



**Wireless E911
Technology Roundtable**

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**KSI Inc.
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KSI Background

- **Tech staff: Development of localization & tracking (L&T) systems since 1971**
- **CMRS LDS/PDE development**
 - **1986... IP development**
 - **1990... Experimental prototype demonstrations**
 - **1994... NPRM support with data results**
 - **AMPS: access/control & traffic/voice signals**
 - **1997 External investment/capitalization**
 - **Advanced data results**
 - **1998 DAMPS/TDMA & AMPS**
 - **1999 Preliminary rural**
- **CMRS management: COB & CEO, COO, VP**



Myth-Statements vs. Reality

- **Misstatements re. TeleSentinel™ network/infrastructure characteristics**

Myth	Fact
LDT not available	1990... demonstrations; production will scale in accord with orders
Will not meet requirement	Surpasses requirement for all current and future phones
Digital signal format not available	1998 TDMA demonstrated; CDMA, GSM, ESMR being developed
Rural not available	1999 preliminary rural trial results meet requirement with 12-20 mile cell-base separations
Costly	Tenfold less expensive
Requires triangles of, or at least three, antenna sites	Locations are obtained from one, two, three, etc. sites
Accuracy cannot improve	Optimally integrates all available and relevant information: <ul style="list-style-type: none">- Sensor measurements- Collateral information- Handset-derived data Staged software enhancements



Air Interface Support

- TeleSentinel™
Development

Frequency Band

	US Cellular	PCS	Other (SMR)
AMPS	Complete		
TDMA (IS-136)	Complete	Ongoing	
CDMA (IS-95)	Ongoing	Ongoing	
GSM		Ongoing	
ESMR (iDEN)			Future



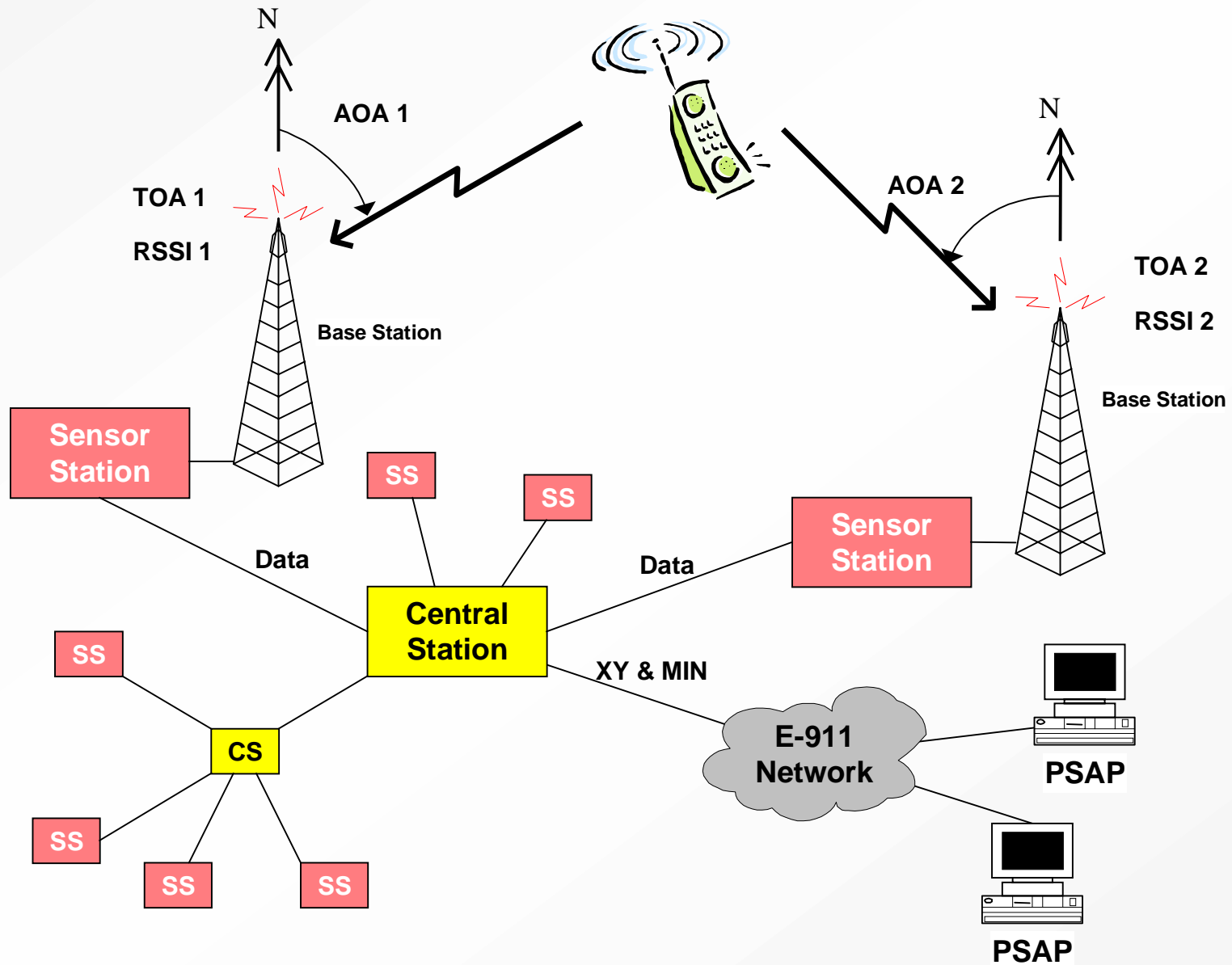
Network LDT Benefits

- **Infrastructure-based LDTs:**
 - **Locate all phones,
old, new, and future**
 - **Accommodate all air interfaces,
NAMPS through 3G**
 - **Support all services,
E911, commercial, and communications**
 - **Provide security,
personal and public**

- **Location of AMPS handsets
(Proc'g & info. messages vs. e.g. CDMA)**
 - E.g., Rural environments
- **Latency time for selective routing to the
designated PSAP**
 - E.g., Assisted GPS: 20 sec (goal: 6 sec)
- **High-percentage Phase II E911 service**
 - CEP for 50% or 67% vs. RMS (e.g., for 90%)

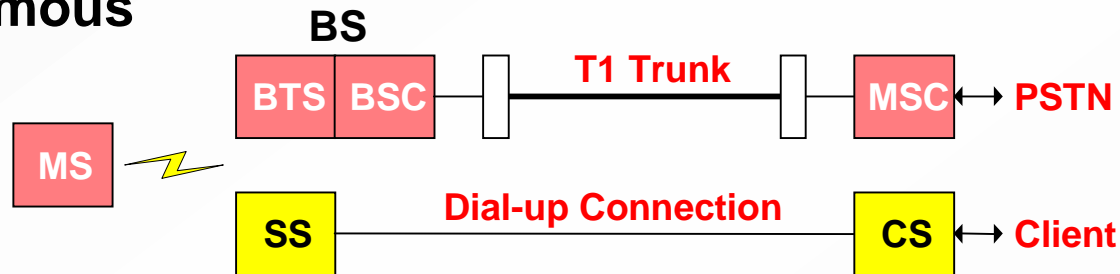


TeleSentinel™ LDS/PDE

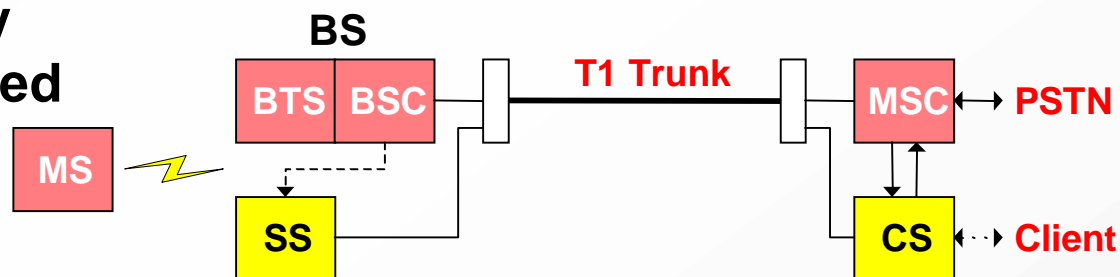


- Options for integration of the LDS/PDE with the communications system:

Autonomous Overlay



Partially Integrated



Fully Integrated

