

# *Fred Wright*

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# ***Key Messages Outline***

- > iDEN is a competitive technology today and beyond 2005
- > iDEN continues feature development to drive down OP EX & CAPEX while improving spectrum efficiency
- > iDEN dispatch and data architecture offer feature differentiation and an efficient bridge to next generation of wireless technology
- > iDEN can take Nextel to desired level of subscribers and provide superior return on invested capital



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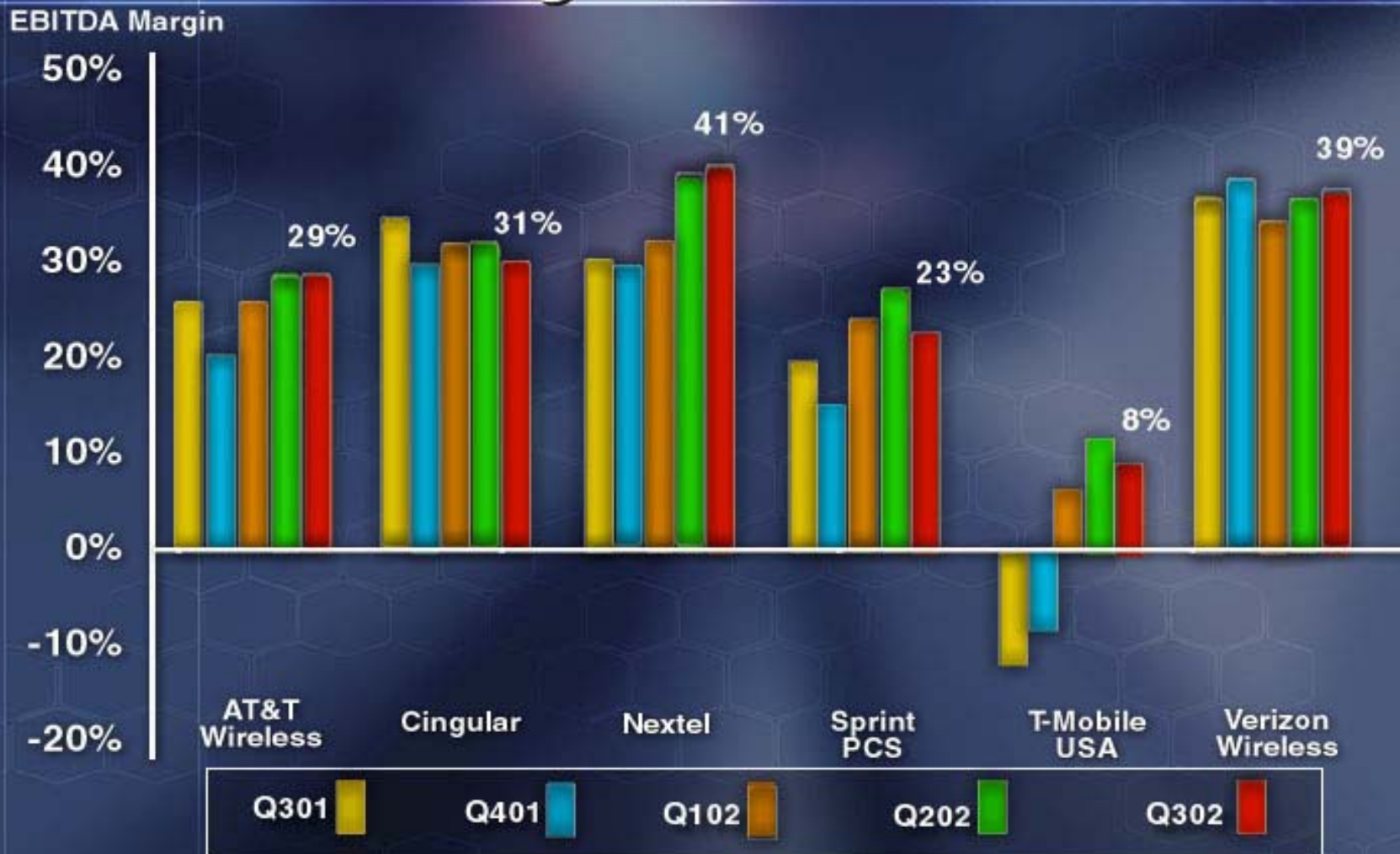
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# Operating Profitability - Nextel #1 Among National Carriers



Source: Company reports & UBS Warburg Equity Research, "Wireless 411," 10/2/02

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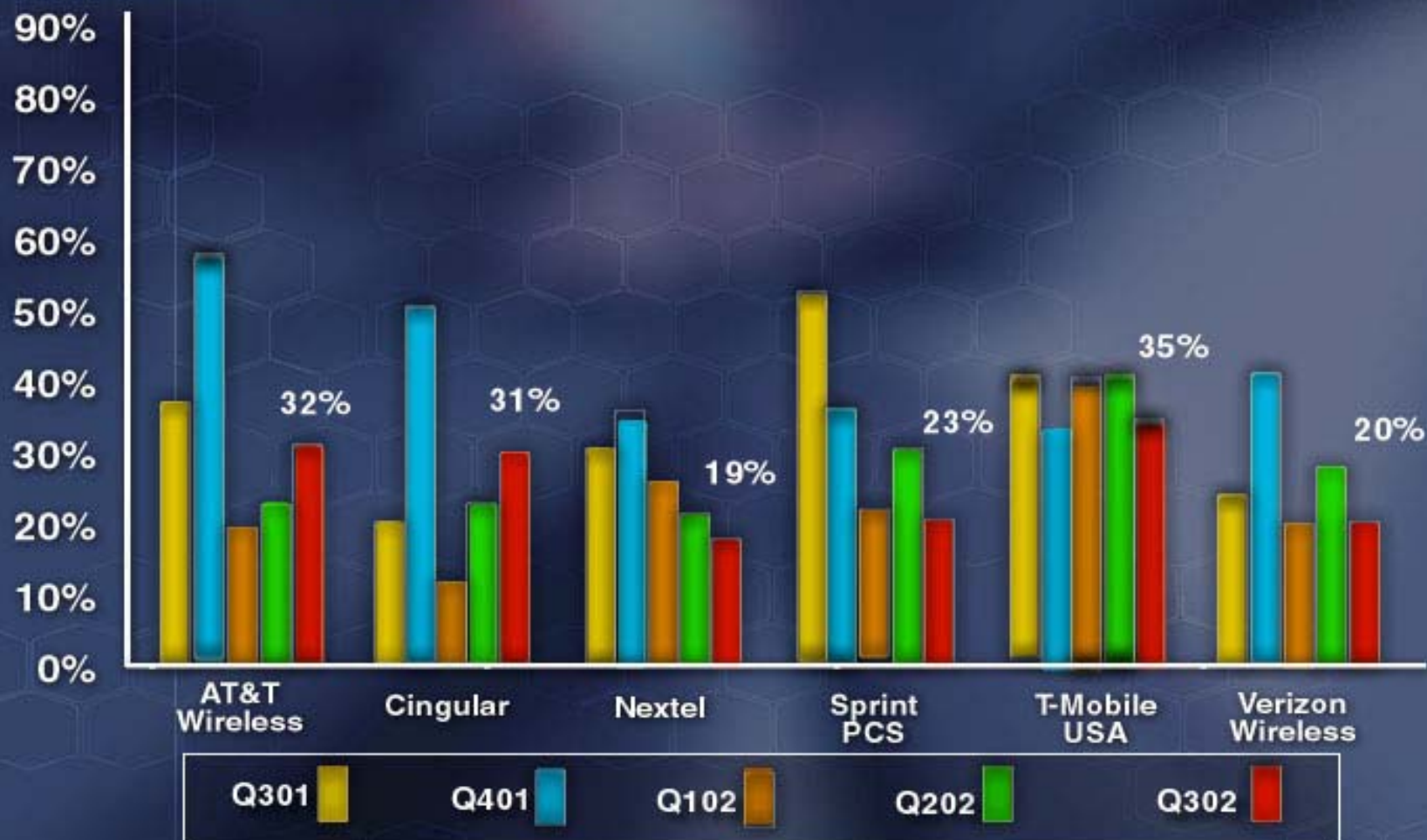


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# Capex-to-Sales - Nextel #1 Among National Carriers

"Sales" as used here = Service Revenue



Source: Company reports & UBS Warburg Equity Research, "Wireless 411," 10/2/02

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# Opex / MOU—Nextel #1 Among Reporting National Carriers

Computation: Cost of Services (adjusted for same components) per Forms 10-Q divided by MOU



■ 3Q YTD 01 ■ 3Q01 ■ 3Q YTD 02 ■ 3Q02

Source: Company reports,  
UBS Warburg & JP Morgan  
Equity Research, Oct. 2002



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# Total Cost / MOU—Nextel #1

(Total = Opex + Depreciation)  
Among Reporting National Carriers



Source: Company reports,  
UBS Warburg & JP Morgan  
Equity Research, Oct. 2002

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# Total Cost / Incremental MOU—Nextel #1

(Total = Opex + Capex)  
Among Reporting National Carriers



Source: Company reports,  
UBS Warburg & JP Morgan  
Equity Research, Oct. 2002



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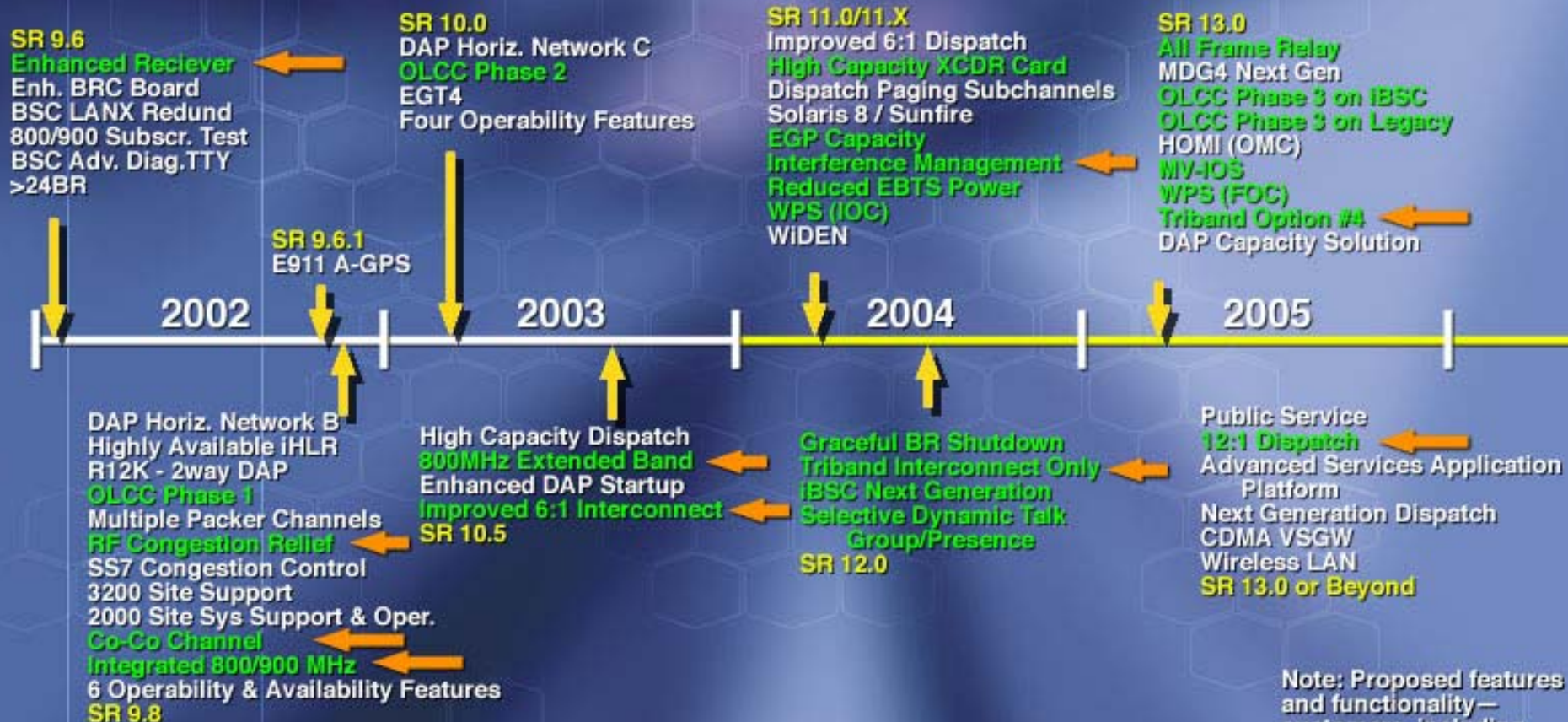
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# iDEN Infrastructure Roadmap

## Projected Market Availability Dates



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Note: Proposed features and functionality—customers, including Nextel, have committed to some but not all.



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# ***RF Capacity Feature Roadmap***

- > **Smart Antenna:** reduces retries, improves handover blocking, and reduces intracell handovers
- > **RF Congestion Relief:** will allocate interconnect to adjacent cells w/ acceptable quality
- > **Integrated 800/900 MHz:** enables 900 MHz interconnect along with 800 MHz system
- > **6:1 Interconnect Vocoder:** doubles interconnect channel capacity from 3:1 to 6:1
- > **800 MHz Extended Band:** enables 821-825MHz interconnect along with standard 806-821MHz
- > **Co-Channel/Co-DCC enhancement:** reduces dispatch call blocking, crosstalk and call initiation failures
- > **Interference Management:** provides essential data, (Performance Management, Fault Management, and BSC call traces) to allow operators to maximize RF resource management
- > **12:1 Dispatch:** doubles dispatch channel capacity from 6:1 to 12:1

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# Feature Summary: RF Efficiency Options

Feature	System Capacity Improvement Potential	Release	Cumulative
Baseline	NA	SR 9.6	1X
RF Congestion Relief	15%	SR 9.8	1.15X
Integrated 800/900 MHz	25%	SR 9.8	1.4X
6:1 Interconnect Vocoder	70% - 80%	SR 10.5	2.4X
800 MHz Extended	NA	SR 10.5	2.4X
Enhanced Receiver	25% - 50%	SR 9.6	3.1 to 3.6X
Co-Channel/Co-DCC Enhancement		SR 9.8	
Interference Management		SR 11.0	
12:1 Dispatch	10% - 20%	Potential Improvement	3.6 to 4.3X

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# Frame – Inbound

Improved 6:1 design reduces RF Interface delay from 90ms to 45ms – same as 3:1

Old 6:1



3:1



Improved 6:1



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# Slot – Inbound

**3:1/6:1  
Slot**



**Improved 6:1**



- > Improved 6:1 is a significant redesign of current 15ms slot structure
- > New Modem & FEC design expected to deliver equivalent voice channel performance as 3:1

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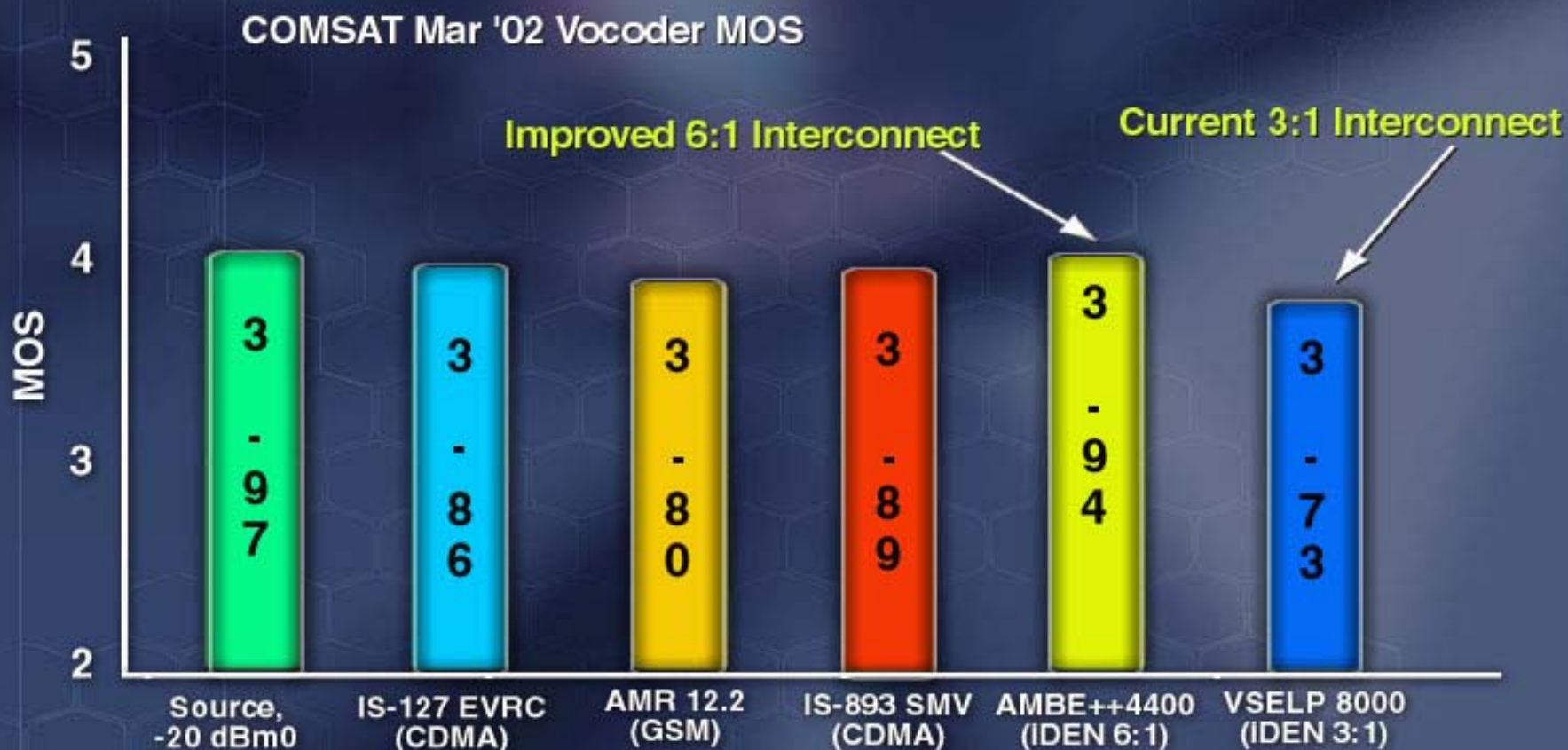


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# 6:1 Voice Quality Test Results



> Independent study showed 6:1 results display highest audio quality relative to other technology vocoders.

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# On-Target! - 6:1 Vocoder Contract Milestones

Milestone	Description	Contract Date	Forecast/Actual	Float
Milestone 1	6:1 Contract Signed	1/15/2002	3/28/2002	Comp
Milestone 2	Audio Quality Acceptance	3/30/2002	3/29/2002	Comp
Milestone 3	System Architecture Finalized	5/31/2002	5/31/2002	Comp
Milestone 4	Quality Workbook/Deployment Spec	8/1/2002	8/1/2002	Comp
Milestone 5	Over Air Demo 6:1, Prototype SU Available, ST Start	12/1/2002	11/22/2002	Comp
Milestone 6	New Feat Test Complete, Second Prototype SU Available	2/15/2003	2/15/2003	0
Milestone 7	Infrastructure and Subscriber Hdw/SW to Nextel	3/30/2003	3/30/2003	0
Milestone 8	ATP Complete	8/30/2003	8/14/2003	10
Milestone 9	SU Ship Acceptance	9/30/2003	8/29/2003	21



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# ***High Speed Data - WiDEN***

- ~4X Data throughput improvement over current iDEN data speeds
  - > 132 kbps in a 100khz channel
  - > No dedicated or wasted spectrum for data only
  - > Existing data and voice users share common radio channels
- Competitive user experience to CDMA and GSM offerings
- Total reuse of current network equipment
  - > Required use of Quad Base Radio to get 100khz of channel width
  - > Only requires SW upgrades

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# Potential Technology Evolution



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# WiDEN Smooths Voice/Data Transition

**WiDEN provides sufficient data bandwidth as data demand grows**

- > Over time, move voice traffic gradually off of WiDEN BR by adding additional RF resources to cell
- > WiDEN voice/data split can be done in step sizes of 1/12 of a 25 kHz carrier

**Example of peak WiDEN load over time:**



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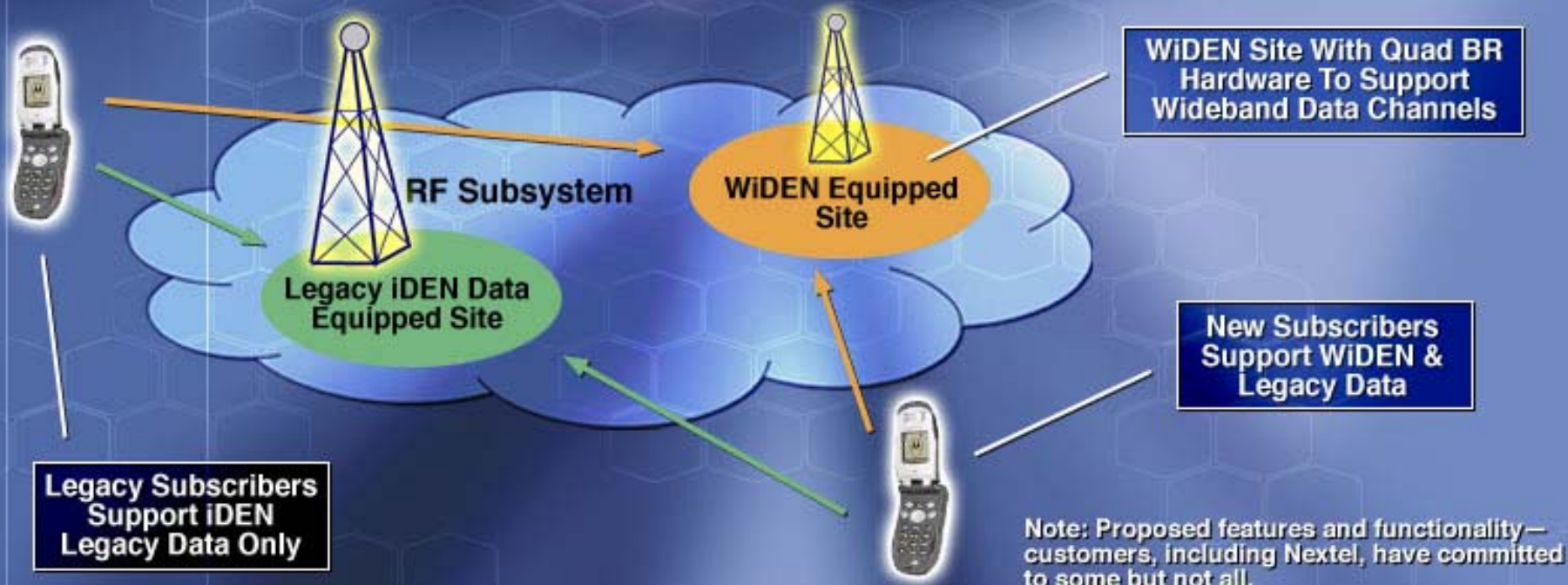
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# WiDEN Field Implementation

- > WiDEN can be added on a site by site basis
  - Minimizes risk & cost if data demand is lower than expected
- > Data session continuity provided
  - “handovers” supported between IDEN PCH and WiDEN



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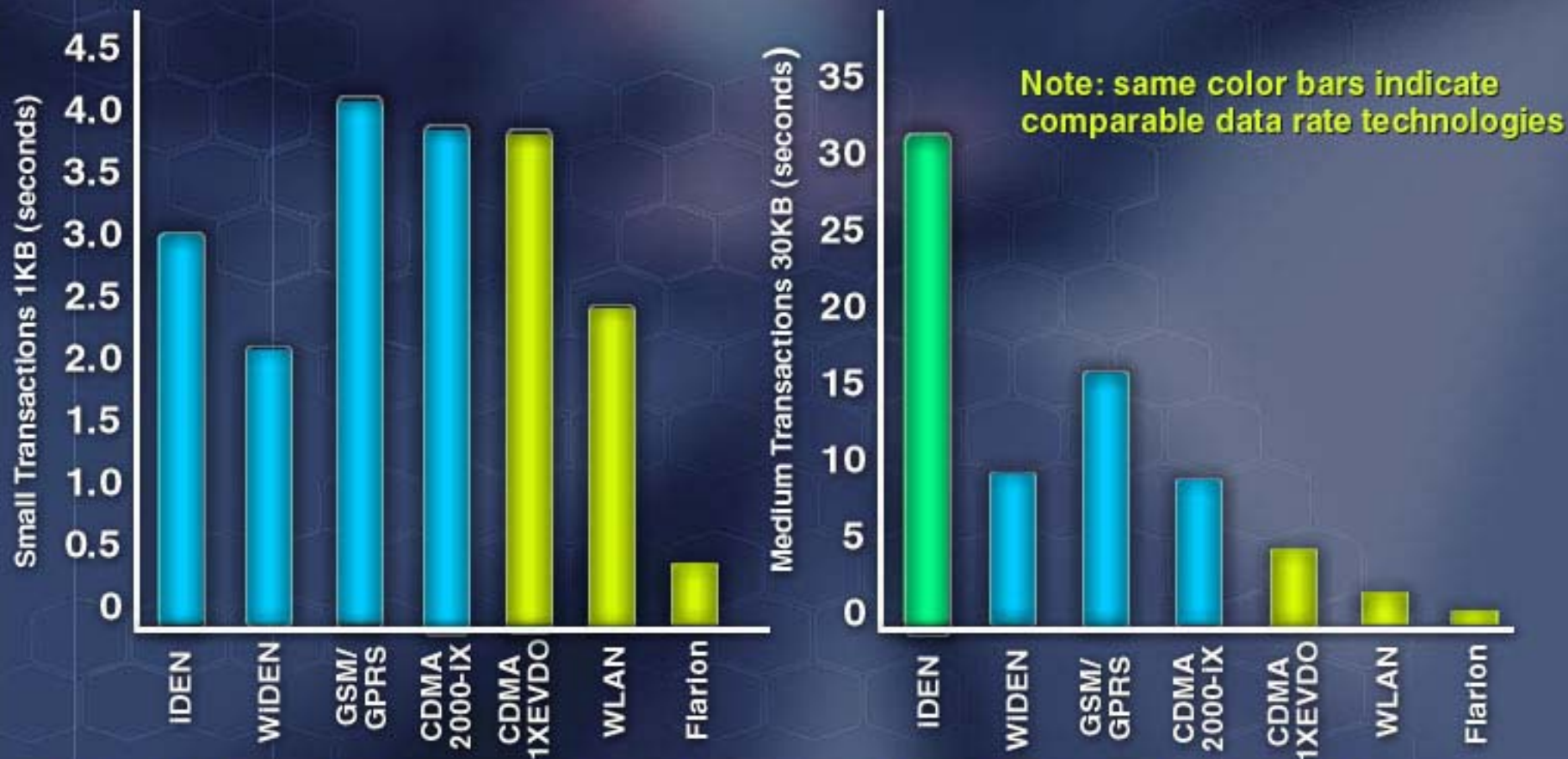
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# User Experience -WiDEN vs The Competition

Transaction Time in Seconds



> WiDEN user has superior (shorter) transmission time for small messages.

> WiDEN user has comparable transmission time for medium messages.

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# High Data Rate Service – WLAN Networking with WiDEN

Public Server



IP

Internal Server



802.11a up to 20 mbps

Trusted IP

AAA Server

iDEN up to 23 kbps  
WiDEN up to 92 kbps

HA

MDG (FA)

iDEN / WiDEN

802.11a



FA



- > WiDEN/iDEN / 802.11 Seamless roaming
- > Dual mode WiDEN/iDEN/ 802.11 subscriber
- > Mobile IP traffic mobility

Note: Proposed features and functionality—  
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# ***iDEN Dispatch Technology Development***

## **> Long Term Dispatch Technology Vision**

- RAN Transparent Service Framework

## **> Next Generation Dispatch Network Core**

- High-Level Core Architecture
- All Packet Backhaul Integration
- Urban Area Consolidation

## **> New Dispatch Features**

- Selective Dynamic Group Call
- Advanced Services Application Platform
- Nextel 3G Gateway and Transcoder Platform
- Nextel Public Service
- Wireless Priority Services

## **> Push-To-Talk Competitive Landscape**



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# ***iDEN & Motorola Support Nextel's Public Service Initiative***

- ☐ **iDEN integrates basic services required by Public Service**
  - > Interconnect, Private Call, Group Call, Packet Data, SMS
  - > High output audio
  - > Mobility management for dispatch services
- ☐ **Feature development**
  - > 6 handset features being integrated with handset roadmap
  - > 4 network features
    - Priority access for interconnect
    - Group Call precedence & Multi-Join
    - Wireline Console for iDEN
    - Isolated Direct Connect
- ☐ **Feasibility assessments**
  - > High site overlay
  - > Control channel access
  - > Encryption



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# ***IDEN Is An Elegant Long-Term Solution***

- ☐ Impressive capital and operating efficiencies
- ☐ Substantial increases in voice capacity to be delivered in 2003 and beyond
- ☐ Motorola is committed to iDEN enhancements which:
  - > Increase product and service differentiation
  - > Lower the cost to provide wireless services
  - > Increase spectrum efficiency
- ☐ Sustainable competitive advantage in Direct Connect



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# ***Greg Santoro***

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Vice President of Wireless and Internet Services  
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# ***Bill Werner***

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Senior Vice President and General Manager  
iDEN Subscriber Group  
Motorola, Inc.



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# ***Aligning Wireless Products, Services And Solutions With High-Value Customer Segments***

Customer Segment	Sales Approach	Applications	Channels
Enterprise Government	<b>Solutions</b>	Service Tools Sales Automation	Corporate Accounts
General Business	<b>Products</b>	Fleet Management Mobile Office	Direct Indirect Stores
Individuals	<b>Services</b>	Information Services Short messaging mCommerce Games	Telesales Web



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# Q1 2001 Wireless Handset Portfolio

High  
Price

World Phone



Motorola i2000 Plus  
\$149.99



Motorola i550 Plus  
\$49.99



Motorola i700 Plus  
\$79.99



Motorola i1000 Plus  
\$119.99

Low  
Price

Monolith Style

Clam Style



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# Current Wireless Handset Portfolio

High  
Price

World Phone



Low  
Price

Monolith Style

Clam Style



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# ***Key Differentiators***

- ☐ **Robust platform supporting features our customers expect**
  - > Direct Connect, high performance speakerphones, Vibracall, high resolution screens, more memory, SIM cards, location, MMS, etc.
- ☐ **Full support for wireless data**
  - > 9.3 million phones in the market are enabled for packet data and messaging
  - > 2.3 Million Java enabled phones
  - > J2ME support with extensions for SSL security, Midi, Push, etc.
- ☐ **High quality and performance**
  - > Exceed all other handsets on durability, failure rate, fit/finish, etc
  - > Optimized for responsiveness; 3-4 times for Java alone
  - > Over the air programmable enabling customer care and repair support
- ☐ **Joint development approach with Motorola**
  - > Collaborative, team-based design, development, and support
  - > Ability to optimize phone portfolio for our key segments



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# Handsets Are Designed For Nextel's Target Markets

## Specialized

### Public Service



**Target:** Public Safety  
Public Service, Utility;  
and Extreme Industrial

r750plus AFU r750plus FM

### Rugged/Durable



**Target:** Blue & Gray Collar;  
Construction;  
and Industrial.

i58sr

A-GPS



**Target:** Entry  
level Blue-  
Collar; Sports  
Enthusiast

i35s

### Limited Edition



i95cl LE  
Swiss Army



i95cl LE

**Target:** High  
Value  
Professionals  
who want a  
distinctive  
phone/look

## Core Segments

### Feature Rich / Color

**Target:** High  
Value  
Business  
Professionals



i90c



i95cl

**Target:** White  
Collar Gadget  
Grabbers; Data  
Application  
Platform

### Enterprise



i88s

**Target:** Fleets;  
Field Service;  
Enterprise  
Workforce

A-GPS



i80s

**Target:** Family  
Extension,  
Female  
Professional

### Lifestyle

### Entry Level

**Target:** Entry  
Level White  
Collar



i60c



i30sx

**Target:** Entry  
Level White  
and Grey  
Collar &  
Consumers

## Application-Specific

### Integrated PDA



BlackBerry 6510

**Target:** Executive;  
Mobile Office; Field  
Sales; Service, and  
Support; Optimum  
Data Platform

### International Phones



i2000plus

**Target:** International  
Business Travelers



v.60



p280

### Devices

**Target:** Wireless Data Applications



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# 2002 Handset Providers - CSI Ratings

## Handset Providers CSI Ratings vs. Industry Average

	Industry Average	Sanyo	Motorola Nextel	Motorola Consumer	Samsung	Kyocera	Qual Comm	Nokia	Audio Vox	Sony Ericsson
Overall	100	111	107	103	105	101	101	99	93	89
Physical Design	100	106	100	108	112	99	99	97	93	88
Features	100	114	114	104	107	106	98	101	87	88
Operation	100	110	113	99	104	103	106	99	92	88
Battery Function	100	116	110	101	98	104	99	98	97	91
Handset Durability	100	111	102	103	96	94	107	101	100	89



- Statistically above industry average



- Statistically below industry average

+/- 5 index pts. is significant



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Source: 2002 JDP&A Wireless Industry Services Style

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# ***Rich Application Environment***

- ☐ **Leadership Java support driving application development**
- ☐ **Developer Program supporting 9,000 developers**
- ☐ **Focus on device and application management**
- ☐ **Partnerships with IBM, Sun, EDS, and Accenture**
- ☐ **Supports our Wireless Business Solutions framework**



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# ***Falcon - Next Generation iDEN Handset Platform***

## **Core Features**

- > Integrated 6:1 Vocoder CODEC
- > Integrated A-GPS
- > Faster Core Processor
- > Increased Circuit Density
- > Synergy 2.0 User Interface

## **Key Benefits**

- > Dramatically improved use of available spectrum
- > Ability to meet FCC E911 mandate and commercial location services
- > More functionality and features
  - MMS, downloadable content & camera
- > Improved battery life
  - Improved talk time (50-80%) and improved standby time (+70%)
- > New designs
  - Fresh, consistent designs in form
  - More intuitive, improved UI

**The Falcon platform is the most important platform ever developed due to the strategic importance of 6:1.**



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# ***Summary***

- ❑ **The iDEN handset portfolio is designed to attract high value subscribers**
- ❑ **Handset prices are competitive**
- ❑ **Feature-rich iDEN phones are winning in the marketplace**
- ❑ **New Falcon platform phones extend market leadership**



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# iDEN Technology Update

December 17, 2002

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