



17-3542 - Exhibit G1.docx
Maintenance Contract Equipment List

EXHIBIT G

This document provides an inventory for the current maintenance contract for the San Antonio Bexar County Public Safety System by Dailey-Wells communications.

Legistar
[Email address]

COSA Updated Maintenance Contract Inventory:

From the list below, items that are *italicized and shown in red* represent scope that was added after the expiration of the original maintenance contract and annual extensions in 2010.

Brooks Data Center (EOC)

The Brooks Data Center houses the EDACS Administration Computers, IMC, Blue Simulcast Control Point, VIDA P25 Core 1, Inter Sub-System Interface, and Mutual Aid Layer connectivity. CPS Fiber provides the connectivity from the EDACS sites and CEC to Brooks. ITSD provides fiber connectivity from Brooks Data Center to the PSAP for T1 connectivity of the multiplexers used for the EDACS consoles. ITSD provided network connectivity from the VIDA P25 Core to the P25 sites and Frio Data Center. Lease Line T1s are employed to get connectivity to Lower Colorado River Authority (LCRA.) Detailed equipment lists are below.

BeOn

CSD

TRIMPC

Profile Computer

MOMPC Computer

EDACS Migration Gateway PC

Multiplexer to LCRA (Interop) (Parts from LCRA, LCRA provided mux)

6 Multiplexers for PSAP Console transport

1 Frequency Reference for CPS Fiber Backhaul

1 Tritech CAD Interface Computer

IMC

28 consoles (original)

15 console Interfaces

2 Fire Alert CAD Interfaces

1 Tritech CAD Interface

7 site interfaces (Redundant Controller and T1 cards)

CADLINK Interface

16 Conventional Interfaces

NIM Link to CEC (2 T1)

64 DVIU (Digital Voice Interfaces)

Logging Recorder Interface

Migration Gateway Interface

EDACS Data Gateway (EDG)

Blue Simulcast Control Point

19 CPTC Channel Controllers

19 Digital Receive Selectors

114 Digital Receive Voters

19 Analog Receive Selectors

114 Analog Receive Selectors
2 Control Point Timing Modules
4 Audio Level Controllers
4 Timing Resynchronization controllers
2 Low Speed Data Distribution controllers
Network Sentry Computer (IEA)
6 Multiplexers (Site Connectivity)
2 GPS Receivers
Site Controller Computer
Alarm Control Unit
2 Site Downlinks

VIDA P25 Core

VIDA Administration Server 1 (VAS)

VAS1 consists of the following Virtual Machines

Active Directory Server 1A

Active Directory Server 1B

E-Policy Orchestrator 1

LMR Access Point Service 1 (BeOn)

Network Switching Server 1

Regional Site Manager 1

Root Certificate Authority 1

RSA

Subordinate Certificate Authority

Security Update Management Service 1

Unified Administration Server 1

Transcoder 1A

Transcoder 1B

ASA5512x Firewall

ASA5505 Firewall

Cisco 3925 WAN Access Router

Cisco SM-d-ES3G-48-P internal Layer 3 switch (Regional Access Router)

Cisco 2921 Console Access Router

Cisco 2851 Internet Access Router

VIDA System Management Terminal

Inter Sub-System Interface server

Frio Data Center

The Frio Data Center houses the 2nd VIDA P25 Core. ITSD provides the network connectivity from the Frio Data Center to the P25 sites and Brooks Data Center.

VIDA P25 Core

VIDA Administration Server 2 (VAC)

VAS2 consists of the following Virtual Machines

Active Directory Server 2A

Subordinate Certificate Authority 2

LMR Access Point Service 2 (BeOn)
Network Switching Server 2
Regional Site Manager 2
Regional Network Manager 2
Transcoder 2A
ASA5512x Firewall
ASA5505 Firewall
Cisco 3925 WAN Access Router
Cisco SM-d-ES3G-48-P internal Layer 3 switch (Regional Access Router)
Cisco 2921 Console Access Router
Cisco 2851 internet Access Router

BCSO

Bexar County Sheriff Office Dispatch hosts the CEC, Gold Simulcast Control Point, and Bexar County SO and Fire Alarm Dispatch. CPS Fiber connects the EDACS equipment except for the lease T1 to Hallmark. ITSD fiber connects the Cisco routers to the Frio and Brooks Data Centers.

MOMPC Computer
CEC (Console Electronics Controller)
14 Consoles
1 Site Interface (Redundant Controller and T1 cards)
NIM Link to IMC (2 T1)
20 DVIU (Digital Voice Interfaces)
7 Maestro Consoles
2 Maestro Consoles added
1 Multiplexer to Transguide (1 Console)
1 Multiplexer to PSAP (4 Consoles)
1 DACS for Hallmark Site Connection (T1 shared for P25)
2 Cisco 2921 Routers
2 Cisco internal Ethernet switches

Gold Simulcast Control Point

19 CPTC Channel Controllers
19 Digital Receive Selectors
114 Digital Receive Voters
19 Analog Receive Selectors
114 Analog Receive Selectors
2 Control Point Timing Modules
4 Audio Level Controllers
4 Timing Re-synchronization controllers
2 Low Speed Data Distribution controllers
Integrated EDACS Alarm Computer (IEA)
6 Multiplexers (Site Connectivity)
2 GPS Receivers
Site Controller Computer
2 Site Downlinks

Brooks PSAP

The Brooks PSAP is located across the street from Brooks Data Center, and host the SAPD and SAFD Dispatch Center. The Equipment to support this includes a mix of EDACS and IP Based Consoles, 2 Maestro Gateways, Logging Recorder systems, and network equipment to connect the consoles. ITSD provides network connectivity from the PSAP routers to the VIDA P25 Core at Frio and Brooks Data Center. (Brooks PSAP did not exist in the original system. It replaced the dispatch center located at the old SAPD Administration building.)

*26 C3 Maestro consoles in EDACS mode (Original)
2 C3 Maestro Gateways (interface for Fire Dispatch Annunciation)
15 C3 Maestro^{IP} connected to VIDA Network
2 Cisco 2921 Routers
2 Cisco internal Ethernet switches
7 Intraplex Multiplexers to support Console Connectivity.*

BCSO REOC

The BCSO REOC will be going live June 2017. The REOC has been equipped with 10 new Symphony Consoles and associated hardware. (Original count at the BCSO dispatch C3 covered under contract is 7. These will go away after move. Increase count to contract will be 3)

*10 Symphony Consoles
2 Cisco 2921 Routers with internal switch
2 Cisco 2960 Switch
1 System Management terminal (SMT)*

Sites

Frio Tower Site

The Frio Tower Site is a City owned tower and shelter that hosts a Blue Simulcast Transmit Site, Gold Simulcast Transmit Site, P25 700 MHz Site, and 800 MHz Mutual Aid Stations. Connectivity for the EDACS site is provided by CPS Fiber. ITSD provides network connectivity for the P25 backhaul. (This tower was built as a replacement to the original SAPD Tower Site.)

Blue Simulcast

*19 MASTR III Stations
2 Transmit Timing Modules
4 Timing Resynchronization controllers
2 GPS Receivers
1 Network Sentry Alarm Computer
Intraplex Multiplexer*

Gold Simulcast

*19 MASTR III Stations
2 Transmit Timing Modules*

4 Timing Resynchronization controllers
2 GPS Receivers
1 Integrated EDACS Alarm Computer
Intraplex Multiplexer

Mutual Aid

5 MASTR III 800 MHz Stations

P25

5 MASTR V 700 MHz Stations
1 Network Sentry Computer
1 2811 Router
1 2960 Ethernet Switch

CPS Jones (KSAT)

The CPS Jones shelter contains a Blue Simulcast Transmit Site, Gold Simulcast Transmit Site, and provides a frequency reference for the CPS Fiber Ring that provides the backhaul for most of the radio system. Connectivity for the EDACS site is provided by CPS Fiber. (This site is scheduled to be moved to KSAT, and the tower decommissioned.)

1 2811 Router
1 2960 Ethernet Switch

Blue Simulcast

19 MASTR III Stations
2 Transmit Timing Modules
4 Timing Resynchronization controllers

2 GPS Receivers
1 Network Sentry Alarm Computer
Intraplex Multiplexer

Gold Simulcast

19 MASTR III Stations
2 Transmit Timing Modules
4 Timing Resynchronization controllers
2 GPS Receivers
1 Integrated EDACS Alarm Computer
Intraplex Multiplexer

Broadview

The Broadview Tower Site is a City owned tower and shelter that hosts a Blue Simulcast Transmit and Gold Simulcast Transmit Site. Connectivity for the EDACS site is provided by CPS Fiber.

1 2811 Router

1 2960 Ethernet Switch

Blue Simulcast

19 MASTR III Stations
2 Transmit Timing Modules
4 Timing Resynchronization controllers
2 GPS Receivers
1 Network Sentry Alarm Computer
Intraplex Multiplexer

Gold Simulcast

19 MASTR III Stations
2 Transmit Timing Modules
4 Timing Resynchronization controllers
2 GPS Receivers
1 Integrated EDACS Alarm Computer
Intraplex Multiplexer

Austin Highway

The Austin Highway site is a City owned Monopole and Shelter housing a Blue Simulcast Transmit Site, Gold Simulcast Transmit Site, and 700 MHz P25 Site. Connectivity for the EDACS site is provided by CPS Fiber. ITSD provides network connectivity for the P25 backhaul.

Blue Simulcast

19 MASTR III Stations
2 Transmit Timing Modules
4 Timing Resynchronization controllers
2 GPS Receivers
1 Network Sentry Alarm Computer
Intraplex Multiplexer

Gold Simulcast

19 MASTR III Stations
2 Transmit Timing Modules
4 Timing Resynchronization controllers
2 GPS Receivers
1 Integrated EDACS Alarm Computer
Intraplex Multiplexer

P25

5 MASTR V 700 MHz Stations
1 Network Sentry Computer
1 2811 Router
1 2960 Ethernet Switch

Hi-Lyons

The Hi-Lyons site is a city owned Tower and Shelter that houses a Blue Simulcast Transmit Site, Gold Simulcast Transmit Site, and VHF Mutual Aid Channels. Connectivity for the EDACS and Mutual Aid site is provided by CPS Fiber.

1 2811 Router

1 2960 Ethernet Switch

1 Network First 4 Port Conventional Interface

Blue Simulcast

19 MASTR III Stations

2 Transmit Timing Modules

4 Timing Resynchronization controllers

2 GPS Receivers

1 Network Sentry Alarm Computer

Intraplex Multiplexer

Gold Simulcast

19 MASTR III Stations

2 Transmit Timing Modules

4 Timing Resynchronization controllers

2 GPS Receivers

1 Integrated EDACS Alarm Computer

Intraplex Multiplexer

Mutual Aid

4 MASTR III VHF Stations (Fire Alarm & TX Law)

Zarzamora (Old Fire Training)

The Zarzamora site is a City owned tower and shelter that hosts a Blue Simulcast Transmit Site, Gold Simulcast Transmit Site, and a 700 MHz P25 Site. Connectivity for the EDACS site is provided by CPS Fiber. ITSD provides network connectivity for the P25 backhaul.

Blue Simulcast

19 MASTR III Stations

2 Transmit Timing Modules

4 Timing Resynchronization controllers

2 GPS Receivers

1 Network Sentry Alarm Computer

Intraplex Multiplexer

Gold Simulcast

19 MASTR III Stations

2 Transmit Timing Modules

4 Timing Resynchronization controllers

2 GPS Receivers

1 Integrated EDACS Alarm Computer
Intraplex Multiplexer

P25

5 MASTR V 700 MHz Stations
1 Network Sentry Computer
1 2811 Router
1 2960 Ethernet Switch

Cagnon

Cagnon is a city owned tower and shelter hosting an EDACS 12 Channel Site. Connectivity for the EDACS site is provided by CPS Fiber.

EDACS Site

12 MASTR III Stations
3 24Volt to 12 V DC Convertor
1 AC Inverter
1 GPS Receiver
1 Site Controller
1 Alarm Control Unit
1 RF Power Monitor Unit
Intraplex Multiplexer

Grey Forest

Grey Forest is a leased tower site with city owned shelter housing an EDACS 12 channel site. Connectivity for the EDACS site is provided by CPS Fiber.

EDACS Site

12 MASTR III Stations
3 24Volt to 12 V DC Convertor
1 AC Inverter
1 GPS Receiver
1 Site Controller
1 Alarm Control Unit
1 RF Power Monitor Unit
Intraplex Multiplexer

Hill Country

The Hill Country site is a lease tower with City owned shelter that contains an EDACS 14 channel site. Connectivity for the EDACS site is provided by CPS fiber.

EDACS Site

- 14 MASTR III Stations
- 3 24Volt to 12 V DC Convertor
- 1 AC Inverter
- 1 GPS Receiver
- 1 Site Controller
- 1 Alarm Control Unit
- 1 RF Power Monitor Unit
- Intraplex Multiplexer

South Breeze

The South Breeze Site is a lease tower with City owned shelter that contains an EDACS 13 channel site. Connectivity for the EDACS site is provided by CPS Fiber.

EDACS Site

- 13 MASTR III Stations
- 3 24Volt to 12 V DC Convertor
- 1 AC Inverter
- 1 GPS Receiver
- 1 Site Controller
- 1 Alarm Control Unit
- 1 RF Power Monitor Unit
- Intraplex Multiplexer

Toepperwein

The Toepperwein site is a leased tower with city owned shelter. It contains an EDACS 14 channel site and a 5 channel 700 MHz P25 site. The connectivity for the EDACS site is provided by CPS Fiber. ITSD provides the connectivity for the P25 site.

EDACS Site

- 14 MASTR III Stations
- 3 24Volt to 12 V DC Convertor
- 1 AC Inverter
- 1 GPS Receiver
- 1 Site Controller
- 1 Alarm Control Unit
- 1 RF Power Monitor Unit
- Intraplex Multiplexer

P25

- 5 MASTR V 700 MHz Stations*
- 1 Network Sentry Computer*
- 1 2811 Router*
- 1 2960 Ethernet Switch*

Hallmark

The Hallmark site is a lease tower with city owned shelter containing an EDACS 8 channel site and 5 channel 700 MHz P25 site. This site is connected to the BCSO CEC through a lease T1 circuit shared between the EDACS and P25 site.

EDACS Site

- 8 MASTR III Stations
- 3 24Volt to 12 V DC Convertor
- 1 AC Inverter
- 1 GPS Receiver
- 1 Site Controller
- 1 Alarm Control Unit
- 1 RF Power Monitor Unit
- Intraplex Multiplexer
- Lease T1 backhaul
- 1 DACS for IMC to Site Connection (T1 shared for P25)*

P25

- 5 MASTR V 700 MHz Stations*
- 1 Network Sentry Computer*
- 1 2811 Router*
- 1 2960 Ethernet Switch*

San Geronimo

The San Geronimo site is a leased tower and shelter housing a bidirectional amplifier (BDA) designed to enhance coverage in the northwest county. The amplifier system consists of a downlink antenna system, uplink antenna system, and the BDA itself.

Indian Creek

The Indian Creek site is in the CPS substation on Pleasanton Road. It is a leased tower and shelter housing a bidirectional amplifier (BDA) to enhance coverage in the Indian Creek area. The amplifier system consists of a downlink antenna system, uplink antenna system, and the BDA itself.

Transguide

The Police department has a single C3 Maestro console located in the Transguide building used by a PD traffic dispatcher.

- 1 C3 Maestro Console
- Intraplex Multiplexer

COSA Airport

Airport Communications has 4 Symphony Consoles installed with lease line backhaul to Brooks Data Center, and a CPS T1 backhauled to BCSO, then put on the VIDA network to give connectivity to the Frio Data Center. This Center originally had 4 Maestro consoles connected to the BCSO CEC.(Symphony are replacements)

4 Symphony Consoles

2 Cisco 1921 Routers

2 Cisco 2960 Switch