

2008 Highlights of the OIT Digital Trunked Radio System

The statewide Digital Trunked Radio System (DTRS) allows for public safety interoperable emergency communications for all full and associate system users. Interoperability is the "Key" to emergency response and disaster recovery.

1. **DTR Site Information:** 22 New DTR Sites installed (built from the ground up) and brought on-air in the following counties:

Sedgwick	Eagle	Garfield
Montrose	Pueblo	Mineral
Mesa	Larimer	San Miguel
Ouray	La Plata	Moffat
Lake	Routt	Summit
Montezuma (Ute Mtn Ute Tribal Lands)		

DTR now has 176 active sites in 61 of the 64 Colorado counties. DTRS has local or grant funding secured to bring the system to 186 sites total by 3Q, 2010. There are projects being planned for additional sites if funding is secured.

Communication Services is providing the State "in kind" labor contribution for DOLA-funded CWIN grant expansion of the DTRS. System Engineering, Technician and Project Management support provided to local, tribal, state and federal government entities on DTRS infrastructure build-out.

2. **Subscriber Radios:** DTR system supports approximately 32,000 subscriber radios used by all major State divisions; CSP, CDOT, DOC, DOW, Parks, DOR, etc. as well as hundreds of local, regional and federal responder agencies. State agencies use of DTRS accounts for approximately 1/3 of the total number of radios on the system, for which Communication Services is responsible for the maintenance and repair.
3. **DTRS Call Stats:** New record for DTR calls in one month August, 2008: 6,027,134. Total calls for 2008 were approximately 64 million, with approximately 145,000 busies, which accounts for delays in only .20% of system traffic.
4. **Site expansions:** Expansion Channels added at current sites: 6
5. **Upgrade:** System upgraded to Astro 25 SR7.2 (included extensive hardware and software upgrades: zone controllers, routers, switches, MOSCAD replacement at all ~170 sites, console upgrades at all gold elite dispatch centers). FY09 expenditure was \$6,356,000, funded through capital construction appropriations. Remaining funds to be

expended are \$1,589,000. System downtime during cutover had minimal operational impact statewide.

The original upgrade contract was to bring DTRS to SR7.4. However, Communication Services has negotiated with the vendor to upgrade DTRS to SR7.5, at no additional cost to the State. The estimated cost savings of this upgrade to the State of Colorado is \$2.2 million.

6. **Encryption:** Encryption of radio voice traffic to gold elite consoles was added to DTRS. Encryption provides an additional layer of security, so DTRS radio traffic can not be monitored by public radio scanners.
7. **Consoles:** Four Dispatch centers' consoles (21 operator positions) were added to system (wireline or IP-based MCC7500).
8. **POP 25:** (over the air programming) feature tested successfully. This program allows new features to be pushed to radios "over the air", requiring no physical re-programming of the radio.
9. **800 MHz Re-banding of sites:** (172) completed, which included re-programming approximately 28,000 subscriber units twice each. Completely changed frequencies for the entire Digital Trunked Radio System, per the FCC rebanding requirement. Colorado was one of the first states' in the nation to completed 800MHz rebanding within the time period specified by the FCC.
10. **Democratic National Convention:** DNC supported with two new temporary sites in downtown Denver, including one site on wheels and channel expansions at two existing sites. Communication Services programmed and provided 1300 loaner radios to participating agencies, including the City and County of Denver. DTRS also provided support to the DNC Committee during all events. DNC public safety communications could not have been supported without the use of DTRS.
11. **Interoperability Gateways:** NetworkFirst, the Tyco EDACs interoperability gateway was permanently expanded prior to the Democratic National Convention. The expansion included the addition of mutual aid talkgroups (Green 1 and Green 2 for EMS and Grey for federal interoperability) to the DTR system for interoperability in routine and emergency situations.