

7th Ops Support Squadron Building 8031 AV/VTC Upgrades, Dyess AFB, TX

DESCRIPTION OF SERVICES/REQUIREMENT: The Government requires a secure AV solution be provided to support the mission of the 7th Bomb Wing. All equipment must be TAA compliant, original non-refurbished parts, TEMPEST certified, no Wi-Fi/Bluetooth/RMF capabilities, and be on the Evaluation Assurance Level (EAL) 4 and National Information Assurance Partnership (NIAP) approved lists (links are below). Contractor(s) must hold a current TS/SCI clearance. The solution will need to include a TLX port matrix fiber switch with appropriate amount of ports to accommodate the amount of fiber connections we'll have connected. All fiber is single-mode, and currently each desk has one available fiber port. Any additional fiber ports needed beyond that will need to be created. Requesting a solution that is scalable, non-blocking, and have enough free ports to allow a 25% increase in connections for future expansion if needed. The solution should allow for multi-level network use while providing the security that is required to operate a multi-level network area. The three largest areas will require a type of AV station/control panel, ideally a touch screen pad, to control the connections. All VTC solutions shall ensure that a higher classified VTC session cannot be in use while a lower classified network is being displayed/operated within the same room at the same time (i.e. the ability to automatically shut down applicable networks in order to operate certain networks at a given time). All 4 SVTCs will need to be provided by the contractor, and they must be TAA compliant, original non-refurbished parts, TEMPEST certified, no Wi-Fi/Bluetooth/RMF capabilities and will all need to be approved to operate at their respective classification levels. Some examples of approved makes/models are the Cisco DX80 and Room series.

EAL4: <https://www.commoncriteriaportal.org/products/>

NIAP: <https://www.niap-ccevs.org/Product/index.cfm/>

TECHNICAL APPROACH

SOW:

- a. *Design* – The designed system must meet requirements based on hardware life-cycle availability and to ensure that the end customer meets their goals in the most cost-efficient manner possible while also future proofing themselves should additional upgrades be required at a later date. The contractor's hardware recommendations will meet all classification requirements for both UNCLASSIFIED and CLASSIFIED classification levels.
- b. *Programming* – The contractor will provide industry and manufacturer certified engineers (certifications detailed above) to support the programming of control and audio systems throughout the project to ensure the highest level of success of the project.
- c. *Installation and System Commissioning* – The contractor will follow industry standards for rack build and cabling to ensure ease of testing, review and troubleshooting for users of the systems. Additionally, will ensure all wireless communications capabilities in all components is disabled to conform to US DoD standards and requirements for security.
- d. The contractor will provide only brand name or equivalent hardware and will ensure that all hardware is in new condition.

STATEMENT OF OBJECTIVES

1. PURPOSE

1.1. Overview

The contractor's proposed solution must include a plan to upgrade AV/VTC systems throughout Building 8031 on Dyess AFB, TX. The new systems will be installed in the MPC Room 102, office areas 103, 104, 105, 106 and 107, AP Area 109, Briefing Room 114, and Ops Center 113. The contractor must provide a breakdown of each room's systems and also provide diagrams/floorplans with locations for what types of monitors or projection screens are to be mounted throughout the space as well as locations for microphones, computer inputs, credenzas/equipment racks, and power locations for all of these devices. Exact power locations and heights will need to be provided to the construction team, or other Government facility contractor that will be installing new power circuits to support all systems. The contractor will Furnish, Install, Test, and Maintain (FIT&M) all AV equipment stated in the design and hardware list below.

All of the contractor's personnel assigned to this project will be industry certified to install, configure and maintain all hardware to manufacturer and industry standards to ensure the best final solution is provided and installed in the customer locations. The contractor as a company should hold the AVIXA AV Provider of Excellence (APEX) Corporate Audio Visual Certification and all engineers and technicians acting as subject matter experts hold at a minimum AVIXA CTS certification with multiple individuals holding CTS-I and CTS-D certifications. It is recommended to ensure that only Crestron Platinum Level or Higher Master Programmers, Crestron MTA Silver Certified Designers, BiAmp TesiraForte certified engineers and Freeport Certified Partners are used to meet the requirements and ensure that all systems are properly installed and configured to meet all of the Government requirements. These industry certifications ensure that all equipment is properly installed and configured to the highest industry standards. Additionally, all technicians that will be assigned to the project must hold a minimum of a SECRET level security clearance with multiple individuals holding TOP SECRET if required.

The contractor will ensure that all equipment, firmware, and software has been approved and listed on the Department of Defense (DoD) Unified Capabilities (UC) Approved Product List (APL).

2. STATEMENT OF WORK

The contractor will use only Commercial-Off-The-Shelf (COTS) and ensure that all IA and IA-enabled products comply with AFI 17-130 Air Force Cyber Security Program requirements. All products will be CNSSP-11 compliant and will have been validated by accredited labs under the NIAP Common Criteria Evaluation and Validation Scheme or the NIST Federal Information Processing Standards (FIPS) Cryptographic Module Validation Program.

Technical Designs for each room are detailed below.

2.1. MPC Room 102 (Secure VTC Room)

Hardware in MPC Room 102 will include the following major hardware components:

2.1.1. Control System/Video Switching: To provide complete system control, the initial contractor is proposing a Crestron PRO3 3-Series Control system to act as the central control processor of the system. The PRO3 system will manage all aspects of the system from equipment control to which feeds are being sent to each location. All control of the

system will be controlled via a Crestron TSD-2220-B 21.5" touch screen unit. Additionally, Qty. 3 – Crestron TSW-560-NC-B 5" touch panel units will be provided as additional control interfaces in the room. All touch panel user interfaces will be programmed based on discussions with the customer to ensure the screen layouts and functionality meet the customer requirements and expectations. Video switching in the room will run through a new Crestron DM-MD32X32-CPU3-RPS video matrix switcher outfitted with the proper number of input and output cards to support all content input sources and all display devices in the room.

- 2.1.2. Displays/Presentation Functionality:** Proposal should include multiple display devices throughout the MPC Room (locations of each detailed on AV Layout in appendix A). Primary displays in the room will be Qty. 2 – Digital Projection 8,500 lumen Projectors shown on Qty. 2 – Da-Lite 119" projection screens. Secondary displays in the room will include Qty. 4 – 85" LG monitors on the side walls, Qty. 4 – 75" LG monitors in the back of the room, and Qty. 3 – 55" monitors in the offices off of the back of room 102. There will be Qty. 11 – Input locations for computer connections for presentation throughout the rooms at the desks (locations of each detailed on AV Layout in appendix A). Additionally, Qty. 2 – Contemporary Research HDTV tuners will be provided to support television display in the room.
- 2.1.3. Audio Components:** To meet the requirements for the highest quality audio available, the contractor will provide a new BiAmp TesiraForte AVB CI Audio Digital Signal Processor (DSP) system to manage all audio inputs and outputs in the room and ensure that the system has the highest quality echo cancellation in the market. The BiAmp DSP system will be paired with Qty. 4 – Shure 12" Desktop condenser microphones to provide audio pickup at the desks throughout the room (location detailed on the AV layout in appendix A). Audio playback will be supported via Qty. 3 – pairs of Extron FF220T ceiling speakers as well as Qty. 2 – pairs of Extron SF 3PT ceiling pendent speakers located in the back of the room. All speakers will be powered via an Extron XPA 2002 two channel amplifier.
- 2.1.4. Video Conferencing System:** To support video conferencing capabilities over multiple classifications, the proposal should include a new Cisco WebEx Codec Pro video codec (available on the APL) with a Freeport FP-MDVNS-3IP periods processing system and Vaddio RoboSHOT 12E HD PTZ camera. The Freeport system is JITC certified and will allow for up to 3 different classifications of networks to be able to be supported through a single VTC codec device. A Room Control Isolator will be provided with the Freeport system to meet JWICS network compliance requirements for security. To ensure room status is known, Qty. 2 – Alpha American 215C LED Display boards will be provided to display the room classification status at any time. One LED display will be mounted outside of the entrance to the room and the second will be mounted in the room.
- 2.1.5. Equipment Rack:** The contractor's proposal should provide for a new Middle Atlantic C5 Equipment Credenza with racks built in it to house all of the equipment (location detailed on the AV layout in appendix A). The color of the credenza will be able to be selected by the Government after award. The credenza will provide adequate space for all equipment and airflow to maintain appropriate heat levels in the equipment rack. All power distribution and UPS power will be provided in the credenza using Tripp-lite Power Distribution units.

2.2. Office Areas 103, 104, 105, 106, 107 (Non-Secure Rooms)

- 2.2.1. Displays/Presentation Functionality:** The contractor's proposal should provide for a single 55" display in each of the offices detailed above. The displays will be mounted on a

need AVFI mobile stand and will support connections from an external PC for each office.

2.3. AP Area 109 (Non-Secure Room)

- 2.3.1. Control System/Video Switching:** To provide complete system control, The contractor's proposal should provide for a Crestron DMPS 3-Series 150 all-in-one control and video switching system to act as the central control processor and video switcher (or similar) for the system. The DMPS system will manage all aspects of the system from equipment control to which feeds are being sent to each location to total video switching capabilities. All control of the system will be controlled via a single Crestron TSW-560-NC-B 5" touch panel unit. The touch panel user interfaces will be programmed based on discussions with the customer to ensure the screen layouts and functionality meet the customer requirements and expectations.
- 2.3.2. Displays/Presentation Functionality:** The contractor's proposal should provide for a single Digital Projection 8,500 Lumen projector shown on a 119" projection screen as the primary display in the AP Area (location detailed on AV Layout in appendix A). There will be a single input location for computer connections for presentation to the projection screen (location detailed on AV Layout in appendix A).
- 2.3.3. Audio Components:** To meet the requirements for the highest quality audio available, the contractor's proposal will provide capabilities for audio playback through Qty. 2 – pairs of Extron FF220T ceiling speakers. All speakers will be powered via a Crestron XPA2001 Mono amplifier (or similar).
- 2.3.4. Equipment Rack:** The contractor's proposal will provide for a new Middle Atlantic C5 Equipment Credenza (or similar brand) with a rack built in it to house all of the equipment (location detailed on the AV layout in appendix A). **The color of the credenza will be able to be selected by the Government after award.** The credenza will provide adequate space for all equipment and airflow to maintain appropriate heat levels in the equipment rack.

2.4. Briefing Room 114 (Non-Secure Room)

- 2.4.1. Control System/Video Switching:** To provide complete system control, the contractor's proposal should provide for a Crestron CP3 3-Series Control system (or similar) to act as the central control processor of the system. The CP3 system will manage all aspects of the system from equipment control to which feeds are being sent to each location. All control of the system will be controlled via a Crestron TSW-1060-NC-B 10" touch panel will be provided as the primary control interface for users in the room. All touch panel user interfaces will be programmed based on discussions with the customer to ensure the screen layouts and functionality meet the customer requirements and expectations. Video switching in the room will run through a new Crestron DM-MD8X8-CPU3 video matrix switcher outfitted with the proper number of input and output cards to support all content input sources and all display devices in the room.
- 2.4.2. Displays/Presentation Functionality:** The contractor's proposal should provide for multiple display devices throughout the Briefing Room (locations of each detailed on AV Layout in appendix A). Primary displays in the room will be Qty. 2 – Digital Projection 8,500 lumen Projectors shown on Qty. 2 – Da-Lite 133" projection screens. A rear confidence display will be provided using a third Digital Projection 8,500 Lumen projector shown on a 119" projection screen in the back of the room. Secondary displays in the room will include Qty. 2 – 85" LG monitors on the side walls. There will be Qty. 5 – Input

locations for computer connections for presentation throughout the room. One will be on the podium in the room and the other four locations are TBD (locations of each detailed on AV Layout in appendix A).

2.4.3. Audio Components: To meet the requirements for the highest quality audio available, the contractor's proposal will provide for a new BiAmp TesiraForte AVB CI Audio Digital Signal Processor (DSP) (or similar) system to manage all audio inputs and outputs in the room and ensure that the system has the highest quality echo cancellation in the market. The BiAmp DSP system will be paired with Qty. 1 – Shure 12" Desktop condenser microphone to provide audio pickup at the front of the room (location detailed on the AV layout in appendix A). Audio playback will be supported via Qty. 6 – pairs of Extron FF220T ceiling speakers. All speakers will be powered via an Extron XPA 2002 (or similar) two channel amplifier.

2.4.4. Equipment Rack: The contractor's proposal will provide for a new Middle Atlantic C5 Equipment Credenza (or similar) with racks built in it to house all of the equipment (location detailed on the AV layout in appendix A). The color of the credenza will be able to be selected by the Government after award. The credenza will provide adequate space for all equipment and airflow to maintain appropriate heat levels in the equipment rack.

2.5. Ops Center 113 (Secure VTC Room)

2.5.1. Control System/Video Switching: To provide complete system control, the contractor's proposal will provide for a Crestron PRO3 3-Series Control system (or similar) to act as the central control processor of the system. The PRO3 system will manage all aspects of the system from equipment control to which feeds are being sent to each location. All control of the system will be controlled via a Crestron TSD-2220-B 21.5" touch screen unit. Additionally, a Crestron TSW-1060-NC-B 10.1" touch panel unit will be provided as an additional control interface in the room. All touch panel user interfaces will be programmed based on discussions with the customer to ensure the screen layouts and functionality meet the customer requirements and expectations. Video switching in the room will run through a new Crestron DM-MD32X32-CPU3-RPS (or similar) video matrix switcher outfitted with the proper number of input and output cards to support all content input sources and all display devices in the room.

2.5.2. Displays/Presentation Functionality: The contractor's proposal will provide for Qty. 7 – 85" LG monitors throughout the Ops Center Room (locations of each detailed on AV Layout in appendix A) as the primary displays in the room. There will be Qty. 16 – Input locations for computer connections for presentation throughout the rooms at the desks and table (locations of each detailed on AV Layout in appendix A).

2.5.3. Audio Components: To meet the requirements for the highest quality audio available, The contractor's proposal will provide for a new BiAmp TesiraForte AVB CI Audio Digital Signal Processor (DSP) (or similar) system to manage all audio inputs and outputs in the room and ensure that the system has the highest quality echo cancellation in the market. The BiAmp DSP system will be paired with Qty. 2 – BiAmp TTM-X (or similar) table top beam tracking microphones to provide audio pickup at the table in the room (location detailed on the AV layout in appendix A). Audio playback will be supported via Qty. 5 – pairs of Extron FF220T (or similar) ceiling speakers. All speakers will be powered via an Extron XPA 2002 (or similar) two channel amplifier.

2.5.4. Video Conferencing System: To support video conferencing capabilities over multiple classifications, the contractor's proposal will provide for a new Cisco WebEx Codec Pro video codec (or similar) (available on the APL) with a Freeport FP-MDVNS-3IP periods

processing system (or similar) and Vaddio RoboSHOT 12E HD PTZ camera (or similar). The Freeport system is JITC certified and will allow for up to 3 different classifications of networks to be able to be supported through a single VTC codec device. A Room Control Isolator will be provided with the Freeport system to meet JWICS network compliance requirements for security. To ensure room status is known, Qty. 2 – Alpha American 215C LED Display boards will be provided to display the room classification status at any time. One LED display will be mounted outside of the entrance to the room and the second will be mounted in the room.

2.5.5. Equipment Rack: The contractor’s proposal will provide for a new Middle Atlantic C5 Equipment Credenza (or similar) with racks built in it to house all of the equipment (location detailed on the AV layout in appendix A). **The color of the credenza will be able to be selected by the Government after award.** The credenza will provide adequate space for all equipment and airflow to maintain appropriate heat levels in the equipment rack. All power distribution and UPS power will be provided in the credenza using Tripp-lite Power Distribution units.

3. ORDERING TABLE

The contractor will provide the following specific hardware to meet the requirements of the Government based on a site survey and discussions as detailed above.

Manufacturer	Description	Part No.	Qty
MPC Room 102	Name Brands are merely an example of a possible solution		
	85"3840x2160 UHD LED LCD Display 500 NITS 6MS 24/7, TAA Compliant		4
	X-Large Fusion Micro-Adjustable Tilt Wall Mount, TAA Compliant		4
	75"3840x2160 4K LED 16/7 NO WIFI TAA Tizen 4.0 HDMI 2.0		4
	X-Large Fusion Micro-Adjustable Tilt Wall Mount, TAA Compliant		4
	55" 3840x2160 4KUHD LED LCD Display No WiFi TAA complaint 16/7		3
	Large Fusion Micro-Adjustable Tilt Wall Mount, TAA Compliant		3
	Tensioned DescenderPro (16:9, 58" x 104" or 119" diagonal, Da-Mat)		2
	Suspended Ceiling Projector System - White		2
	8,500 Lumen, Laser Phosphor, WUXGA, 10,000:1 contrast, TAA Projector		2
	Lens for Projector. 1.73 – 2.27 : 1		2
	Cisco Webex Codec Pro - TAA compliant, Non Radio		1
	RoboSHOT 12E HDBT OneLINK HDMI System		1
	3-Network IP MD-VNS System - SCC5-NET switch, 3 SCC devices, cabling/connectors, EVERGREEN SUPPORT INCLUDED		1
	SECURESWITCH FIBER OPTIC ABC SWITCH REVISION B, RACKMOUNT (NIAP VALIDATED).		1
	Media Converter Package - 10/100/1000Base-T (RJ-45) to 1000Base-SX 850nm multimode (SC), rack kit, 5Net integrated cable set		2
	Room Control Isolator (required by JWICS)		1
	Maintenance Expansion Panel - Enables maintenance access from front of system		1
	LED DISPLAY, ALPHA 215C TRI-COLOR		2
	C5 Series Frame, 3 Bay, 31" Deep		1
	C5 Black Vent		1
	Pre-Configured TLAM Wood Kit, C5-FF31-3, locks and handles included (Color TBD)Middle Atlantic, Pre-Configured TLAM Wood Kit, C5-FF31-3, locks and handles included		1

	1.4kW Single-Phase Switched PDU, LX Platform Interface, 120V Outlets (8 5-15R), NEMA 5-15P, 12 ft. Cord, 1U Rack, TAA		2
	TAA SmartPro 120V 1kVA 800W Line-Interactive Sine Wave UPS, 1U, Network Card Options, USB, 6 Outlets		2
	4K Multi-Window Video Processor with HDBaseT® & HDMI® Outputs		2
	32x32 DigitalMedia™ Switcher with Redundant Power Supplies		1
	HDMI® 4K60 4:4:4 HDR Input Card for DM® Switchers		6
	DigitalMedia 8G+® 4K60 4:4:4 HDR Input Card for DM® Switchers, HDBaseT® Compatible		11
	2-Channel HDMI® 4K60 4:4:4 HDR Scaling Output Card for DM® Switchers		5
	2-Channel DigitalMedia 8G+® 4K60 4:4:4 HDR Output Card for DM® Switchers		8
	16-Port PoDM+ Power Supply for DM 8G+® I/O Cards		2
	3-Series Control System®		1
	21.5" HD Touch Screen Display, Black		1
	Digital Graphics Engine 200 with 4K DM 8G+® Input		1
	Adjustable LCD TV Stand Folding Metal Monitor Desk Stand with VESA Hole 75x75mm&100x100mm		1
	DigitalMedia 8G+® 4K60 4:4:4 HDR Transmitters 202		11
	DigitalMedia 8G+® 4K60 4:4:4 HDR Receiver and Room Controller with Scaler		2
	DigitalMedia 8G+® 4K60 4:4:4 HDR Receiver & Room Controller 100		11
	FF 220T Full-Range Flat Field Speakers with Low Profile Enclosure and 70/100 V Transformer (Pair)		3
	SF 3PT SoundField 3" Full-Range Pendant Speaker (Pair)		2
	XPA 2002 Two Channel Amplifier - 200 Watts Per Channel		1
	TesiraFORTÉ DSP fixed I/O server with 12 analog inputs, 8 analog outputs, 8 channels configurable USB audio, 128 x 128 channels of AVB, and Acoustic Echo Cancellation (AEC) technology (all 12 inputs)		1
	12" Desktop Cardioid Condenser Microphone 10' XLR cable Programmable Switch and LED Desktop Base		4
	5 in. Touch Screen without Camera or Microphone, Black Smooth		3
	Tabletop Kit for TSW-560, Black Smooth		3
	232-ATSC 4 HDTV Tuner		2
Office Areas 103, 104, 105, 106, 107			
	55" 3840x2160 4KUHD LED LCD Display No WiFi TAA complaint 16/7		5
	Mobile Stand Fits 42"-60" screens up to 75 lbs. Accessible base design, rolls on 2 rear wheels allowing this unit to be tilted and rolled from location to location.		5
	DigitalMedia 8G+® 4K60 4:4:4 HDR Receiver & Room Controller 100		5
	2-Channel DigitalMedia 8G+® 4K60 4:4:4 HDR Output Card for DM® Switchers		3
AP Area 109			
	Tensioned DescenderPro (16:9, 58" x 104" or 119" diagonal, Da-Mat)		1
	Suspended Ceiling Projector System - White		1
	8,500 Lumen, Laser Phosphor, WUXGA, 10,000:1 contrast, TAA Projector		1
	Lens for Projector. 1.73 – 2.27 : 1		1
	C5 Series Frame, 1 Bay, 22" Deep		1
	C5 Black Vent		1
	Pre-Configured TLAM Wood Kit, C5-FF22-1, locks and handles included (Color TBD)		1
	3-Series® 4K DigitalMedia™ Presentation System 150		1
	DigitalMedia 8G+® 4K60 4:4:4 HDR Transmitters 202		1

	DigitalMedia 8G+® 4K60 4:4:4 HDR Receiver and Room Controller with Scaler		1
	5 in. Touch Screen without Camera or Microphone, Black Smooth		1
	Tabletop Kit for TSW-560, Black Smooth		1
	XPA 2001 Mono 70/100 V Amplifier - 200 Watts		1
	FF 220T Full-Range Flat Field Speakers with Low Profile Enclosure and 70/100 V Transformer (Pair)		2
Briefing Room 114			
	Tensioned DescenderPro (16:9, 58" x 104" or 119" diagonal, Da-Mat)		1
	Tensioned DescenderPro (16:9, 65" x 116" or 133" diagonal, Da-Mat)		2
	Suspended Ceiling Projector System - White		3
	8,500 Lumen, Laser Phosphor, WUXGA, 10,000:1 contrast, TAA Projector		3
	Lens for Projector. 1.73 – 2.27 : 1		3
	85"3840x2160 UHD LED LCD Display 500 NITS 6MS 24/7, TAA Compliant		2
	Large THINSTALL Dual Swing Arm Wall Display Mount, 25" extension		2
	FF 220T Full-Range Flat Field Speakers with Low Profile Enclosure and 70/100 V Transformer (Pair)		6
	XPA 2002 Two Channel Amplifier - 200 Watts Per Channel		1
	TesiraFORTÉ DSP fixed I/O server with 12 analog inputs, 8 analog outputs, 8 channels configurable USB audio, 128 x 128 channels of AVB, and Acoustic Echo Cancellation (AEC) technology (all 12 inputs)		1
	12" Desktop Cardioid Condenser Microphone 10' XLR cable Programmable Switch and LED Desktop Base		1
	8x8 DigitalMedia™ Switcher		1
	HDMI® 4K60 4:4:4 HDR Input Card for DM® Switchers		1
	DigitalMedia 8G+® 4K60 4:4:4 HDR Input Card for DM® Switchers, HDBaseT® Compatible		6
	2-Channel HDMI® 4K60 4:4:4 HDR Scaling Output Card for DM® Switchers		1
	2-Channel DigitalMedia 8G+® 4K60 4:4:4 HDR Output Card for DM® Switchers		3
	16-Port PoDM+ Power Supply for DM 8G+® I/O Cards		1
	DigitalMedia 8G+® 4K60 4:4:4 HDR Transmitters 202		5
	DigitalMedia 8G+® 4K60 4:4:4 HDR Receiver and Room Controller with Scaler		3
	DigitalMedia 8G+® 4K60 4:4:4 HDR Receiver & Room Controller 100		2
	4K Multi-Window Video Processor with HDBaseT® & HDMI® Outputs		1
	10.1 in. Touch Screen without Camera or Microphone, Black Smooth		1
	Tabletop Kit for TSS-10 and TSW-1060, Black Smooth		1
	3-Series Control System		1
	C5 Series Frame, 1 Bay, 22" Deep		1
	C5 Black Vent		1
	Pre-Configured TLAM Wood Kit, C5-FF22-1, locks and handles included (Color TBD)		1
Ops Center 113			
	85"3840x2160 UHD LED LCD Display 500 NITS 6MS 24/7, TAA Compliant		7
	X-Large Fusion Micro-Adjustable Tilt Wall Mount, TAA Compliant		7
	Cisco Webex Codec Pro - TAA compliant, Non Radio		1
	RoboSHOT 12E HDBT OneLINK HDMI System		1
	3-Network IP MD-VNS System - SCC5-NET switch, 3 SCC devices, cabling/connectors, EVERGREEN SUPPORT INCLUDED		1

	SECURESWITCH FIBER OPTIC ABC SWITCH REVISION B, RACKMOUNT (NIAP VALIDATED).		1
	Media Converter Package - 10/100/1000Base-T (RJ-45) to 1000Base-SX 850nm multimode (SC), rack kit, 5Net integrated cable set		2
	Room Control Isolator (required by JWICS)		1
	Maintenance Expansion Panel - Enables maintenance access from front of system		1
	LED DISPLAY, ALPHA 215C TRI-COLOR		2
	C5 Series Frame, 3 Bay, 31" Deep		1
	C5 Black Vent		1
	Pre-Configured TLAM Wood Kit, C5-FF31-3, locks and handles included (Color TBD)Middle Atlantic,Pre-Configured TLAM Wood Kit, C5-FF31-3, locks and handles included		1
	1.4kW Single-Phase Switched PDU, LX Platform Interface, 120V Outlets (8 5-15R), NEMA 5-15P, 12 ft. Cord, 1U Rack, TAA		2
	TAA SmartPro 120V 1kVA 800W Line-Interactive Sine Wave UPS, 1U, Network Card Options, USB, 6 Outlets		2
	4K Multi-Window Video Processor with HDBaseT® & HDMI® Outputs		3
	32x32 DigitalMedia™ Switcher with Redundant Power Supplies		1
	HDMI® 4K60 4:4:4 HDR Input Card for DM® Switchers		7
	DigitalMedia 8G+® 4K60 4:4:4 HDR Input Card for DM® Switchers, HDBaseT® Compatible		17
	2-Channel HDMI® 4K60 4:4:4 HDR Scaling Output Card for DM® Switchers		7
	2-Channel DigitalMedia 8G+® 4K60 4:4:4 HDR Output Card for DM® Switchers		4
	16-Port PoDM+ Power Supply for DM 8G+® I/O Cards		2
	3-Series Control System®		1
	21.5" HD Touch Screen Display, Black		1
	Digital Graphics Engine 200 with 4K DM 8G+® Input		1
	Adjustable LCD TV Stand Folding Metal Monitor Desk Stand with VESA Hole 75x75mm&100x100mm		1
	DigitalMedia 8G+® 4K60 4:4:4 HDR Transmitters 202		16
	DigitalMedia 8G+® 4K60 4:4:4 HDR Receiver & Room Controller 100		7
	FF 220T Full-Range Flat Field Speakers with Low Profile Enclosure and 70/100 V Transformer (Pair)		5
	XPA 2002 Two Channel Amplifier - 200 Watts Per Channel		1
	TesiraFORTÉ DSP fixed I/O server with 12 analog inputs, 8 analog outputs, 8 channels configurable USB audio, 128 x 128 channels of AVB, and Acoustic Echo Cancellation (AEC) technology (all 12 inputs)		1
	AVB Beamtracking tabletop microphone, black		1
	Expansion AVB Beamtracking tabletop microphone, black		1
	10.1 in. Touch Screen without Camera or Microphone, Black Smooth		1
	Tabletop Kit for TSS-10 and TSW-1060, Black Smooth		1

4. TECHNICAL REQUIREMENTS

4.1. Technical Refresh

The contractor will ensure that new design enhancements and technological updates or advances are supported by providing hardware and software components available to the contractor's commercial customers. The contractor's proposal will also make provide to the government any commercially available updates to the hardware and software provided under this contract. All updates will be provided at no cost to the Government and will be shipped to

the Government when they become available during the period of performance for the contract. The contractor's proposal will ensure all offerings that the contractor is providing to the government are the latest "state of the art" technologies available and will provide the government with a futureproof solution to ensure that any updates that are required at a future date will be possible without a complete system overhaul and wholesale refresh.

4.2. Trade Agreement Act

The contractor will use only products that are compliant with the Trade Agreements Act of 1979 unless there is no other option from the desired manufacturer.

4.3. Authorized Resellers

The contractor is an authorized reseller of Cisco, Polycom, Crestron, AMX, Extron, BiAmp, Planar and multiple other major manufacturers of audio visual and video conferencing solutions. The contractor's proposal will provide for only use OEM solutions that are eligible for all OEM warranties, maintenance agreements and licensing as offered.

4.4. Remanufactured/Refurbished Products

The contractor will use no remanufactured/refurbished products in response to this solicitation's requirements. All solutions will be certified new and support all available manufacturer warranties, maintenance agreements and licensing as offered.

4.5. Warranty

The contractor will provide all standard OEM warranties allowed and will act as the liaison with the manufacturer for the end customer should any components become require attention, a return authorization or troubleshooting above what the contractor provides via the contractor's helpdesk.

4.6. Hardware and Associated Software and Peripherals

The contractor will provide all associated software, documentation and associated peripherals for operations as provided by the OEM for all hardware used in delivery of this DO to the government

4.7. Software

The contractor will provide all software licensing registered to the customer's organization to the customer for any software that is outside of the hardware and purchased independently.

4.8. Customer Support

To ensure that the system maintains an on-going high-quality service and user experience, The contractor will provide unlimited live phone via 1-800 number and email support via support email address during the 1-Year warranty period to assist in isolating, identifying, and repairing software and hardware failures. The contractor's support team is a US based help desk with CTS certified team members with over 30 years' experience in AV support services. In addition to the standard phone support, the contractor will act as a liaison with the manufacturer to support replacement of equipment and RMA return of any equipment required to fix the discovered issue. Should an issue not be able to be remedied via remote support, the contractor will dispatch a technician to arrive onsite to bring the issue to resolution.

4.9. Product Maintenance:

The contractor will provide all OEM associated maintenance and coverages available for all

new hardware provided by the contractor during the warranty period.

5. INSTALLATION

5.1. Installation Plan:

The contractor will provide the Government with a final installation plan and hardware Bill of Materials (BOM) for final approval prior to on-site arrival. Should there be any deviations from the proposed BOM, the contractor will alert the Government to these differences. Additionally, the contractor will schedule all installation activities with the government and ensure that the full installation including testing is completed in less than 30 business days.

5.2. Turn-key Operation and Testing

The contractor will Furnish, Install and Test and perform all necessary efforts to ensure successful completion of this project and make sure that all systems installed in response to this effort are in full operational condition prior to final testing, training and Government sign-off. The contractor will provide all hardware and software necessary to support this requirement and will submit an industry standard and site-specific test and acceptance procedures for Government review and approval prior to final Government testing and sign-off.

6. CONFIGURATION MANAGEMENT

The contractor will provide complete system configuration for all equipment associated with the conference room AV and VTC systems. The contractor will provide a complete documentation of all configurations of equipment including a list of all components required in order for the system to be maintained and functional as part of the documentation package.

7. TRAINING

After all testing is complete and as the final part of the installation process, the contractor will provide complete user training on all of the separate room systems to local system administrators and other users deemed necessary to ensure that there is a complete understanding of the functionality of the system, it's interfaces and all features. Additionally, the contractor will train the system administrators on basic troubleshooting techniques to use to help remedy issues should they contact the contractor's helpdesk for support after the contractor's technicians have left the site.

8. DOCUMENTATION

After final installation and testing has been completed and the system has been turned over to the Government, the contractor will provide a documentation package to the system administrators at Dyess, AFB. The documentation package will include complete system schematics for all system wiring, all hardware and equipment manuals in either hard or soft copy, user guides in both hard and soft copy and any manufacturer specification sheets for each major equipment item installed.

9. ADDITIONAL REQUIREMENTS

9.1. The contractor Project Management

The contractor will provide a Project Manager (PM) for the Dyess AFB project that will plan and manage daily operations and activities associated with providing this requirement to ensure the necessary processes and activities are performed to provide an effective and acceptable system. The contractor will follow a standard practice for system implementation from the date of contract award through final system sign-off to ensure that the highest quality experience in the most cost-effective manner is had by the customer and to ensure that the final end solution

meets all requirements of the government for functionality, ease of use and on-going warranty/support services. The contractor may participate in program management and technical reviews, system tests, meeting, and conferences to ensure effective and efficient project execution. The contractor will work with the Government to provide storage, staging and deployment of any equipment and materials provided as part of this project.

9.2. Government Project Management Support

The contractor will work with the Government PM to ensure that all planning and execution of the contract terms meet the requirements of the contract to the Government standards. The contractor will work with the Government PM on all communications and interactions between the contractor and the Government POCs. The contractor understands that the Government PM does not relieve the contractor of any requirements to design, engineer, furnish, install, test, and maintain a fully functioning Unsecure Video Teleconferencing (VTC) System.

10. GOVERNMENT REQUIREMENTS

The Government will meet the following requirements in reference to all conference room systems and required infrastructure needs:

- Power for all monitors will be provided and installed by the Government or Government provided Electrical Contractor at locations detailed on drawings in Appendix A prior to installation of any systems beginning.
- All data and network connections will be provided and installed by the Government or Government provided Contractor and tested at system locations prior to installation of any systems beginning.

Appendix 1

Provided below are diagrams/floorplans with locations for what size of monitors or projection screens are to be mounted throughout the space as well as locations for microphones, computer inputs, credenzas/equipment racks, and power locations for all of these devices. Exact power locations and heights will need to be provided to the construction team, or other Government facility contractor that will be installing new power circuits to support all systems after award.

AV Systems Layout:

Orange = 55" display

Red = 75" display

Dark Blue = 86" display

Light Blue = 119" projector screen

Pink = 133" projector screen

Green star = input location

Brown star = microphone location

Purple = credenza

Electrical Plan Layout:

Blue X = wall power for displays, we will need to coordinate height.

Yellow X = ceiling power for projector, we will need to coordinate exact location.

Red X = ceiling power for projector screen, we will need to coordinate exact location.

Green X = wall power for office screen. These are the temp/cube office walls. Coordination will need to take place on final location and most likely will require an extension cord from the closest power outlet.