

# Interoperability Solutions for Public Safety Radio Networks



**Scott C. Forbes, Ph.D.**  
**Senior Technical Project Manager**  
**Nextel Communications**

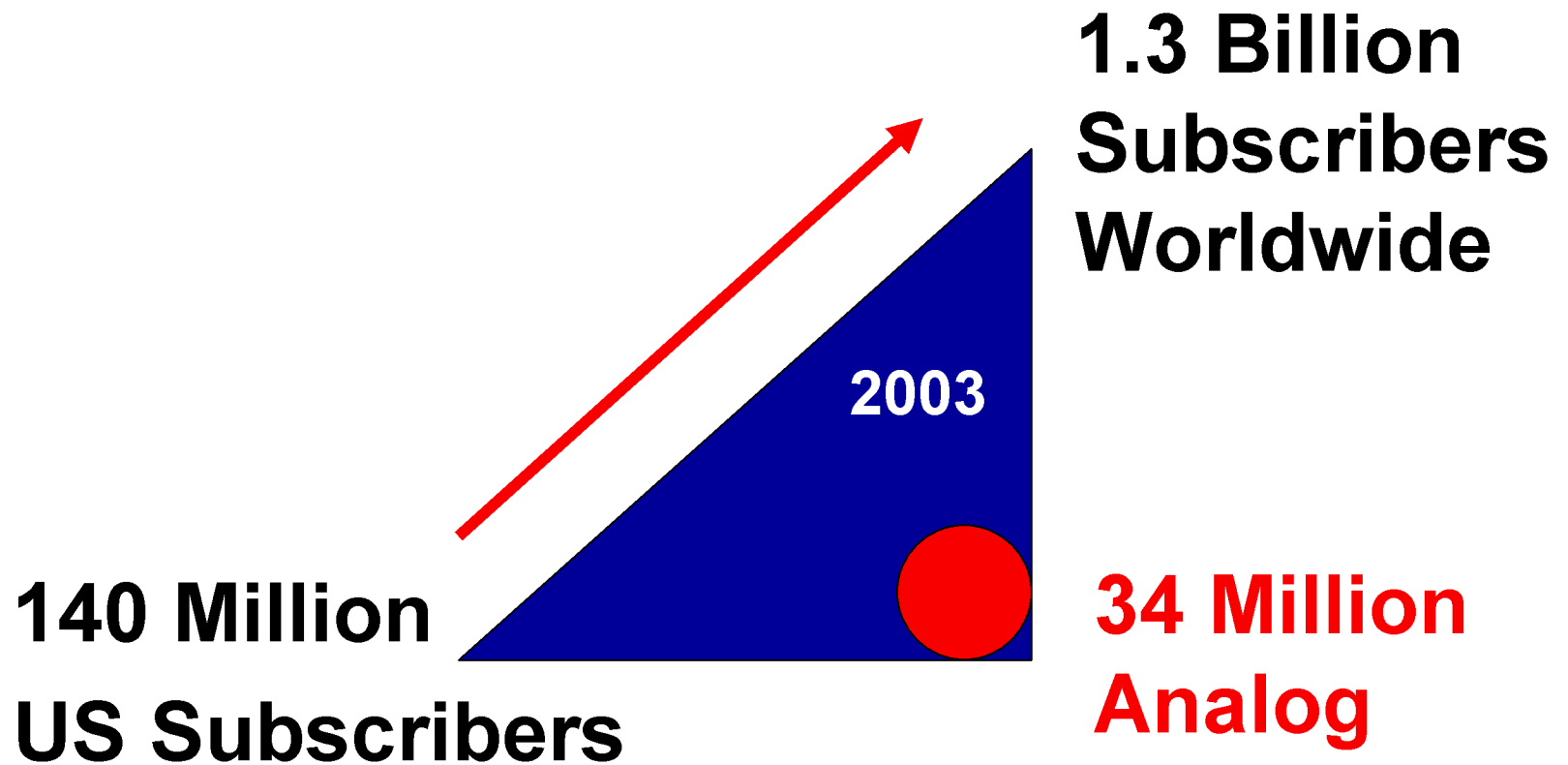
**NEXTEL®**

# Overview

- Defining Interoperability
- Importance of Interoperability
- Interoperability Solutions
- Nextel vs. Private Networks
- Benefits of Hybrid Networks



# Current Cellular Usage



# Defining Interoperability

- **How**
  - Technology Agnostic
- **Where**
  - Coverage Availability
- **When**
  - Network Reliability
- **Who**
  - Subscriber/User Independence





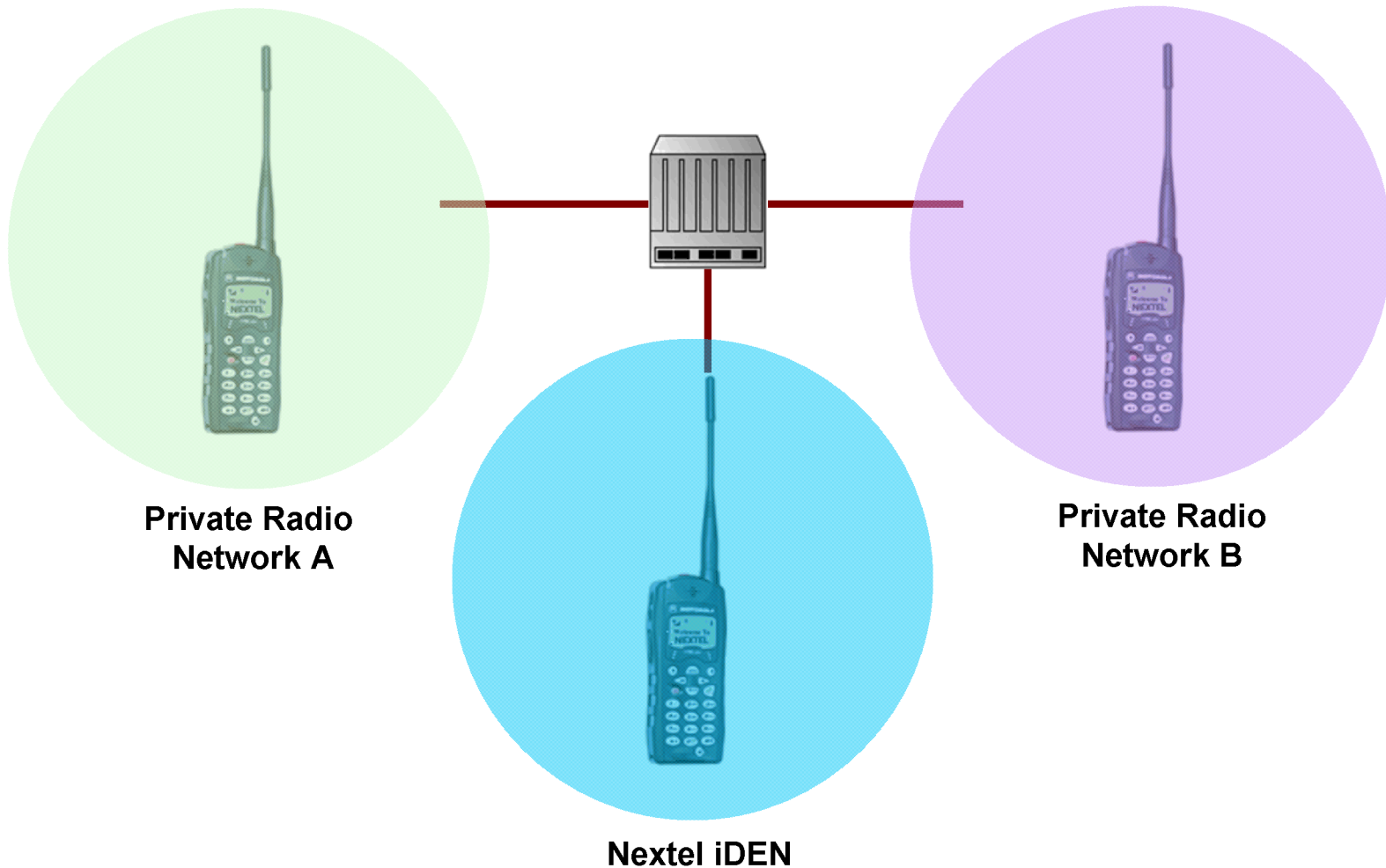
# Interoperability Concerns

- System Cost
- Spectrum Constraints
- Geographic Coverage
- Unfamiliar Technology

# User Interoperability

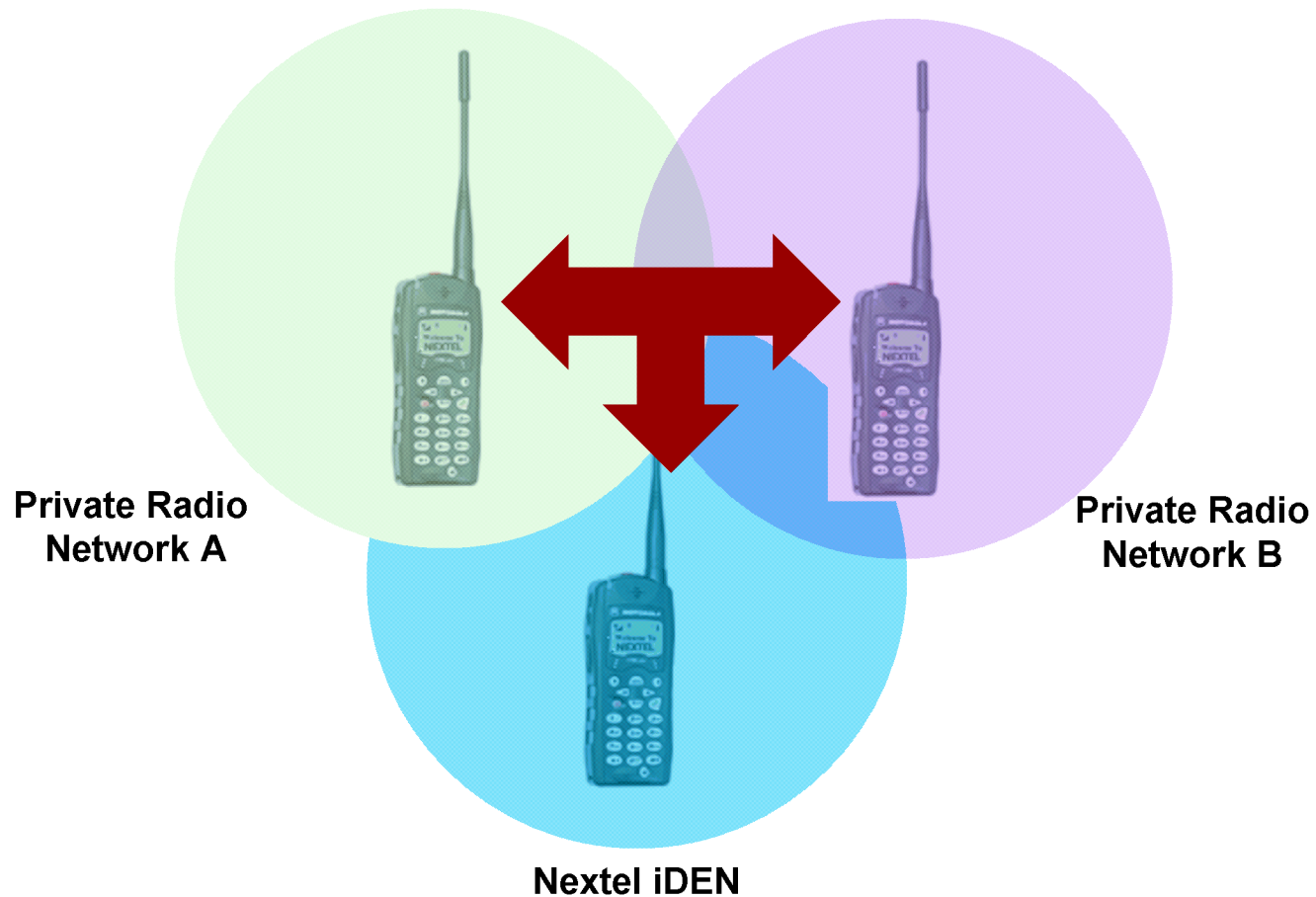


# Handset Interoperability





# Console Interoperability







# Nextel v. Private Networks

|                        | <b>Nextel<br/>Network</b> | <b>Private<br/>Network</b> |
|------------------------|---------------------------|----------------------------|
| Rapid Deployment       | ✓                         |                            |
| Low Capital Costs      | ✓                         |                            |
| Nationwide Coverage    | ✓                         |                            |
|                        |                           |                            |
| Physical Custody       |                           | ✓                          |
| Administrative Control |                           | ✓                          |
| Blanket Coverage       |                           | ✓                          |



# Compatible Strengths

|                     | <b>Nextel<br/>Network</b> | <b>Private<br/>Network</b> |
|---------------------|---------------------------|----------------------------|
| Dispatch Capability | ✓                         |                            |
| Digital Voice       | ✓                         |                            |
| Messaging           | ✓                         |                            |
| Data Applications   | ✓                         |                            |
| Network Control     | ✓                         |                            |
| Network Redundancy  | ✓                         |                            |
| Rugged Equipment    | ✓                         |                            |



# Advanced Data Solutions

- Public and Private Database Access
- Field Data Capture and Reporting
- Identity Checks



# Risk Convergence

- Fraud Finance
- Phreaking Telephones
- Hacking Computers
- Wacking Wireless





# Conclusion

*“Communications are key to helping to mitigate disasters and minimize losses.”*

—FCC Commissioner Michael  
Copps, September 2001



# Interoperability Solutions for Public Safety Radio Networks



**Scott C. Forbes, Ph.D.**  
**Senior Technical Project Manager**  
**Nextel Communications**

**NEXTEL®**