Performance Work Statement (PWS)
Building 1405 LAN Drop Installation
CIPS WO#:96TW-2024-00177.v2

Organization:	87 EWS
Address:	*Bldg. 1405* *Eglin AFB, FL 32542*

1.0 Requirement / Description of Services

Customer wants to upgrade current network infrastructure from copper to fiber: 56 (32-Green and 24-Red) LAN drops.

1.0.0 Specific Task Objectives

Contractor shall perform to the following:

Room 101 (Cable Tray/Raceway):

1.0.1 All existing CAT6 cables in work area shall be removed from the work area outlets back to the patch panel.

1.1.1 Fiber optic cables shall be installed within the existing raceway. Note: Contractor shall not install RED color OM3 fiber optics cabling above ceiling.

1.1.2 Contractor shall replace any damaged raceway sections and install/extend any sections that are required to meet customer requirements and TEMPEST requirements.

1.1.3 Newly installed raceway shall match existing raceway color as close as possible. I.E.

1.1.4 If existing raceway is Electric Ivory, contractor shall not install International White colored raceway.

Room 101 (Green Network):

1.2.1 Install 16-total **Green** color OM3, 4-strand, MM Plenum fiber optic tight buffered or MIC indoor cable(s).

1.2.2 Terminate FO cable in cabinet/rack-mounted patch panels, and at the outlet using LC type connectors. Note: Contractor shall provide and install new wall-mount cabinet with locking swing handle accepts hasp lock.

1.2.2.1 Cabinet Mod#/Description: GL24WDXS-B-SH-AF/ 24"H x 24"W x 32"D Wall Mount, Usable depth 28", 11 RMU, Solid Door, Fans, Weight capacity 250 lbs.

1.2.2.2 Lock Mechanism Mod#/Description: Ch-03/ locking swing handle accepts hasp lock

1.2.2.3 Contractor shall ground new cabinet to code.

1.2.3 Downward sloped 4 port face plates with label windows shall be used. Reference provided Floor Plans for drop locations.

1.2.4 A minimum of two duplex connectors shall be provided for each work area.

1.2.5 If work-area outlet/device box already exists in location, only the faceplate shall be replaced with a downward sloped style where required.

Room 101 (Red Network):

1.3.1 Install 12-total **RED** color OM3, 4 strand, MM Plenum fiber optic tight buffered or MIC indoor cable(s).

1.3.2 Terminate FO cable in existing SIPR IPS container/rack-mounted patch panels, and at the outlet using LC type connectors.

1.2.2.1 Note: Contractor shall upgrade IPS container grounding if it is not to code.

1.3.3 Downward sloped 4 port face plates with label windows shall be used. Reference provided Floor Plans for drop locations.

1.4.4 A minimum of two duplex connectors shall be provided for each work area.

1.4.5 If work-area outlet/device box already exists in location, only the faceplate shall be replaced with a downward sloped style where required.

Contractor shall adhere to the following:

1.4.1 The contractor shall provide all materials and perform all work in strict adherence to the attached PWS, and the above applicable standards.

1.4.2 Contractor is required to include in their response to the request for quote, a list of the products they plan to provide, along with corresponding part numbers and quantities for technical approval.

1.4.3 Contractor shall provide 3.5-feet of fiber cable slack within the work area outlet. Do not put slack or service loops in communications cabinets or racks.

1.4.4 This statement outlines that the technical solutions provided are offered as recommendations and that the contractor is obligated to undertake the design and engineering process in compliance with all relevant and applicable standards.

1.4.5 The government reserves the right to refuse final acceptance until all discrepancies have been resolved to the satisfaction of the government.

1.4.6 All work-area outlets shall have two functioning data jacks. Example: Sheet T-001 locations with a "1" shall have one 4-strand fiber optic cable, and locations with a "2" shall have two 4-stranddfiber optic cables.

1.4.7 The provided floor plan illustrates our customers' preliminary requirement. (See Attachment 1)

2.0 General Technical Requirements

The following design criteria provides additional requirements and guidance for Eglin AFB installations. These specific requirements are to be implemented by means of all applicable publications and documents referenced within this guide:

2.1. Inside Plant:

Common Patch Panel configuration with 110 style terminations. Site survey will be used to determine best arrangement to fit customer needs and system standards. Ladder rack and cable tray will be included in the TR design to properly facilitate cable routing. All cabinets, racks, ladder rack and cable tray will be grounded per Industry Standard, ANSI 607.

2.2. Telecomm Outlets/Jacks:

Single Gang Outlet Box - Flush Mount. (Single Gang Faceplate Mounting Bracket for Low Voltage Applications, 1-1/4" Maximum Wall Thickness, Finish: Pre-galvanized.)

Single Gang Outlet Box - Surface Mount. (Single gang two-piece screw together outlet box. Box accepts Pan-Way® Screw-On Faceplates or any NEMA standard single gang faceplate. For use with Pan-Way® LD profile raceway. 5.19in L x 3.45in W x 1.75in H (131.9mm x 87.7mm x 44.4mm). Breakouts for 1/2in, 3/4in, or 1in diameter conduit, International White)

Single Gang 4 Port Faceplate. (4 port minimum. Mini Com Classic series single gang downward sloped faceplate that accepts four modular jacks, Off White)

Data Jack. (The Category 6, RJ45, 8-position, 8-wire, UTP Mini-Com® universal jack module has TG-style termination. Off white)

Blank Inserts. (Mini-Com® 1-port blank module, reserves space for future use, White)

Surface Mount Raceway System. Tamper resistant two-piece latching surface raceway. Supplied with pre-punched mounting holes and factory applied adhesive tape. Available in 6', 8', and 10' lengths, Off White. Compatible with surface mount outlet box. Additionally, all surface mounted raceway systems shall be screwed to the wall to prevent adhesive from detaching from mounted surface.

2.3. Telecommunications Cabling:

Riser CAT 6. (CAT6+ (600MHz), 4-Pair, U/UTP-Unshielded, Riser-CMR, Premise Horizontal Cable, 23 AWG Solid Bare Copper Conductors, Polyolefin Insulation, X Spline, Ripcord, PVC Jacket)

Plenum CAT 6. Copper Cable, Giga SPEED XL 2071, 23 AWG, 4 Pair, Shielded, ScTP, Solid Bare Copper Conductor, FEP/PVC, CMP, (RED)

2.4. Cat 6 Connector Block (Patch Panel):

24/48 Port. Constructed for maximum strength and durability. Supports both T568A and T568B wiring configurations using an easy-to-read color-coded wiring label. Rack-mount modular panels shall include an integrated cable management requirement for cable routing and strain relief. Provide a complete modular system from patch panel to work area outlet.

Strain Relief Requirements. All Strain relief bars shall consist of a metal bar that mounts to the rear of a standard EIA 19" rack to support a minimum of 24 cables exiting from the back of a patch panel with a 2-inch to 5-inch inward mounted offset. Cables shall be secured with integrated adjustable clips, hook and loop strips or cable ties. Optional quick release brackets shall provide an easy way to remove the strain relief bar without the use of tools.

3.0 Singularly Managed Infrastructure with Enterprise Level Security (SMI-ELS) Infrastructure Implementation and Operation

3.1 Network Services and Solutions

3.1.2 Site Preparation and Installation Services

The contractor shall perform site preparation and installation activities to support implementation of required services and solutions under this contract at any AF, DoD or other Federal Agency location.

3.2 Requirements Analysis and Conceptual Design

3.2.1 Site Survey

The contractor shall perform site surveys at required locations. The findings of the site survey and any actions required in preparation for system installation shall be documented.

3.2.2 Installation

The contractor shall engineer, install, configure, modify, relocate, or remove Communication and Information (C&I) systems for operational use. The systems and equipment installations or modifications must comply with established architectures. The contractor shall perform validation and verification testing on the system, assist users in configuring the system to meet their system requirements and provide all applicable operating manuals/system management guides. The government will identify personnel who will receive this training. The training shall provide for in-depth hands-on maintenance, operations and database administration.

3.2.3 Inside Plant

The contractor shall, (as required by this PWS), install and configure all the components for inside the plant (e.g., power, groundings, racks, fiber optic distribution panels, equipment, internal cabling, comm. closet, etc.). The contractor shall install and test all cable and components IAW accepted industry standards. Electrical and communications cable, conduits, and circuits shall be installed IAW the National Electric Code (NEC). The contractor shall clearly label each end of every individual cable in accordance with the floor plans or engineering drawings. The contractor shall provide attached labels that are durable and legible. For any deviations to the specific installation specification, the contractor shall submit a proposal to the CO for approval.

3.2.4 Tools and Testing Support

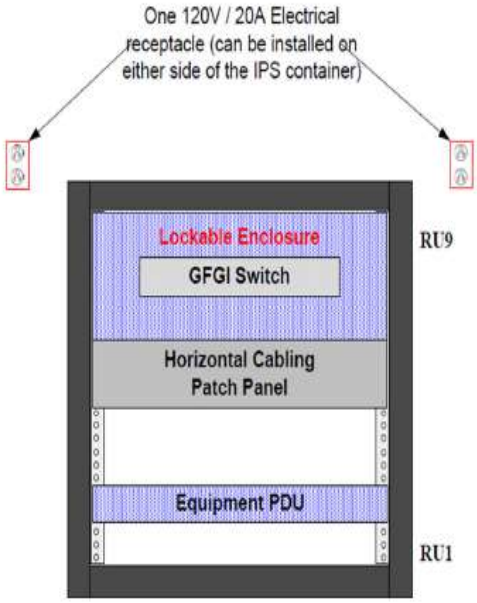
The contractor shall provide all tools, installation materials and test equipment required to perform any required product installation and maintenance as called for by the TO. All tools and test equipment shall remain the property of the contractor. Any damage caused by the contractor to existing site facilities or equipment which might occur during site preparation, installation, testing or cutover of the system will be repaired at the expense of the contractor unless otherwise directed by the government. The site shall be restored to the original condition which existed prior to the event unless otherwise directed. The TO will specify testing and inspection requirements. The contractor shall demonstrate that the system design meets the reliability/availability/maintainability requirements of the TO.

4.0. DELIVERABLES

As-Built Documentation. Contractor format for deliverables is subject to Government acceptance. The installer shall provide accurate As-Built documentation of the entire install (i.e. rack elevations, cable route drawings, etc.). All deliverables shall be produced using recommended software tools/versions as accepted by the Government.

Standard Rack Elevation for 96CS IPS Container

Current as of: 20 Nov 23



Hamilton Class 5 Single Door Model 23-36-19 (or Equivalent)

Notes:

1. IPS container shall be installed in End-User-Area and not in 96CS TR.

2. All 96CS network equipment shall be mounted IAW the diagram to the left.

3. 96CS Network switch shall be housed in IPS container inside a lockable enclosure (such as the Mier Box BW-235) and placed at RU 7-9.

4. A 120V / 20A dedicated circuit shall be mounted outside located at the top left or right of the IPS container, but no further than 1-foot away.

5. Rack elevation shown here is front-view depiction.

6. All network equipment to provide LAN connectivity is specified by 96CS and funded by the occupying customer.

7. All IPS containers shall be Class 5 with single door.

8. All IPS containers shall meet proper clearances from the wall in order to circulate room air through the cabinet for electronic equipment cooling.

9. End User encryption devices will not be housed within IPS container, where feasible, to minimize required access to the container.

120V / 20A dedicated circuit w/duplex receptacle mounted inside enclosure.

Standard AF Data Wall-Mount Lockable Enclosure (WMLE) Elevations for all 96CS TRs

Current as of: 20 Nov 23

Figure D2.1
GL48WDXM-B-SH-AF
48" x 24" x 32"
350 lbs Weight Capacity
or equivalent

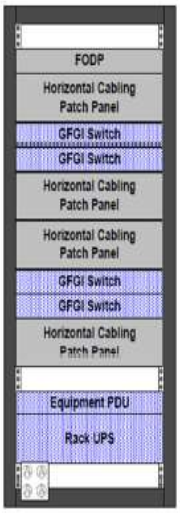


Figure D2.2
GL36WDXM-B-SH-AF
36" x 24" x 32"
300 lbs Weight Capacity
or equivalent

Figure D2.3
GL24WDXM-B-SH-AF
24" x 24" x 32"
250 lbs Weight Capacity
or equivalent

Notes:

1. WMLE shall be mounted on backer board in TR. All AF network equipment shall be mounted in WMLE.

2. A 120V / 20A dedicated circuit shall be mounted inside WMLE toward the bottom facing the front. Preferably on either side inside the WMLE.

3. Rack elevation shown here is front-view depiction. If UPS is required, it will be placed at the bottom of the WMLE above the electrical receptacle , but 1U below the surge arrestor.

4. A dedicated junction box shall be placed no greater than 2-feet from the 96CS lockable enclosure and appropriate electrical wiring shall be homerun from supporting electrical panel to junction box. A pigtail splice with compatible size wiring shall be run from the 96CS electrical outlet(s) to the junction box and interconnected with dedicated homerun wiring using appropriate wire nuts.

5. No other circuits shall reside in this junction box to ensure survivability of the 96CS dedicated circuits are not interrupted or impacted.

6. Each rack shall require 1-foot patch cables routed from each patch panel port to its corresponding network switch port. All network equipment to provide LAN connectivity is specified by 96CS and funded by the contractor or the occupying customer.

7. All 96CS fiber optic PPs and TP PPs shall also be terminated inside the WMLE.

8. All WMLE's shall be double-hinged with a solid metal front door.

9. All keys to WMLE's shall be turned over to the 96CS upon installation.

10. All WMLE's shall be sized to support 20% growth.

11. All WMLE's shall be grounded IAW UFC 3-680 01.

120V / 20A dedicated circuit w/Quad receptacle mounted at base of rack w/receptacles facing towards front of rack

5.0 Test and Acceptance Documentation.

The Contractor shall submit test reports within 3 duty days prior to final test and acceptance. The test reports shall show the tests performed to verify compliance with the specified performance criteria. Test reports shall include record of the physical parameters verified during testing. The contractor shall correct any errors or performance deficiencies detected by testing. The government reserves the right to refuse final acceptance until all discrepancies have been resolved to the satisfaction of the government.

APPLICABLE STANDARDS CONTRACTORS & INSTALLERS SHALL ADHEAR TO:

Standards shall be used as a baseline of quality and craftmanship for installing communications products and systems connectivity the AFNET

National Electrical Code (NEC) and National Electrical Manufacturers Association (NEMA) Standards: NFPA 70

Unified Facilities Criteria: (UFC) 3-520-1, 3-580-1, 4-010-06 dated most recent.

American National Standards Institute/Telecommunications Industry Association (ANSI/TIA) Standards: 568, 569, 606, 607 dated most recent.

National Electrical Contractors Association/Fiber Optic Association: (NECA/FOA) 301-2016 Installing and Testing Fiber Optics

Building Industry Consulting Service International (BICSI) - Telecommunications Distribution Methods Manual 14, Industry Best Practices “Preferred”

96th Communications Squadron Cyber Infrastructure Standards and Installation Specifications, to include Applicable Publications and Standards referenced in Attachment G, dated Feb 2025

All DoD and Industry standards/guidelines shall be used to provide a complete system, from end to end. Note: *Since Standards are continually being revised, contractors and installers should refer to the latest version of any relevant standard for compliance.*

Communications Deliverables: Contractor/Installer shall provide for review final ISP/OSP copper or fiber test report(s) and as-built/as-installed drawings prior to scheduling a final quality assurance inspection. Note**:** Deliverable guidance can be found in the 96 CS Cyber Infrastructure Standards and Installation Specifications.

Attachment 1