 14 -104 F (-10 - 40 C) operation
 - Drop spec: 5'(1.5m) @ room temp, 4' (1.2m) to concrete across temperature range
- **Easy configuration and deployment**
 - No additional servers to set up
 - Devices can be configured and deployed in minutes
 - 32 call groups allow for easy categorizing of user groups





Back-Up





TEAM Solution Components

TEAM VoWLAN

TEAM Express

Appliances & Software Licenses



Wireless Services Manager
Feature appliance

✓



Network Services Manager
Management & provisioning

✓

Devices



**Single mode
VoWLAN Smartphones**
(no cellular)

✓

✓



**Single & Dual Mode Mobile
Computers (MC55/70/75 WM6.1)**

✓

Client Access Licenses



TEAM Client Telephony + PTT

✓



TEAM Express Client (software)

✓

TEAM Solution – Supported* PBXs (as of August 2009)



Releases	Vendor	PBX Type	PBX Model	PBX Requirements		TEAM Connection Type			Comments
				Software Release	Hardware Release	SIP Trunk	SIP Station	TDM Gateway	
1.71 Linux	Avaya	IP	Communications Manager	4.0	S8300, S8500, S87XX	Y	Y (via OPS)	NA	R1.0=SIP via OPS only
		TDM	Communications Manager	4.0	S8300, S8500, S87XX	NA	NA	Dialogic DMG2000	Used in TDM mode
	Cisco	IP	Unified Comm. Manager (CallManager) (CUCM)	5.1	MCS78xx	Y	NA	NA	CM 50 and earlier not supported
		IP	Unified Call Manager Express (CME)	Cisco IOS 12.4(11)	Cisco routers 2801, 3825	Y	NA	NA	MWI not supported
	Nortel	IP	Communications Server 1000	Succession 5.0; 5.5	CS1000E series	Y	NA	NA	
		TDM	Meridian Option 11C	Release 25, Issue 40, Version 2111	Option 11C	Y	NA	Dialogic DMG2000	
	NEC	TDM	NEAX 2400 IPX	Version 17 Release 03.46.001	IVS series	NA	NA	Dialogic DMG2000	MWI not supported
	Toshiba		CIX	MIPU01_22D A200	CIX Series	NA	Y		
	Mitel	IP	3300	R 9.0.2.18	ICP 3300 CX	Y	NA	NA	
Future H2 2009**	Avaya	IP	Communications Manager and Communication Manager Branch Edition	4	S8300, S8500, S87XX	Y	Y (via SES)	NA	
	Nortel	IP	BCM50/400						

* Supported PBX means tested and validated by Motorola; PBX Certifications by selected PBX vendors are in process

** All future PBXs listed are subject to validation. Status will be updated as development progresses.

TEAM VoWLAN Business Smartphone



- Full shift battery
- WLAN triband - 802.11a/b/g
- Highly Readable 320 x 240 color display
- Large Memory footprint: 128MB RAM / 256 MB ROM
- Designed for dispatch – High Audio Speaker, dedicated PTT button
- MSFT Windows Mobile 6
- Durable: ESD, Flammability test, Humidity MIL810F (507.4, I, ten 24 hr cycles), Temp: -20 to 60C working; -55 to 85c
- Water Intrusion Test (sealing)
- Drop MIL 516.5, I, MIL 516.5, IV, 4ft drop, 14x
- IPx2 Sealing
- DUST (MIL810F 510.4, III - 140 mesh silica 5hr)
- Vibration – (MIL810F 514.5 1 hr per axis 15-2000 Hz)



VoWLAN Smartphones: EWP1000



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EWP Accessories



Stereo + PTT Headset



Ear bud + PTT Headset



Surveillance + PTT Headset



Universal Pouch



Carry Case w/ Clip



Single Unit Desktop Charger



Multi-Unit Desktop Charger



Lanyard



Mini USB Data Cable



Standard (1480mAh) Battery



Extra Capacity (1750mAh) Battery