Attachment One
RFP # 5820 Z1
Requirements Traceability Matrix
Network Management Control System (NMCS)

Bidders shall complete a Traceability Matrix to provide Network Management Control System. Bidders are required to describe in detail how their proposed solution meets the specifications outlined within each Requirement.

The Traceability Matrix is used to document and track the project requirements from the proposal through testing to verify that the requirement has been completely fulfilled. The contractor will be responsible for maintaining the contract set of Baseline Requirements. The Traceability Matrix will form one of the key artifacts required for testing and validation that each requirement has been complied with (i.e., 100% fulfilled).

The Traceability Matrix must indicate how the bidder intends to comply with the requirement and the effort required to achieve that compliance. It is not sufficient for the bidder to simply state that it intends to meet the requirements of the RFP. The State will consider any such response to the requirements in this RFP to be non-responsive. The narrative should provide the State with sufficient information to differentiate the bidder's technical solution from other bidders' solutions.

The bidder must ensure that the original requirement identifier and requirement description are maintained in the Traceability Matrix as provided by the State

How to complete the traceability matrix:

Column Description	Bidder Responsibility
Req #	The unique identifier for the requirement as assigned by the State, followed by the specific requirement number. This column is dictated by this RFP and must not be modified by the bidder.
Requirement	The statement of the requirement to which the bidder must respond. This column is dictated by the RFP and must not be modified by the bidder.

Req #	Project Requirements	Existing Capabilities	In Development	Customized for NETC
PRM #1	The NMCS bid shall provide the ability to control and monitor the NETC NMCS systems via Virtual Private Network (VPN) using Standard Ethernet Internet Protocols, and a mechanism for backup monitor and control capabilities over dial up telephone when terrestrial IP connectivity is not available The NMCS shall provide monitor and control capabilities whether that be alternate connectivity or a desperate system.			
Bidder Response:				
PRM #2	The NMCS bid shall provide the ability to communicate with remote devices over dial up telephone modems, direct connection and Ethernet IP.			
Bidder Response:				
PRM #3	The NMCS bid shall provide the ability for simultaneous control and monitoring from all or multiple workstations, by single and multiple operators connecting to similar or divergent NMCS systems			
Bidder Response:				
PRM #4	The NMCS components bid shall provide the ability to be addressable using standard IPV4 addressing, and have the ability to be run locally and remotely.			
Bidder Response:				
PRM #5	The NMCS bid shall provide the ability of executing simultaneous commands or instructions to multiple remote devices at multiple diverse sites.			
Bidder Response:				
PRM #6	The NMCS bid shall provide the ability to execute preprogrammed events at specified times and/or in response to external triggers which may or may not be tied to automation events using synchronized time clock and/or GPI/GPO, serial, or ethernet interfaces.			
Bidder Response:				

PRM #7	The NMCS bid should have an open architecture protocol to allow for integration with existing and future third party systems.			
Bidder Response:				
PRM #8	The NMCS bid shall be capable of generating reports showing all commands issued, alarm and fault status, and system configurations. Reporting mechanism shall be capable of logging and reporting of system, service level, and device specific events.			
Bidder Response:				
PRM #9	The NMCS bid shall have provisions for redundancy, for both hardware and software systems.			
Bidder Response:				
PRM #10	The NMCS bid shall specify operating system software and versions for all software including third party software. Any server, terminal, workstation, or peripheral software required bur not included shall be specified.			
Bidder Response:				
PRM #11	The NMCS bid should state any special “value added” features such as self-diagnostics, virtualization, accessibility, etc.…			
Bidder Response:				
PRM #12	The NMCS bid should be capable of interoperability with other systems. These systems should be specified, e.g. automation, machine control, GPI/GPO, matrix routers, tally, etc...			
Bidder Response:				
PRM #13	The levels of technical and operational support shall be specified for the NMCS bid.			
Bidder Response:				

PRM #14	The NMCS bid shall have all system single-points-of-failure clearly indicated in the bid response.			
Bidder Response:				
PRM #15	A clearly defined list of proprietary and off-the-shelf technology for the NMCS bid shall be submitted for all hardware and software.			
Bidder Response:				
PRM #16	The NMCS bid shall have provisions for secure access, and customizable rights and permissions for all users of the system, and be capable of supporting single sign-on through authentication.			
Bidder Response:				
PRM #17	The NMCS bid shall be scalable, capable of being upgraded and expanded due to improvements and/or enhancements to the infrastructure of the NETC system and/or systems capabilities			
Bidder Response:				
PRM #18	The NMCS bid shall be capable of executing automated workflows related to equipment failovers, conditional variables, and backup solutions.			
Bidder Response:				
PRM #19	The NMCS bid shall be capable of issuing alarms relative to equipment and environment status viewable by all users, and have the capabilities for multiple alarm monitoring and masking options. Alarms must be able to be propagated to the top most level.			
Bidder Response:				
PRM #20	The NMCS bid shall be capable of monitoring and controlling external or internal tally systems viewable within the system and on connected multiviewers, including the support for under monitor displays (UMD).			
Bidder Response:				

PRM #21	The NMCS bid shall be capable and compatible with common network security protocols to protect connections to the system that involve multiple VLANs in accordance with NETC Information Security Policies, Standards and Procedures.			
Bidder Response:				
PRM #22	The NMCS bid shall be capable of monitoring by exception with industry and user defined parameters, and user-defined graphic views/dashboards and pop-up alerts.			
Bidder Response:				
PRM #23	The NMCS bid shall have the capability to filter and notify multiple users or groups via email and SMS or MMS messaging of any alarm conditions at any of the locations. The ability to activate external audio and or visual alarms via GPI or other protocol should also be part of the system.			
Bidder Response:				
PRM #24	All device drivers that are **not** fully pointed drivers, allowing for all parameters as designed by the manufacturer, shall be indicated.			
Bidder Response:				
PRM #25	The NMCS bid shall have the ability to create custom panels, layouts and views made up from any and all elements within the system.			
Bidder Response:				
PRM #26	All cabling shall conform to NETC cable specifications* and industry standard best practices. (See Exhibit A)			
Bidder Response:				
PRM #27	The NMCS bid shall provide detailed approaches addressing cyber security concerns including but not limited to architecture design, prevention, detection and response, and security audit.			
Bidder Response:				

PRM #28	The NMCS bid should be capable to recall system settings such as equipment setup, signal routes, router mnemonics and UMD settings for quick and easy deployments of applicable systems and/or equipment.			
Bidder Response:				

BRM #	**Business Requirements**	**Existing Capabilities**	**In Development**	**Customized for NETC**
BRM #1	The NMCS bid shall specify any and all equipment required but not included in the RFP response. Projected cost for specified hardware, software, licenses, drivers, and any other equipment needed for the NMCS shall be specified in detail.			
Bidder Response:				
BRM #2	The NMCS bid shall have provisions for future expandability. Projected cost for system expandability concerning hardware, software, licenses, device drivers, and any other equipment needed for expansion shall be specified in detail including required steps.			
Bidder Response:				
BRM #3	The NMCS bid shall have provisions for a tiered support contract. Technical support shall be in the form of documentation, on-line, telephone, and/or in person on-site. Levels of support shall be specified in detail including limitations and liabilities.			
Bidder Response:				
BRM #4	The NMCS bid shall have provisions for system training at all levels. Training options shall include price per person, including all associated expenses for factory and/or on-site training. Training options should remain in effect during the entire time that the NMCS is under a support contract.			
Bidder Response:				
BRM #5	The NMCS bid shall have provisions for warranty coverage of all hardware supplied with the system including third party hardware, with provisions for extending warranty coverage.			
Bidder Response:				

BRM #6	All items requested in this RFP shall be supplied by a single vendor or reseller. It is up to the bidder to make sure that all items integrate into a complete NMCS.			
Bidder Response:				
BRM #7	The bidder awarded the NMCS shall coordinate and work with the NETC NMCS Project Manager to establish a workable timeline for planning, installation, implementation, integration, configuration, and testing of the system or systems in all sections of this RFP prior to deployment.			
Bidder Response:				
BRM #8	NET intends to replace the existing NMCS with the NMCS bid and further extend the NMCS bid to other listed technical functional areas. The NMCS bid shall monitor and control all devices listed in this RFP, and support technology advancement and industry standards change.			
Bidder Response:				
BRM #9	The NMCS bid shall be integrated with NETC's Network Nebraska's terrestrial delivery network, University of Nebraska-Lincoln regional networks, NETC's virtual systems and multiple LAN environments in accordance with NETC Information Security Policies, Standards and Procedures.			
Bidder Response:				
BRM #10	The NMCS bid shall have high availability, be able to automatically reconnect all devices, retain latest captured status and regain control functions after power and /or network outages.			
Bidder Response:				
BRM #11	The NMCS bid shall be media and hardware agnostic.			
Bidder Response:				

TRM #	TECHNICAL REQUIREMENTS	Existing Capabilities	In Development	Customized for NETC
TRM #1.1.0	The NMCS specified shall provide the ability to control and monitor the NETC Television and Radio Broadcast Transmission Sites (Exhibit B). The NMCS should be able to control and monitor all existing and future equipment for the NETC Television and Radio Broadcast Transmission Sites (Exhibit C).			
Bidder Response:				
TRM #1.1.1	The NMCS bid should be able to control and monitor all existing and future equipment for the NETC Television and Radio Broadcast Transmission Site KUON - Mead (Exhibit D).			
Bidder Response:				
TRM #1.1.2	The NMCS bid should be able to control and monitor all existing and future equipment for the NETC Television and Radio Broadcast Transmission Site KHNE - Giltner (Exhibit E).			
Bidder Response:				
TRM #1.1.3	The NMCS bid should be able to control and monitor all existing and future equipment for the NETC Television and Radio Broadcast Transmission Site KLNE - Atlanta (Exhibit F).			
Bidder Response:				
TRM #1.1.4	The NMCS bid should be able to control and monitor all existing and future equipment for the NETC Television and Radio Broadcast Transmission Site KMNE - Bassett (Exhibit G)			
Bidder Response:				

TRM #1.1.5	The NMCS bid should be able to control and monitor all existing and future equipment for the NETC Television and Radio Broadcast Transmission Site KPNE - Sutherland (Exhibit H).			
Bidder Response:				
TRM #1.1.6	The NMCS bid should be able to control and monitor all existing and future equipment for the NETC Television and Radio Broadcast Transmission Site KRNE - Merriman (Exhibit J).			
Bidder Response:				
TRM #1.1.7	The NMCS bid should be able to control and monitor all existing and future equipment for the NETC Television and Radio Broadcast Transmission Site KTNE - Angora (Exhibit K).			
Bidder Response:				
TRM #1.1.8	The NMCS bid should be able to control and monitor all existing and future equipment for the NETC Television and Radio Broadcast Transmission Site KXNE - Carol (Exhibit L).			
Bidder Response:				
TRM #1.1.9	The NMCS bid should be able to control and monitor all existing and future equipment for the NETC Television and Radio Broadcast Transmission Site KYNE - Omaha (Exhibit M).			
Bidder Response:				
TRM #1.1.10	The NMCS bid should be able to control and monitor all existing and future equipment for the NETC Television and Radio Broadcast Transmission Site KUCV - Hallam (Exhibit N).			
Bidder Response:				

TRM #1.2.0	The NMCS bid shall have the ability to communicate with transmission equipment via serial RS232, RS422, and RS485 protocol. Bidder should specify exactly how serial Communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #1.3.0	The NMCS bid shall have the ability to communicate with transmission equipment via IP, TCP, UDP, HTTP, SNMP, FTP, Telnet and Networked Media Open Specifications protocols. Bidder should specify exactly how ethernet communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #1.4.0	The NMCS bid shall have the ability to communicate with transmission equipment GPI and GPO interfaces. Bidder should specify exactly how parallel discrete GPI and GPO communications will be established, administered, maintained, and operated. The proposed system shall be able to support single and multiple bit drivers for alarm, status, and command functions as provided by discrete connections.			
Bidder Response:				
TRM #1.5.0	The NMCS bid shall have the ability to display analog measurements from direct connection to transmission equipment providing analog contacts. Bidder should specify exactly how analog measurements will be established, administered, maintained, and operated. The proposed system should be able to support drivers for analog measurements of percentage, amps, milliamps, micro amps, degrees-Fahrenheit, volts, kilovolts, psi, ratio, threshold, and watts as provided by discrete analog connections.			
Bidder Response:				
TRM #1.6.0	The NMCS bid shall be able to communicate with the Harris Platinum ATSC high power television transmitter via SNMP and HTTP protocols, providing direct monitor and control via SNMP, and access to the integrated browser interface via http.			
Bidder Response:				

TRM #1.7.0	The NMCS bid shall be able to communicate with the Harris Sigma CD ATSC high power television transmitter via discrete parallel connections, providing direct monitor and control via GPI, GPO, and analog interfaces.			
Bidder Response:				
TRM #1.8.0	The NMCS bid shall be able to communicate with the Thales DCX Millennium ATSC high power television transmitter via multiple serial connections, providing direct monitor and control.			
Bidder Response:				
TRM #1.8.1	The NMCS bid shall be able to communicate with the Thales ADAPT DTV Exciter via RS232 serial connections, providing direct monitor and control.			
Bidder Response:				
TRM #1.8.2	The NMCS bid shall be able to communicate with the Comark Exact-ATSC Exciter via ethernet connections, providing direct SNMP monitor and control.			
Bidder Response:				
TRM #1.9.0	The NMCS bid shall be able to communicate with the GatesAir Maxiva ATSC high power television transmitter via SNMP and HTTP protocols, providing direct monitor and control via SNMP, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #1.10.0	The NMCS bid shall be able to communicate with the Nautel NV5, NV20, and NC30 high power FM radio transmitter via SNMP and HTTP protocols, providing direct monitor and control via SNMP, and access to the integrated browser interface via http.			
Bidder Response:				

TRM #1.11.0	The NMCS bid should be able to communicate with the Belar FMHD-1, FM modulation monitor via SNMP and HTTP protocols, providing direct monitor and control via SNMP, and access to the integrated browser interface via http			
Bidder Response:				
TRM #1.12.0	The NMCS bid should be able to communicate with the K-Tech DVM-150E DTV Demodulator/Decoder via SNMP and proprietary ethernet, providing direct monitor and control via SNMP and the Ktech proprietary GUI.			
Bidder Response:				
TRM #1.13.0	The NMCS bid should be able to communicate with the K-Tech DCC-150E 8VSB DTV digital processor via SNMP and proprietary ethernet, providing direct monitor and control via SNMP and the Ktech proprietary GUI.			
Bidder Response:				
TRM #1.14.0	The NMCS bid should be able to communicate with the K-Tech FRQ-200 ASI-to-310 converter via SNMP and proprietary ethernet, providing direct monitor and control via SNMP and the Ktech proprietary GUI.			
Bidder Respone:				
TRM #1.15.0	The NMCS bid should be able to communicate with the Evertz 7880IP ASI-to-IP converter via SNMP and proprietary Evertz VistaLink ethernet, providing direct monitor and control via SNMP and the Evertz VistaLink proprietary GUI.			
Bidder Response:				
TRM #1.16.0	The NMCS bid shall be able to communicate with the Motorola DSR4410 Integrated Receiver Decoder via SNMP, providing direct monitor and control.			
Bidder Response:				

TRM #1.17.0	The NMCS bid shall be able to communicate with the Sencore 3187A Modular Receiver Decoder via SNMP and HTTP protocols, providing direct monitor and control via SNMP, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #1.18.0	The NMCS bid shall be able to communicate with the Sencore 3187B Modular Receiver Decoder via SNMP and HTTP protocols, providing direct monitor and control via SNMP, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #1.19.0	The NMCS bid shall be able to communicate with the Sencore MRD4400 Modular Receiver Decoder via SNMP and HTTP protocols, providing direct monitor and control via SNMP, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #1.20.0	The NMCS bid shall be able to communicate with the Evertz X9504 digital baseband routing switcher via GVG TenXL RS232 and RS422 serial protocols, providing direct monitor and control.			
Bidder Response:				
TRM #1.21.0	The NMCS bid shall be able to communicate with the Videotek RS12A analog audio/video baseband routing switcher via GVG Performer ASCII RS232 and RS422 serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #1.22.0	The NMCS bid shall be able to communicate with the Videotek RS-12 MPEG digital baseband routing switcher via GVG Performer ASCII RS232 and RS422 serial protocols, providing direct monitor and control.			
Bidder Response:				

TRM #1.23.0	The NMCS bid should be able to communicate with the Sage Digital Endec EAS Encoder/Decoder Model 3644 via 10/100 Base-T LAN protocol, providing direct monitor and control and access to the integrated browser interface via http.			
Bidder Response:				
TRM #1.24.0	The NMCS bid shall be able to communicate with the Best Power Axxium 2000 UPS's via SNMP and HTTP protocol, providing direct monitor and control via SNMP, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #1.25.0	The NMCS bid shall be able to communicate with the APC 2000 UPS's via SNMP and HTTP protocol, providing direct monitor and control via SNMP, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #1.26.0	The NMCS bid should be able to communicate with the Xytronix Research & Design Control by Web X310 and X332 products via SNMP and HTTL protocol, providing direct monitor and control via SNMP, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #1.27.0	The NMCS bid should be able to communicate with the EECI (Electronic Energy Control, Inc.) ADC-16 analog to digital converter via serial protocol, providing direct monitor and control			
Bidder Response:				
TRM #1.28.0	The NMCS bid should be able to communicate with the HVAC systems in place at the remote transmission sites, providing monitoring and limited control where applicable			
Bidder Response:				
TRM #1.29.0	The NMCS bid should be able to communicate with the electrical generator systems in place at the remote transmission sites, providing direct monitoring			
Bidder Response:				

TRM #30.0	The NMCS bid should be able to communicate with the tower lighting systems in place at the remote transmission sites, providing direct monitoring			
Bidder Response:				

TRM #2.0	Provide NMCS as Specified for NETC Satellite Teleport Systems.	Existing Capabilities	In Development	Customized for NETC
TRM #2.1.0	The NMCS bid shall provide the ability to control and monitor the NETC Ku-Band and C-band Satellite Teleport Systems. The NMCS should be able to control and monitor all existing and future equipment for the NETC Ku-Band and C-band Satellite Teleport Systems.			
Bidder Response:				
TRM #2.2.0	The NMCS bid shall have the ability to communicate with teleport equipment via serial RS232, RS422, and RS485 protocol. Bidder should specify exactly how serial communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #2.3.0	The NMCS bid shall have the ability to communicate with teleport equipment via IP, TCP, UDP, HTTP, SNMP, FTP, Telnet and Networked Media Open Specifications protocols. Bidder should specify exactly how ethernet communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #2.4.0	The NMCS bid shall have the ability to communicate with teleport equipment GPI and GPO interfaces. Bidder should specify exactly how parallel discrete GPI and GPO communications will be established, administered, maintained, and operated. The proposed system shall be able to support single and multiple bit drivers for alarm, status, and command functions as provided by discrete connections.			
Bidder Response:				

TRM #2.5.0	The NMCS bid shall have the ability to display analog measurements from direct connection to teleport equipment providing analog contacts. Bidder should specify exactly how analog measurements will be established, administered, maintained, and operated. The proposed system should be able to support drivers for analog measurements of percentage, amps, milliamps, micro amps, degrees-Fahrenheit, volts, kilovolts, psi, ratio, threshold, and watts as provided by discrete analog connections.			
Bidder Response:				
TRM #2.6.0	The NMCS bid should be able to communicate with the Vertex 7134 Antenna Controller via serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.7.0	The NMCS bid shall be able to communicate with the Andrew APC100 Antenna Controller via serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.8.0	The NMCS bid shall be able to communicate with the Research Concepts RC1000 Antenna Controller via serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.9.0	The NMCS bid shall be able to communicate with the Research Concepts RC2000 Antenna Controller via serial protocol, providing direct monitor and control			
Bidder Response:				
TRM #2.10.0	The NMCS bid shall be able to communicate with the Miteq/MCL MT3200 Ku-Band High Power Amplifier via serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.11.0	The NMCS bid shall be able to communicate with the Miteq/MCL MT4000 Ku-Band High Power Amplifier via serial protocol, providing direct monitor and control.			
Bidder Response:				

TRM #2.11.1	The NMCS bid shall be able to communicate with the Miteq/MCL PSU 1:4 HPA protection Switch via serial and HTTP protocol, providing direct monitor and control via serial communications, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #2.12.0	The NMCS bid shall be able to communicate with the Miteq/MCL MT4000 C-Band High Power Amplifier via serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.12.1	The NMCS bid shall be able to communicate with the Miteq/MCL MXC-VPC Variable Phase Combiner via serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.13.0	The NMCS bid shall be able to communicate with the CPI VZU-6994AD Ku-Band High Power Amplifier via serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.13.1	The NMCS bid shall be able to communicate with the CPI VZU-CMPA 1:1 Redundancy Switch via serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.14.0	The NMCS bid shall be able to communicate with the Miteq/MCL U-9653-3 C-Band Upconverter via serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.15.0	The NMCS bid shall be able to communicate with the Miteq/MCL U-9696 Ku-Band Upconverter via serial protocol, providing direct monitor and control.			
Bidder Response:				

TRM #2.16.0	The NMCS bid shall be able to communicate with the Miteq/MCL U-9656-6-1K Ku-Band Upconverter via Serial, and SNMP protocol, providing direct monitor and control.			
Bidder Response:				

TRM #2.16.1	The NMCS bid shall be able to communicate with the Miteq/MCL NSU 1:4 Redundancy Switch via Serial and SNMP protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.17.0	The NMCS bid shall be able to communicate with the Radyne SFC-1450 Ku-Band Upconverter via Serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.18.0	The NMCS bid shall be able to communicate with the Newtec M6100 DVBS Modulator via SNMP and HTTP protocol, providing direct monitor and control via SNMP communications, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #2.18.1	The NMCS bid shall be able to communicate with the Newtec AZ202 1:7 Protection Switch via SNMP and HTTP protocol, providing direct monitor and control via SNMP communications, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #2.19.0	The NMCS bid shall be able to communicate with the Miteq DVM100 DVBS Modulator via Serial, SNMP and HTTP protocols, providing direct monitor and control via Serial or SNMP communications, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #2.20.0	The NMCS bid shall be able to communicate with the Radyne DM240 DVBS Modulator via Serial protocol, providing direct monitor and control.			
Bidder Response:				

TRM #2.20.1	The NMCS bid shall be able to communicate with the Radyne DM240 1:1 Redundancy Switch via Serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.21.0	The NMCS bid shall be able to communicate with the Miteq RSU 1:1 Redundancy Switch via serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.22.0	The NMCS bid should provide the ability to control and monitor the Adtec Digital EN210 Multi-codec Encoder via GPIO, serial, IP and/or other means as allowed by the manufacturer.			
Bidder Response:				
TRM #2.23.0	The NMCS bid should be able to communicate with the Agilent E-Series Spectrum Analyzer via GPIB protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.24.0	The NMCS bid shall be able to communicate with the Hewlett Packard 8595E Spectrum Analyzer via Serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.25.0	The NMCS bid shall be able to communicate with the Hewlett Packard 8590L Spectrum Analyzer via Serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.26.0	The NMCS bid shall be able to communicate with the Quintech SRR-2150 16x1 L-Band Routing Switcher via SNMP protocol, providing direct monitor and control.			
Bidder Response:				

TRM #2.27.0	The NMCS bid shall be able to communicate with the Standard Communications MT-930 Satellite Receiver via Serial protocol, providing direct monitor and control.			
Bidder Response:				
TRM #2.28.0	The NMCS bid shall be able to communicate with the Sencore 3187A Modular Receiver Decoder via SNMP and HTTP protocols, providing direct monitor and control via SNMP, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #2.29.0	The NMCS bid shall be able to communicate with the Sencore 3187B Modular Receiver Decoder via SNMP and HTTP protocols, providing direct monitor and control via SNMP, and access to the integrated browser interface via http			
Bidder Response:				
TRM #2.30.0	The NMCS bid should be able to communicate with the Xytronix Research & Design Control by Web X310 and X332 products via SNMP and HTTL protocol, providing direct monitor and control via SNMP, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #2.31.0	The NMCS bid should be able to communicate with the EECI (Electronic Energy Control, Inc.) ADC-16 analog to digital converter via serial protocol, providing direct monitor and control.			
Bidder Response:				

TRM #3.0	**Provide NMCS as Specified for NETC Television and Radio Facilities.**	**Existing Capabilities**	**In Development**	**Customized for NETC**
TRM #3.1.0	The NMCS bid shall provide the ability to control and monitor the NETC Television and Radio Facilities.			
Bidder Response:				

TRM #3.2.0	The NMCS bid shall have the ability to communicate with facilities equipment via serial RS232, RS422, and RS485 protocol. Bidder should specify exactly how serial communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #3.3.0	The NMCS bid shall have the ability to communicate with facilities equipment via IP, TCP, UDP, HTTP, SNMP, FTP, Telnet and Networked Media Open Specifications protocols. Bidder should specify exactly how ethernet communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #3.4.0	The NMCS bid shall have the ability to communicate with facilities equipment GPI and GPO interfaces. Bidder should specify exactly how parallel discrete GPI and GPO communications will be established, administered, maintained, and operated. The proposed system shall be able to support single and multiple bit drivers for alarm, status, and command functions as provided by discrete connections.			
Bidder Response:				
TRM #3.5.0	The NMCS bid shall have the ability to display analog measurements from direct connection to facilities equipment providing analog contacts. Bidder should specify exactly how analog measurements will be established, administered, maintained, and operated. The proposed system should be able to support drivers for analog measurements of percentage, amps, milliamps, micro amps, degrees-Fahrenheit, volts, kilovolts, psi, ratio, threshold, and watts as provided by discrete analog connections.			
Bidder Response:				
TRM #3.6.0	The NMCS bid should be able to communicate with the Lieberts HVAC systems via SNMP protocol, providing direct monitor and control.			
Bidder Response:				

TRM #3.7.0	The NMCS bid should be able to communicate with the Cummins/Onan generators, providing direct monitoring.			
Bidder Response:				
TRM #3.8.0	The NMCS bid shall be able to communicate with various models of APC UPS systems via SNMP protocol, providing direct monitor and control, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #3.9.0	The NMCS bid shall be able to communicate with various models of Best Power UPS systems via SNMP protocol, providing direct monitor and control, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #3.10.0	The NMCS bid shall be able to communicate with various models of Powerware UPS systems via SNMP protocol, providing direct monitor and control, and access to the integrated browser interface via http.			
Bidder Response:				
TRM #3.11.0	The NMCS bid should be able to communicate with the Pelco DX4800 security camera systems, providing direct monitor and control. NET is looking to modernize its existing outdated analog security camera system, bidder should provide a list of specified solution currently supported security camera systems.			
Bidder Response:				
TRM #3.12.0	The NMCS bid should be able to communicate with the HID security door system, providing direct monitor and control.			
Bidder Response:				

TRM #3.13.0	The NMCS bid should be able to communicate with the Vesda Fire detection systems, providing direct monitoring.			
Bidder Response:				

TRM #4.0	Provide NMCS as Specified for NETC Television and Radio Terminal Equipment and Production Matrix Routing Switcher Systems	Existing Capabilities	In Development	Customized for NETC
TRM #4.1.0	The NMCS bid should have provisions for future expandability to provide control and monitoring of the NETC Television and Radio Terminal Equipment and Production Matrix Routing Switcher Systems. The future expandability provision should allow for control and monitoring of existing and future equipment for the NETC Television and Radio Terminal Equipment and Production Matrix Routing Switcher Systems.			
Bidder Response:				
TRM #4.2.0	The NMCS bid shall have the ability to communicate with terminal and routing switcher equipment via serial RS232, RS422, and RS485 protocol. Bidder should specify exactly how serial communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #4.3.0	The NMCS bid shall have the ability to communicate with terminal and routing switcher equipment via IP, TCP, UDP, HTTP, SNMP, FTP, Telnet and Networked Media Open Specifications protocols. Bidder should specify exactly how ethernet communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #4.4.0	The NMCS bid shall have the ability to communicate with terminal and routing switcher equipment GPI and GPO interfaces. Bidder should specify exactly how parallel discrete GPI and GPO communications will be established, administered, maintained, and operated. The proposed system shall be able to support single and multiple bit drivers for alarm, status, and command functions as provided by discrete connections.			
Bidder Response:				

TRM #4.5.0	The NMCS bid shall have the ability to display analog measurements from direct connection to terminal and routing switcher equipment providing analog contacts. Bidder should specify exactly how analog measurements will be established, administered, maintained, and operated. The proposed system should be able to support drivers for analog measurements of percentage, amps, milliamps, micro amps, degrees-Fahrenheit, volts, kilovolts, psi, ratio, threshold, and watts as provided by discrete analog connections.			
Bidder Response:				
TRM #4.6.0	The NMCS bid should be able to communicate with Evertz 7700FR and 7800FR Frames via SNMP and GPI/GPO communications, providing monitor and control of frame and module status.			
Bidder Response:				
TRM #4.7.0	The NMCS bid should be able to communicate with various Evertz 7700 and 7800 modules via ethernet communications, providing monitor and control utilizing SNMP, or access via Evertz Vistalink proprietary NMS.			
Bidder Response:				
TRM #4.8.0	The NMCS bid should be able to communicate with the Utah Scientific UTAH-300 analog matrix routing switcher.			
Bidder Response:				
TRM #4.9.0	The NMCS bid should be able to communicate with the Grass Valley Venus Wideband digital matrix routing switcher.			
Bidder Response:				

TRM #4.10.0	The NMCS bid should be able to communicate with the Imagine Communications Platinum VX 3G Digital matrix routing switcher.			
Bidder Response:				
TRM #4.11.0	The NMCS bid should be hardware and media agnostic, that is able to provide routing switcher control for the routing switchers referred to in section 4.8, 4.9, and 4.10. As well as IP based layer 2 and layer 3 ethernet switches which comply with Professional Media Over Managed IP Networks suite of standards such as SMPTE ST2022, and ST2110.			
Bidder Response:				
TRM #4.11.1	The NMCS bid should be able to provide a routing switcher control system which should be capable of controlling the routing switchers through a series of mapping tables in order to create a “Hybrid” routing switcher made up of gateways, processors, and converters providing logical signal flow between systems and end-to-end service level events.			
Bidder Response				
TRM #4.11.2	The NMCS bid should be able to provide a routing switcher control system which should be capable of controlling the routing switchers through both software and hardware panels. Panels should be capable of full X-Y switching, limited X-Y switching, and button-per-source switching.			
Bidder Response;				
TRM #4.11.3	The NMCS bid should be able to provide a routing switcher control system which should be capable of controlling the existing Grass Valley CP300 and CP328 hardware panels. Panels should be capable of full X-Y switching, limited X-Y switching, and button-per-source switching where applicable.			
Bidder Response:				
TRM #5.0	**Provide NMCS as Specified for NETC Television and Radio Master Control, Production Studios and Remote Systems.**	**Existing Capabilities**	**In Development**	**Customized for NETC**
TRM #5.1.0	The NMCS bid should have provisions for future expandability to provide control and monitoring of the NETC Television and Radio Master Control, Production Studios and Remote Systems. The future expandability provision should allow for control and monitoring of existing and future equipment for the NETC Television and Radio Remote Systems.			
Bidder Response:				

TRM #5.2.0	The NMCS bid shall have the ability to communicate with Master Control, Production Studios and Remote Systems equipment via serial RS232, RS422, and RS485 protocol. Bidder should specify exactly how serial communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #5.3.0	The NMCS bid shall have the ability to communicate with Master Control, Production Studios and Remote Systems equipment via IP, TCP, UDP, HTTP, SNMP, FTP, and Telnet protocols using ethernet communications. Bidder should specify exactly how ethernet communications and IP protocols will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #5.4.0	The NMCS bid shall have the ability to communicate with Master Control, Production Studios and Remote Systems equipment GPI and GPO interfaces. Bidder should specify exactly how parallel discrete GPI and GPO communications will be established, administered, maintained, and operated. The proposed system shall be able to support single and multiple bit drivers for alarm, status, and command functions as provided by discrete connections.			
Bidder Response:				
TRM #5.5.0	The NMCS bid shall have the ability to display analog measurements from direct connection to Master Control, Production Studios and Remote Systems equipment providing analog contacts. Bidder should specify exactly how analog measurements will be established, administered, maintained, and operated. The proposed system should be able to support drivers for analog measurements of percentage, amps, milliamps, micro amps, degrees-Fahrenheit, volts, kilovolts, psi, ratio, threshold, and watts as provided by discrete analog connections.			
Bidder Response:				
TRM # 5.6.0	The NMCS bid should have the ability to respond to SNMP traps sent from the Imagine Communications Version Integrated Video Server (Channel-in-a-box).			
Bidder Response:				

TRM #5.7.0	The NMCS bid should be able to communicate with the Sage Digital Endec EAS Encoder/Decoder Model 3644 via 10/100 Base-T LAN protocol, providing monitor and control and access to the integrated browser interface via http.			
Bidder response:				
TRM #5.8.0	The NMCS bid should be able to communicate with the Euphonix System 5 Audio Mixing Console via EuCon/SNMP protocol, providing monitor and control.			
Bidder Response:				
TRM # 5.9.0	The NMCS bid should be able to communicate with the Grass Valley Kayak HD and Karrera/K-Frame Vision Mixer, providing monitor and control.			
Bidder Response:				
TRM #5.10.0	The NMCS bid should be able to communicate with the Vizrt Treo Graphics System via SNMP protocol, providing monitor and control.			
Bidder Response:				
TRM #5.11.0	The NMCS bid should be able to communicate with the AVID Thunder Video Server System, providing monitor and control.			
Bidder Response:				
TRM #5.12.0	The NMCS bid should be able to communicate with the Grass Valley Summit K2 Video Server System, providing monitor and control.			
Bidder Response:				
TRM #5.13.0	The NMCS bid should be able to communicate with the EVS XT3 System via Truck Manager proprietary EVS protocol, providing monitor and control.			
Bidder Response:				

TRM #5.14.0	The NMCS bid should l be able to communicate with the Harris Predator Multiviewer System via SNMP protocol, providing monitor and control.			
Bidder Response:				
TRM #5.15.0	The NMCS bid should be able to communicate with the Grass Valley Trinix NXT Multiviewer, providing monitor and control.			
Bidder Response:				
TRM #5.16.0	The NMCS bid should be able to communicate with the Bosch (RTS / Telex) Intercom System, providing monitor and control.			
Bidder Response:				
TRM #5.17.0	The NMCS bid should be able to communicate with the Grass Valley LDK3000 Camera System, providing monitor and control.			
Bidder Response:				
TRM #5.18.0	The NMCS bid should be able to communicate with the Grass Valley LDK80 and LDX86N Camera System, providing monitor and control.			
Bidder Response:				
TRM #5.19.0	The NMCS bid should be able to communicate with the AJA FS2 Frame Synchronizer System, providing monitor and control.			
Bidder Response:				

TRM #5.20.0	The NMCS bid should be able to communicate with the For-A FA-9500, 9520, and 505 Frame Synchronizer Systems, providing monitor and control.			
Bidder Response:				
TRM #5.21.0	The NMCS bid should be able to communicate with the For-A FVW5-00HS Telestrator via SNMP protocol, providing monitor and control.			
Bidder Response:				
TRM #5.22.0	The NMCS bid should be able to communicate with the Atomos Shogun Studio via serial RS422 and ethernet connection for using AMP protocol, providing monitor and control.			
Bidder Response:				
TRM #5.23.0	The NMCS bid should be able to communicate with the ETC Express 48/96 Lighting Board System via DMX protocol, providing monitor and control.			
Bidder Response:				
TRM #5.24.0	The NMCS bid should be able to communicate with the Newtec Tricaster Model 460 and Model 8000 Vision Mixer via serial protocol, providing monitor and control.			
Bidder Response:				
TRM #5.25.0	The NMCS bid should be able to communicate with the Broadcast Pix Slate-HD Vision Mixer System via VDCP protocol, providing monitor and control.			
Bidder Response:				

TRM #5.26.0	The NMCS bid should be able to communicate with the Yamaha 02V96 Audio Mixing Console via MIDI protocol, providing monitor and control.			
Bidder Response:				
TRM #5.27.0	The NMCS bid should be able to communicate with the Image Video TSI3000 Tally System, providing monitor and control.			
Bidder Response;				
TRM #5.28.0	The NMCS bid should be able to communicate with the Tektronix SPG8000 Master Clock/Sync System, providing monitor and control.			
Bidder Response:				
TRM #5.29.0	The NMCS bid should be able to communicate with the Grass Valley Trinix Wideband digital matrix routing switcher.			
Bidder Response:				
TRM #5.29.1	The NMCS bid should be able to provide a routing switcher control system which should be capable of controlling the routing switchers through a series of mapping tables in order to create a “Hybrid” routing switcher made up of gateways, processors, and converters providing logical signal flow between systems and end-to-end service level events.			
Bidder Response:				
TRM #5.29.2	The NMCS bid should be able to provide a routing switcher control system which should be capable of controlling the routing switchers through both software and hardware panels. Panels should be capable of full X-Y switching, limited X-Y switching, and button-per-source switching.			
Bidder Response;				

TRM #5.29.3	The NMCS bid should be able to provide a routing switcher control system which should be capable of controlling the existing and additional Grass Valley CP300, CP330, CP328 and SXY hardware panels. Panels should be capable of full X-Y switching, limited X-Y switching, and button-per-source switching where applicable.			
Bidder Response:				
TRM #5.30.0	The NMCS bid should provide the ability to control and monitor the Broadcast Electronics' AudioVAULT system via GPIO, serial data (where applicable) and/or other means allowed by manufacturer. Bid response should specify exactly how communications will be established, administered, maintained, and operated.			
Bidder Response;				
TRM #5.31.0	The NMCS bid should provide the ability to control and monitor the Broadcast Electronics' AVFlex automation and playout system via GPIO, serial data (where applicable) and/or other means allowed by manufacturer. Bid response should specify exactly how communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #5.32.0	The NMCS bid should provide the ability to control and monitor the Broadcast Tools Streaming Sentinel 4 via GPIO, SNMP, and access to the integrated browser interface via http, and/or other means allowed by manufacturer. Bid response should specify exactly how communications will be established, administered, maintained, and operated.			
Bidder Response;				
TRM #5.33.0	The NMCS bid should provide the ability to control and monitor the Broadcast Tools WVRC-8 Dial-up Remote Control System via GPIO, SNMP, and access to the integrated browser interface via http, and/or other means allowed by manufacturer. Bid response should specify exactly how communications will be established, administered, maintained, and operated.			
Bidder Response:				

TRM #5.34.0	The NMCS bid should provide the ability to control and monitor the International Datacasting Pro Audio EXP Satellite Receiver via GPIO, SNMP, and access to the integrated browser interface via http, and/or other means allowed by manufacturer. Bid response should specify exactly how communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #5.35.0	The NMCS bid should provide the ability to control and monitor the International Datacasting SR2000 Pro Satellite Receiver via GPIO, SNMP, and access to the integrated browser interface via http, and/or other means allowed by manufacturer. Bid response should specify exactly how communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #5.36.0	The NMCS bid should provide the ability to control and monitor the Nautel HD Radio Importer Plus via GPIO, SNMP and/or other means allowed by manufacturer. Bid response should specify exactly how communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #5.37.0	The NMCS bid should provide the ability to control and monitor the Nautel HD Radio Exporter Plus via GPIO, SNMP and/or other means allowed by manufacturer. Bid response should specify exactly how communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #5.38.0	The NMCS bid should be able to communicate with the Sage Digital Endec EAS Encoder/Decoder Model 3644 via 10/100 Base-T LAN protocol, providing monitor and control, and access to the integrated browser interface via http.			
Bidder Response:				

TRM #5.39.0	The NMCS bid should provide the ability to control and monitor the Telos Pathfinder Routing Control Software Suite via GPIO, serial and/or other means allowed by manufacturer. Bid response should specify exactly how communications will be established, administered, maintained, and operated.			
Bidder Response:				
RM #5.40.0	The NMCS bid should provide the ability to control and monitor the Telos ZIP/One IP Audio Link via GPIO, HTTP and/or other means allowed by manufacturer. Bid response should specify exactly how communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #5.41.0	The NMCS bid should provide the ability to control and monitor the Moseley Startlink 9003Q Microwave STL via GPIO, serial and/or other means allowed by manufacturer. Bid response should specify exactly how communications will be established, administered, maintained, and operated.			
Bidder Response:				

TRM #6.0	**Provide NMCS as Specified for NETC Television and Radio Web Services and IT Networking Systems**	**Existing Capabilities**	**In Development**	**Customized for NETC**
TRM #6.1.0	The NMCS bid should have provisions for future expandability to provide control and monitoring of the NETC Television and Radio Web Services and IT Networking Systems. The future expandability provision should allow for control and monitoring of existing and future equipment for the NETC Television and Radio Web Services and IT Networking Systems.			
Bidder Response:				
TRM #6.2.0	The NMCS bid shall have the ability to communicate with NETC Web Services and IT Networking Systems equipment via serial RS232, RS422, and RS485 protocol. Bidder should specify exactly how serial communications will be established, administered, maintained, and operated.			
Bid Response:				

TRM #6.3.0	The NMCS bid shall have the ability to communicate with NETC Web Services and IT Networking Systems equipment via IP, TCP, UDP, HTTP, SNMP, FTP, Telnet and Networked Media Open Specifications protocols. Bidder should specify exactly how ethernet communications will be established, administered, maintained, and operated.			
Bidder Response;				
TRM #6.4.0	The NMCS bid shall have the ability to communicate with NETC Web Services and IT Networking Systems equipment GPI and GPO interfaces. Bidder should specify exactly how parallel discrete GPI and GPO communications will be established, administered, maintained, and operated. The proposed system shall be able to support single and multiple bit drivers for alarm, status, and command functions as provided by discrete connections.			
Bidder Response;				
TRM #6.5.0	The NMCS bid shall have the ability to display analog measurements from direct connection to NETC Web Services and IT Networking Systems equipment providing analog contacts. Bidder should specify exactly how analog measurements will be established, administered, maintained, and operated. The proposed system should be able to support drivers for analog measurements of percentage, amps, milliamps, micro amps, degrees-Fahrenheit, volts, kilovolts, psi, ratio, threshold, and watts as provided by discrete analog connections.			
Bidder Response:				
TRM #6.6.0	The NMCS bid should be able to communicate with the Imagine Communications (Digital Rapids) Broadcast Manager Streaming Scheduler, providing monitor and control, and access to the integrated browser interface via http.			
Bidder Response;				
TRM #6.6.1	The NMCS bid should be able to communicate with the Imagine Communications (Digital Rapids) SelinoFlex Live and StreamZ Streaming Encoders, providing monitor and control, and access to the integrated browser interface via http.			
Bidder Response:				

TRM #6.7.0	The NMCS bid should be able to communicate with the NETC Nagios Core and Nagios Network Analyzer software systems, providing monitor and control for network infrastructure and alerting for servers, switches, applications and services.			
Bidder Response:				
TRM #6.8.0	The NMCS bid should be able to communicate with the NETC Solarwinds Network Analyzer software systems, providing monitor and control for network infrastructure.			
Bidder Response:				
TRM #6.9.0	The NMCS bid should be able to communicate with the NETC KACE enterprise systems inventory, ticketing system, providing intractability between the NMCS and the KACE system.			
Bidder Response:				
TRM #6.10.0	The NMCS bid should be able to communicate with the NETC Snort IPS (intrusion prevention system), providing intractability between the NMCS and the Snort system.			
Bidder Response:				

TRM #7.0	**Provide NMCS as Specified for NETC Government Services Audio-Video Systems.**	**Existing Capabilities**	**In Development**	**Customized for NETC**
Bidder Response:				
TRM #7.1.0	The NMCS bid should have provisions for future expandability to provide control and monitoring of the NETC Government Services Audio-Video Systems. The future expandability provision should allow for control and monitoring of existing and future equipment for the NETC Government Services Audio-Video Systems.			
Bidder Response:				

TRM #7.2.0	The NMCS bid shall have the ability to communicate with NETC Government Services Audio-Video Systems equipment via serial RS232, RS422, and RS485 protocol. Bidder should specify exactly how serial communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #7.3.0	The NMCS bid shall have the ability to communicate with NETC Government Services Audio-Video Systems equipment via IP, TCP, UDP, HTTP, SNMP, FTP, Telnet and Networked Media Open Specifications protocols. Bidder should specify exactly how ethernet communications will be established, administered, maintained, and operated.			
Bidder Response:				
TRM #7.4.0	The NMCS bid shall have the ability to communicate with NETC Government Services Audio-Video Systems equipment GPI and GPO interfaces. Bidder should specify exactly how parallel discrete GPI and GPO communications will be established, administered, maintained, and operated. The proposed system shall be able to support single and multiple bit drivers for alarm, status, and command functions as provided by discrete connections.			
Bidder Response;				
TRM #7.5.0	The NMCS bid shall have the ability to display analog measurements from direct connection to NETC Government Services Audio-Video Systems equipment providing analog contacts. Bidder should specify exactly how analog measurements will be established, administered, maintained, and operated. The proposed system should be able to support drivers for analog measurements of percentage, amps, milliamps, micro amps, degrees-Fahrenheit, volts, kilovolts, psi, ratio, threshold, and watts as provided by discrete analog connections.			
Bidder Response:				
TRM #7.6.0	The NMCS bid should be able to communicate with the Crestron Pro2 Controller via SNMP, providing monitor and control.			
Bidder Response:				

TRM #7.7.0	The NMCS bid should be able to communicate with the Yamaha DME 64/24 Audio Processor via ethernet and/or serial protocol, providing monitor and control.			
Bidder Response:				
TRM #7.8.0	The NMCS bid should be able to communicate with Evertz 7700FR and 7800FR Frames via SNMP and GPI/GPO communications, providing monitor and control of frame and module status.			
Bidder Response:				
TRM #7.9.0	The NMCS bid should be able to communicate with various Evertz 7700 and 7800 modules via ethernet communications, providing monitor and control utilizing SNMP, or access via Evertz Vistalink proprietary NMS.			
Bidder Response:				