

Commercial Systems for PPDR Use - An Example -

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The New TELUS Mobility

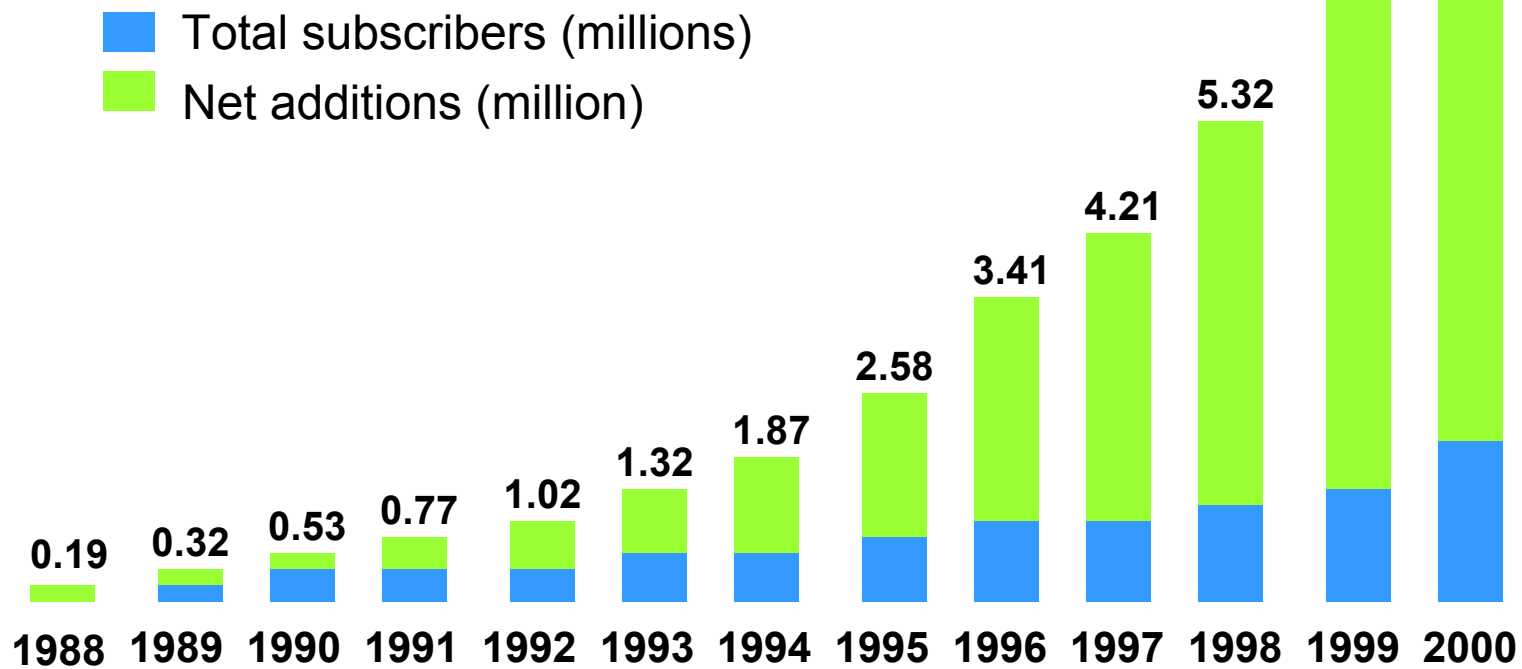


TELUS Mobility

- Subscribers > 2.8 million
- Revenue (2001) > \$1.8 billion
- CDMA footprint coast to coast
- iDEN network only one in Canada
- Spectrum position best in Canada
- Licensed POPs Canadian population
- Network coverage 27.6M (90%) + roaming
- Strategic partnership Verizon Wireless & Nextel

Canadian wireless subscriber growth

2000 Net additions = Industry's first 10 years



About TELUS Mobility

Leading spectrum position

Spectrum Holdings		PCS 1900										Cellular 800		iDEN
Block Size (MHz)	Population	A 30	D 10	B1 10	B2 10	B3 10	E 10	F 10	C1 10	C2 10	C3 10	A 25	B 25	SMR ~10
BC	4.1M													
Alberta	3.0M													
Saskatchewan / Manitoba	1.7M													
Ontario	11.7M													
Quebec	7.4M													
Nova Scotia / PEI	1.5M													

	TELUS
	Bell Mobility
	Rogers Wireless
	Microcell

Two state-of-the-art digital networks

- TELUS Mobility PCS
- The Mike Network
- Various other wireless assets



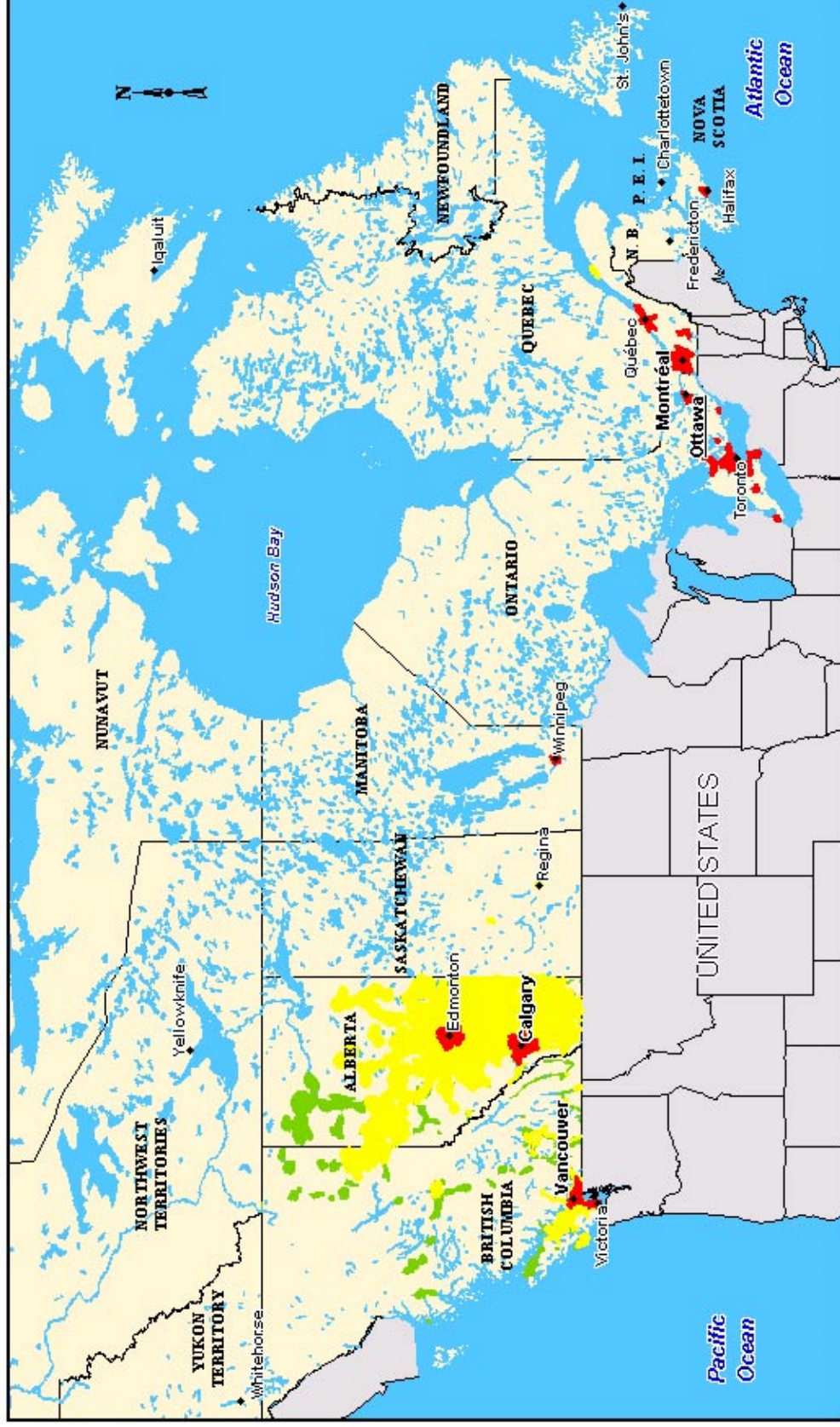
TELUS Mobility PCS



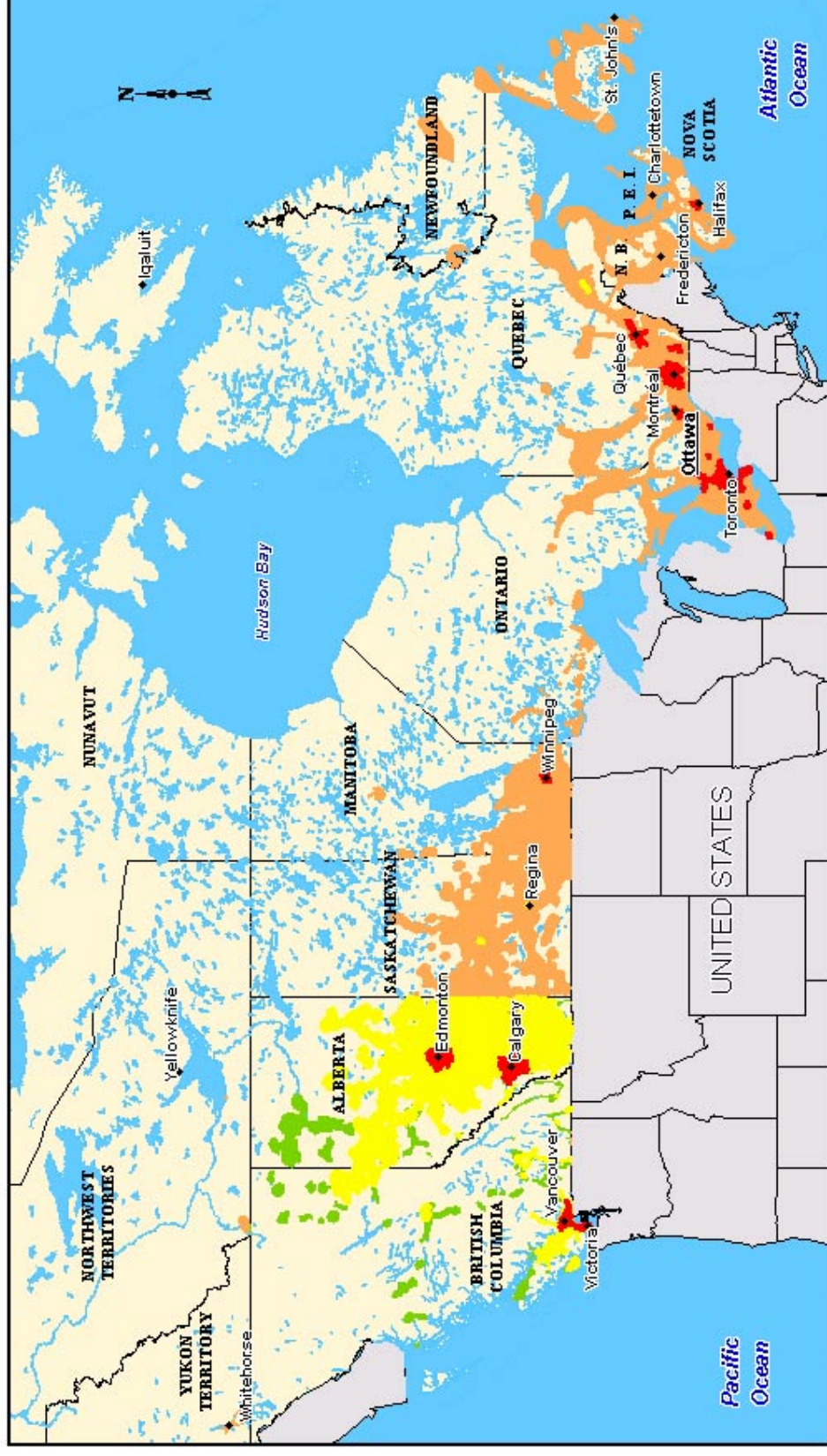
The Mike Network

Various
other wireless
assets

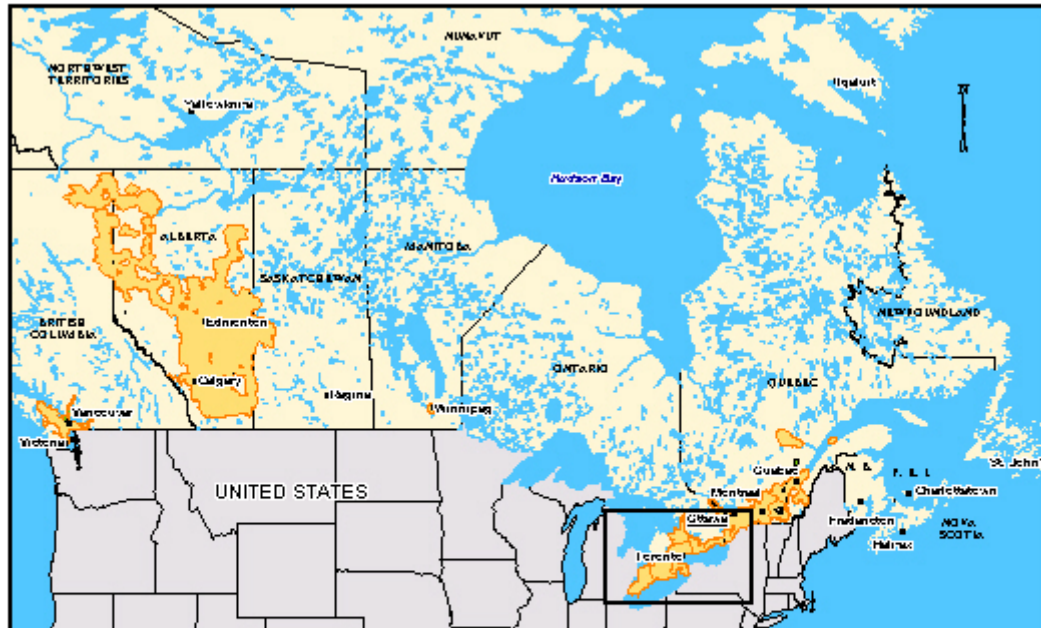
Cellular / PCS Network Coverage



Cellular / PCS Network Coverage



ESMR Network Coverage



current coverage



planned for 2002



Durham Regional Police Service





DRPS Background

- Large & varied terrain
 - » 1,000⁺ square miles
 - » Combination of dense urban, heavily forested rural & farm
 - » Elevation varies from sea level to 1000' ASL
 - » Ski hills, Mosport Motor Raceway, Lake Ontario to south, and Lake Simcoe to north
 - » Large industrial base (GM, Slater Steel, ...)





DRPS Background

- Regional Police Service
 - » Amalgamation of 9 municipal police services
 - » 700 sworn officers, 200 support staff
 - » Motorcycles, marine units, helicopter
 - » 911 Centre for Region with 60⁺ public safety communicators
 - » Responded to 143,000 calls for service in 2000





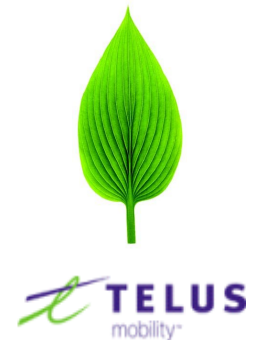
Durham Regional Police Services

- RFP Issued June 1998
- Awarded to Clearnet October 1998
- Contract signed April 1999
- System live with Voice November 1999
- Data live November 2000



DRPS Background

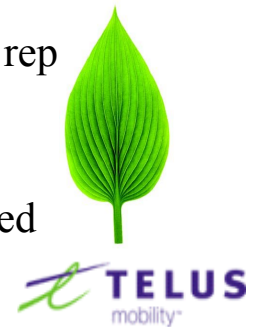
- Pre-existing VHF Radio System
 - » 25 years old
 - » Simulcast analog
 - » Mobiles & portables
 - » MDT's in car
 - » Portable coverage approx 67% of Region
 - » Mobile coverage approx 90% of region





Mandatory System Requirements

- **Guaranteed access**
 - » coverage & capacity...measured
- **Reliability**
 - » proven technology, site & switch redundancy, service...measured
- **Security of communications**
 - » digital as a proxy for encryption, site & switch security, process controls
- **System life**
 - » infrastructure & equipment evergreening scheduled...rep
- **System control**
 - » coverage and capacity expansion mechanisms...utilized
- **Interoperability**
 - » ease of communications with other services...experienced





iDEN with Public Safety Features

- All of iDEN's benefits:
 - Wide area coverage
 - Low hardware costs
 - Existing infrastructure paid for
 - Easy capacity expansion
 - Evergreening

PLUS

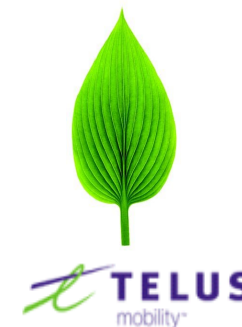
- Public Safety feature set



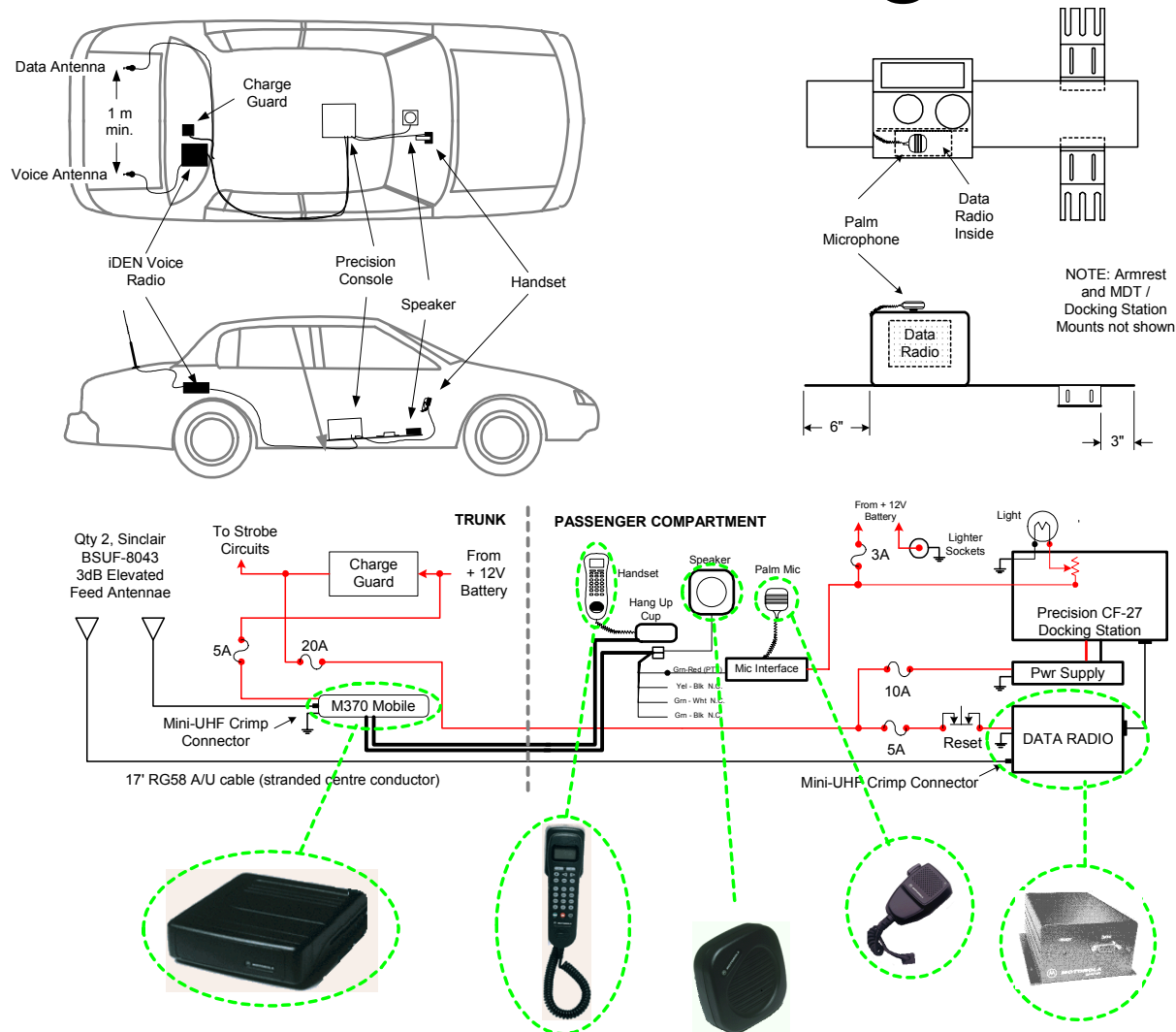


Public Safety Features

- | | | | |
|------------|-------------------------------|-------------|------------------------------|
| <u>i</u> | Priority | <u>vii</u> | Customized Coverage |
| <u>ii</u> | "Man Down" | <u>viii</u> | Mobile Data |
| <u>iii</u> | Ruthless Preemption | <u>ix</u> | Consoles |
| <u>iv</u> | Isolated Site Operation | <u>x</u> | Training |
| <u>v</u> | Dispatch System Back-up's | <u>xi</u> | Turnkey Public Safety System |
| <u>vi</u> | Non Sequential Network Design | | |



Mobile Block Diagram



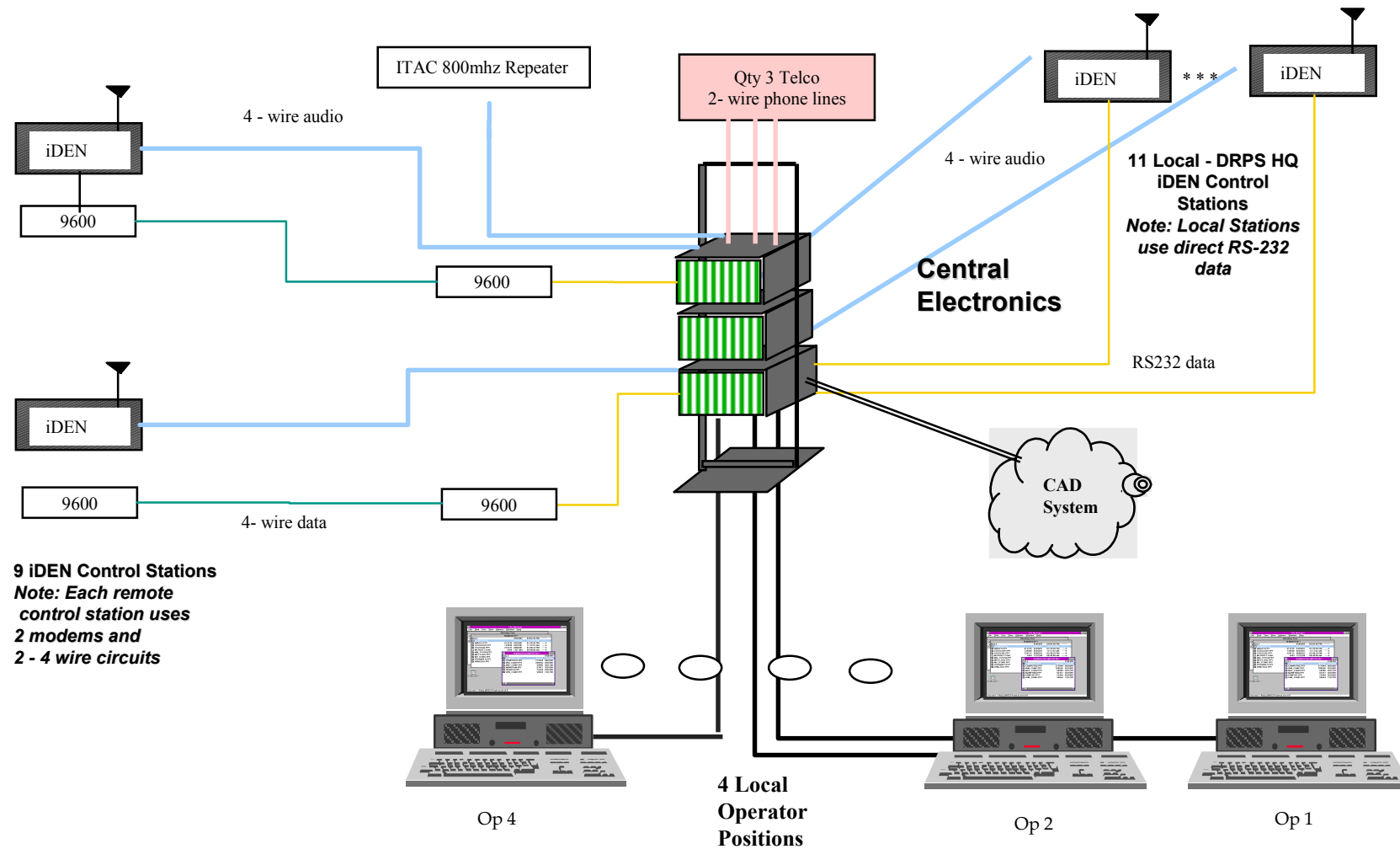
Mobile Console



Mobile Workstation



Dispatch Centre (Console) Block Diagram



Dispatch Position



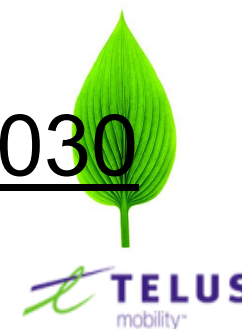
Helicopter





Traffic History (MOU)

	<u>2000</u>	<u>2001</u>
Private Call	340,120	403,786
Group Call	21,130,316	25,269,511
Interconnect	<u>357,121</u>	<u>669,030</u>
	<u>21,829,557</u>	<u>26,344,328</u>



Comparison of Alternatives

Criteria \ System Type	Private	Outsourced	Public (Commercial)
Cost Requirements/Function	\$\$\$\$	\$\$	\$
Capacity	*	*	*****
Complexity	H	M	L
Evergreening	*	***	*****
Priority Access	Y	Y	Now: iDEN/TETRA Future: All
Coverage	Local/ Regional	Local/ Regional	Nat'l & Int'l roaming
Security	****	****	****
PTT	Y	Y	Now: iDEN/TETRA Future: All
Data Rates	?	?	Now: 14.4-56 kbps Future: 100-1000 kbps +