

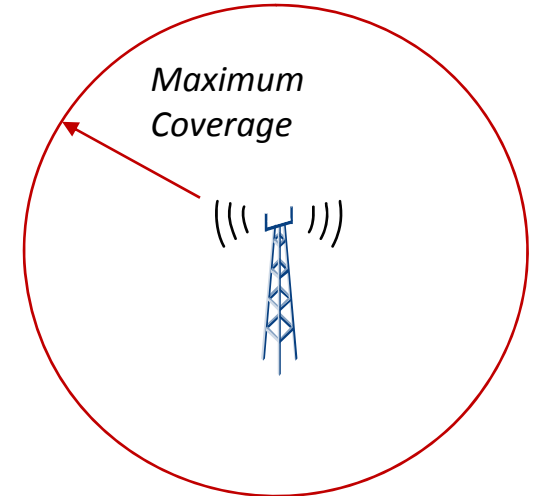


AirWalk CDMA 450 MHz Rural Solutions

April 2009

CDMA 450 MHz Provides

- Better coverage and capacity
- Reliable high performance operation
- Integrates with existing infrastructures
- Lower overall Capex and Opex vs others



AirWalk CDMA 450 MHz Provides

- Innovative flat all-IP architecture
- Flexible product configurations
- Full 1xRTT & EVDO system features
- Lowest deployment and operating costs



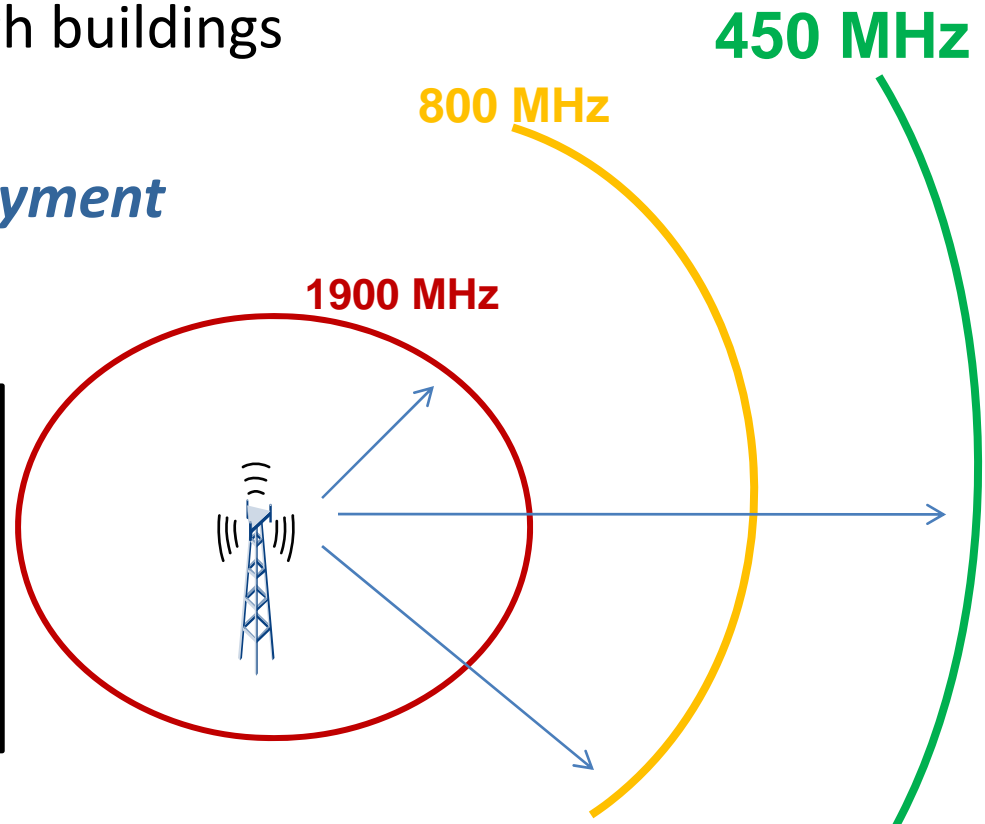
450 MHz Provides Better RF Coverage

- Better propagation characteristics mean bigger cells
- More diffraction over undulating terrain
- Less penetration loss through buildings
- ***Less base stations required***
- ***Faster and lower cost deployment***

Nominal Coverage Comparison

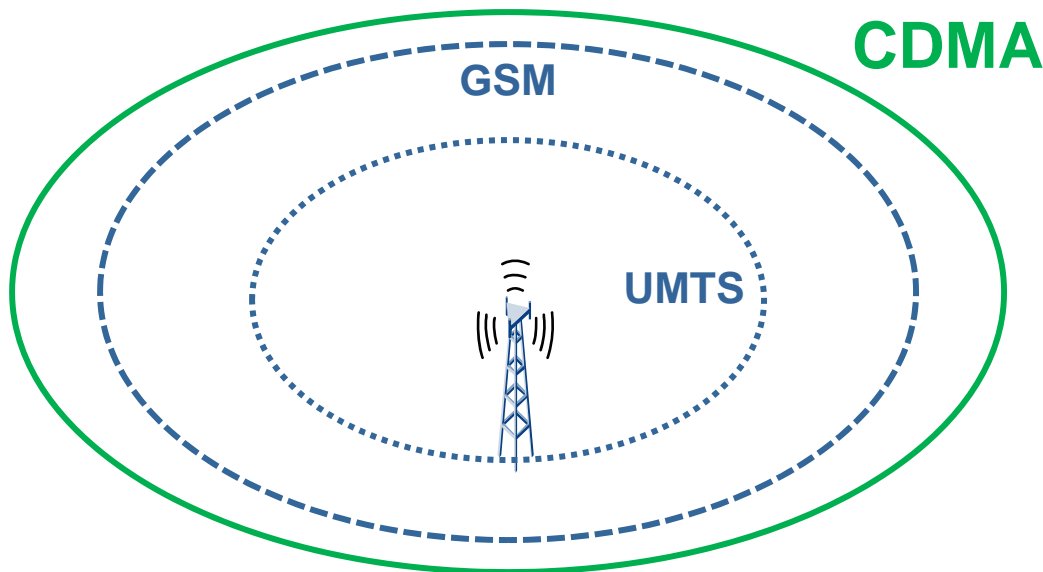
Band (MHz)	Range In Km	Km ² Per BTS	BTS Needed For 10000 km ²
450	12	450	22
800	6	113	88
1900	3	28	354

CDMA Macro, Rural Terrain / Actual Coverage Is Terrain Dependent



CDMA Provides Greater Link Budget

- 3-5 dB more link budget than GSM
- Significantly more link budget than UMTS or WIMAX
- Translates into less cells for the same coverage
- *More economical to deploy*

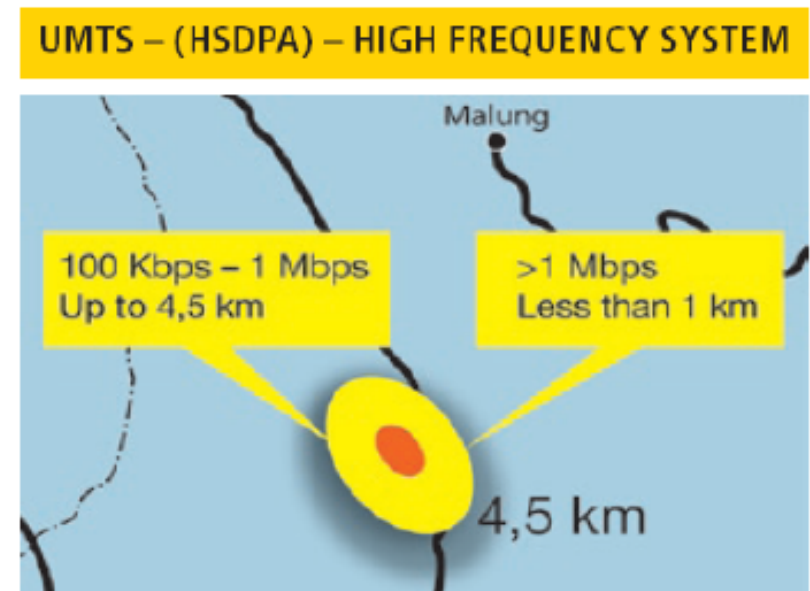
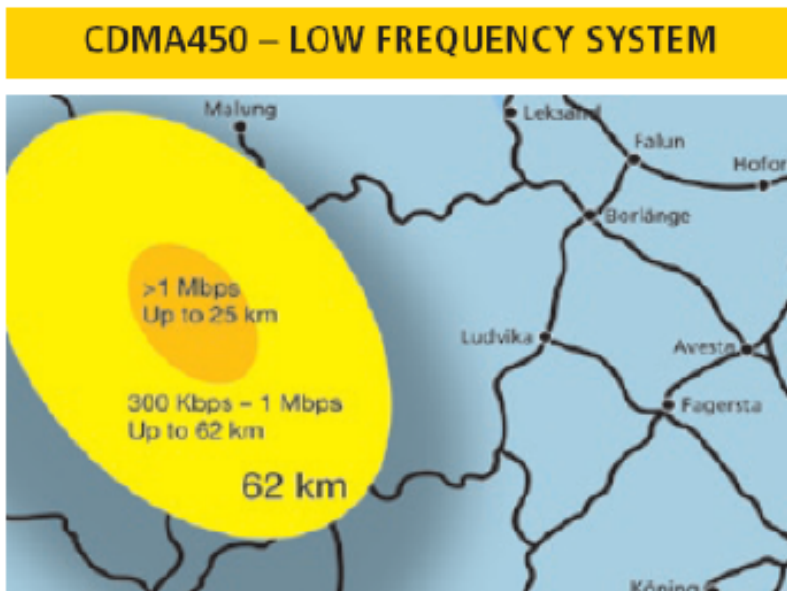


*Especially Significant For
Data Services*

EVDO provides reliable coverage
right to the edge of the cell

Nordisk Mobiltelefon Example

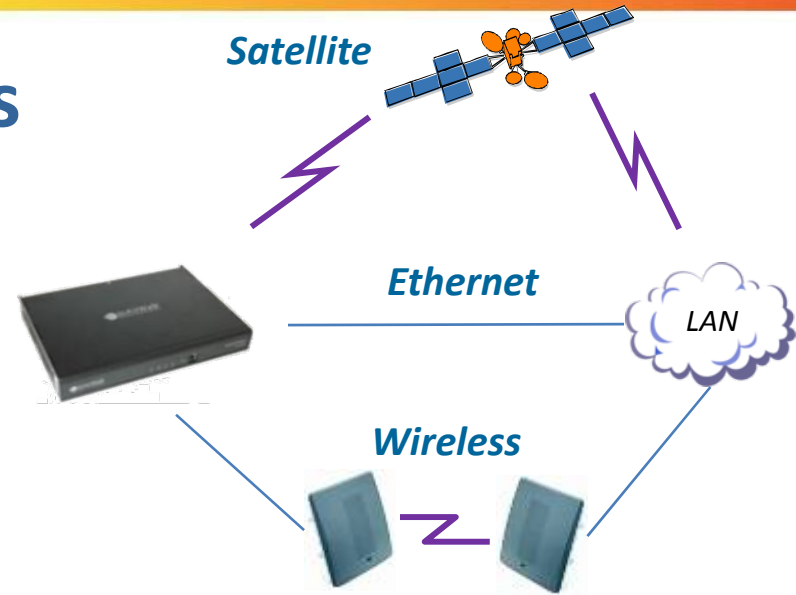
- CDMA 450 deployment vs UMTS 2100 deployment (Norway)
 - Over 13 times the coverage area for Voice services
 - Over 25 times the coverage area for 1 Mbps Data services
- *Installed at the same cell site*



Source: Nordisk Mobitefon

All IP Connectivity Advantages

- Flexible backhaul choices
- Ethernet Connectivity
- Satellite compatible
- Lower operating costs



Flat IP Architecture Advantages

- Intelligent IP-RAN units
- No central BSC/RNC required
- Local peer-to-peer soft handoffs
- Lower capital costs





Femto



Pico



Micro



Mini



Macro



CDMA RAN Technologies

- 1xRTT and EVDO Rev A/B
- Full IP-RAN macro/pico product line

Innovative Technology

- Integrated BTS/BSC & AN/RNC
- All IP connectivity & backhaul

Global Market Presence

- Over 35 system customers



AW 96 Series 3 Sector IP-RAN MacroCells

- Combined BSC/BTS or ANC/ANTS Functions
- 1xRTT or EVDO Rev A Models
- All-IP Backhaul With Ethernet Interface
- High Power 450 MHz (20/60W)
- AC & DC Power Supplies
- Flexible 19" rack mount carriers



AW 96 MacroCell RAN

- 20W/60W Power
- 1xRTT or EVDO
- 3 Sector



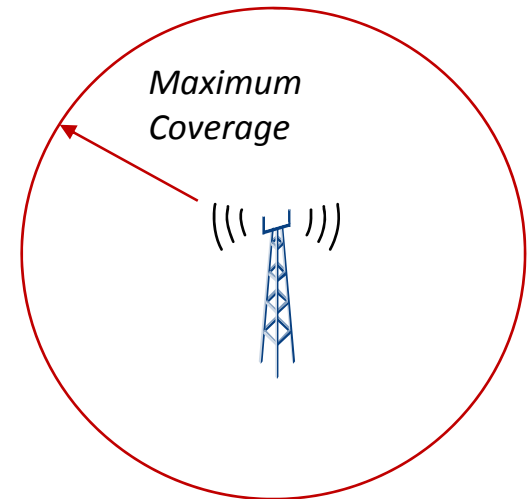
AW 100 IP-RAN MacroCell

- Combined BSC/BTS/ANC/ANTS Functions
- 1xRTT or EVDO Rev A Models
- All-IP Backhaul With Ethernet Interface
- 20W RF Power; 60W Optional
- AC or DC Power Supplies



AW 100 MacroCell RAN

- Omni 20W RF Power
- 1xRTT or EVDO



DSL Alternative Data Service

- Provide alternative basic Data service
- Cost effective coverage over difficult terrain
- Reliable & Robust EVDO Rev A performance
- Data coverage to the edge of the cell
- Fixed mobile data terminals



Fixed Data Mobiles

- Wide variety of devices
- Desk & Wall mount; Cards
- Diversity for max range
- Local Ethernet or WiFi options



Rural Voice Service

- Provide alternative basic Voice service
- Cost effective coverage over difficult terrain
- Reliable & Robust CDMA 1xRTT Voice
- Cost effective all IP system
- Full or Limited mobility implementations



Popular Mobile Devices

- Compatible w/ all 450 Mobiles
- Wide array of handset choices



AW 100 IP-RAN PicoCell

- Combined BSC/BTS/ANC/ANTS Functions
- 1xRTT or EVDO Rev A Models
- All-IP Backhaul With Ethernet Interface
- Omni PicoCell 200mW RF Power
- DC Low Power Consumption (solar friendly)
- Compact Size – Rack mount option



AW 100 PicoCell RAN

- 200mW RF Power
- 1xRTT or EVDO



***Compatible With
Solar Power Systems***

Rural Village Coverage

- Basic Voice and Data Services
- Minimum Capex & Opex Costs
- Low Power Operation
- Simplified Installation



AW 100 PicoCell RAN

- 200 mW
- 1xRTT or EVDO



Valley Coverage (From Mountain Top)

- Very Large Coverage Area With Low Power
- Remote Unattended Operation
- Backpack Equipment To Site



AW 100 PicoCell RAN

- Mountain Top Location
- Solar Power; VSAT Backhaul



VSAT Terminal

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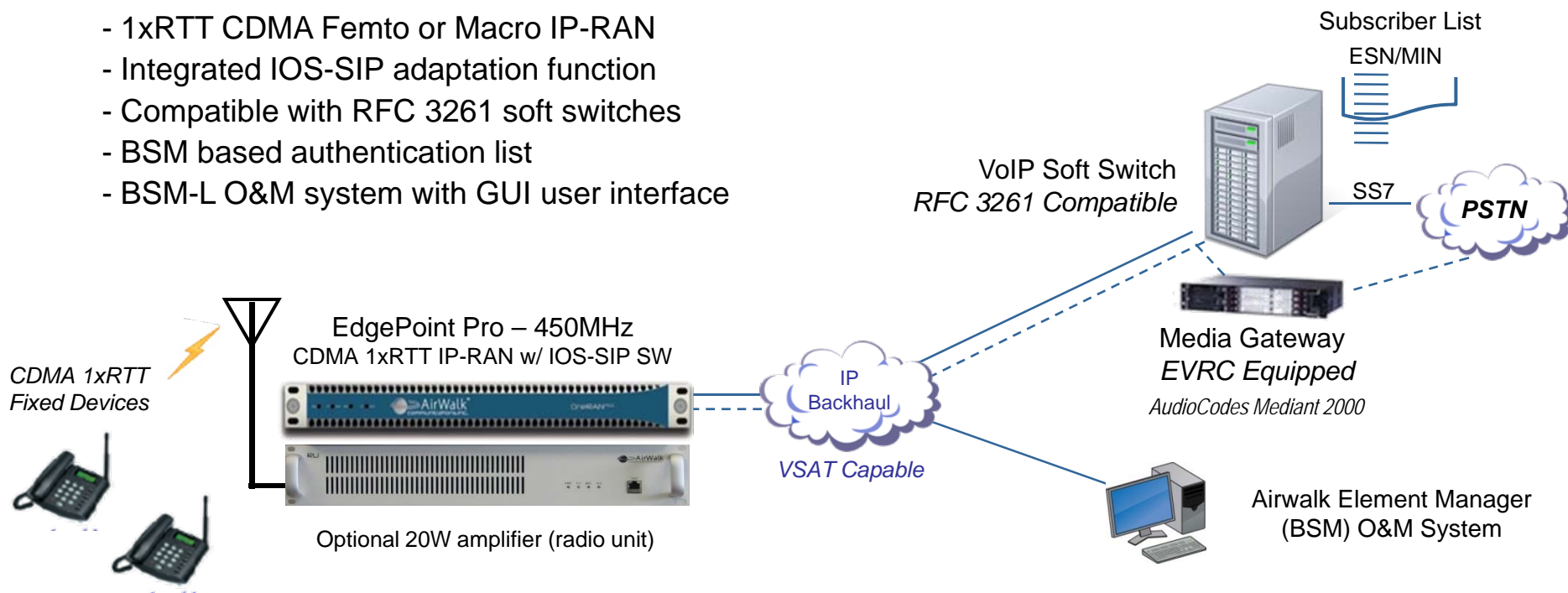
Voice only with SIP interface for Wireless Local Loop Solution

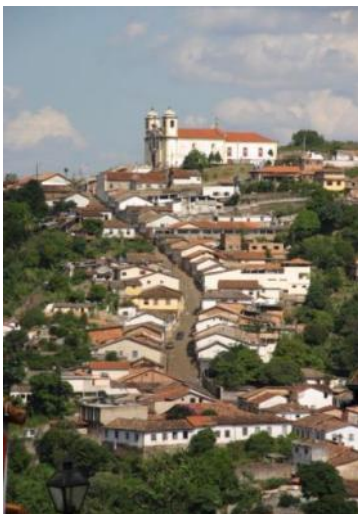
- Lowest cost rural voice and alternative access applications
- Fixed Wireless Access, *No mobility features*
- Efficient and robust CDMA air interface; Wide area coverage
- Low cost VoIP core network elements; Soft Switch and MGW

**Lowest Cost
All-IP, SIP Core
Wireless Local Loop
System Solution**

Proven AirWalk SIP-RAN

- 1xRTT CDMA Femto or Macro IP-RAN
- Integrated IOS-SIP adaptation function
- Compatible with RFC 3261 soft switches
- BSM based authentication list
- BSM-L O&M system with GUI user interface





Gracias!

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