CODEMETTLE

NETC NMCS ORIGINAL RESPONSE

Submitted by:

David Lassiter

CodeMettle, LLC
Six Concourse Parkway, Suite 1050
Atlanta, GA 30328
(678) 336-8590

CodeMeter Original

State of Nebraska State Purchasing Bureau
REQUEST FOR PROPOSAL FOR CONTRACTUAL SERVICES

RETURN TO:
Name: State Purchasing Bureau
Address: 1526 K Street, Suite 130
City/State/Zip: Lincoln, NE 68508
Phone:402-471-6500

SOLICITATION NUMBER	RELEASE DATE
RFP 5820 Z1	March 30, 2018
OPENING DATE AND TIME	**PROCUREMENT CONTACT**
May 31, 2018 2:00 p.m. Central Time	Nancy Storant/Dianna Gilliland

PLEASE READ CAREFULLY!

SCOPE OF SERVICE

The State of Nebraska (State), Department of Administrative Services (DAS), Materiel Division, State Purchasing Bureau (SPB), is issuing this Request for Proposal (RFP) Number 5820 Z1 for the purpose of selecting a qualified Bidder to provide Network Management Control System. A more detailed description can be found in Section VI. The resulting contract may not be an exclusive contract as the State reserves the right to contract for the same or similar services from other sources now or in the future.

The term of the contract will be five (5) years commencing upon execution of the contract by the State and the Bidder (Parties)/notice to proceed. The Contract includes the option to renew for five (5) additional one (1) year renewal periods upon mutual agreement of the Parties The State reserves the right to extend the period of this contract beyond the termination date when mutually agreeable to the Parties.

ALL INFORMATION PERTINENT TO THIS REQUEST FOR PROPOSAL CAN BE FOUND ON THE INTERNET AT: http://das.nebraska.gov/materiel/purchasing.html.

A mandatory Pre-Proposal Conference will be held on Thursday, April 19, 2018 at 8:30am CDT at the Terry Carpenter Building of Nebraska Educational Telecommunications located at 1800 N. 33rd Street Lincoln, Nebraska 68503.

IMPORTANT NOTICE: Pursuant to Neb. Rev. Stat. § 84-602.02, State contracts in effect as of January 1, 2014, and contracts entered into thereafter, must be posted to a public website. The resulting contract, the RFP, and the *successful bidder's proposal or response* will be posted to a public website managed by DAS, which can be found at http://statecontracts.nebraska.gov.

In addition and in furtherance of the State's public records Statute (Neb. Rev. Stat. § 84-712 et seq.), all proposals or responses received regarding this RFP will be posted to the State Purchasing Bureau public website.

These postings will include the entire proposal or response. Bidders must request that proprietary information be excluded from the posting. The bidder must identify the proprietary information, mark the proprietary information according to state law, and submit the proprietary information in a separate container or envelope marked conspicuously in black ink with the words "PROPRIETARY INFORMATION". The bidder must submit a detailed written document showing that the release of the proprietary information would give a business advantage to named business competitor(s) and explain how the named business competitor(s) will gain an actual business advantage by disclosure of information. The mere assertion that information is proprietary or that a speculative business advantage might be gained is not sufficient. (See Attorney General Opinion No. 92068, April 27, 1992) THE BIDDER MAY NOT ASSERT THAT THE ENTIRE PROPOSAL IS PROPRIETARY. COST PROPOSALS WILL NOT BE CONSIDERED PROPRIETARY AND ARE A PUBLIC RECORD IN THE STATE OF NEBRASKA. The State will then determine, in its discretion, if the interests served by nondisclosure outweighs any public purpose served by disclosure. (See Neb. Rev. Stat. § 84-712.05(3)) The Bidder will be notified of the agency's decision. Absent a State determination that information is proprietary, the State will consider all information a public record subject to release regardless of any assertion that the information is proprietary.

If the agency determines it is required to release proprietary information, the bidder will be informed. It will be the bidder's responsibility to defend the bidder's asserted interest in non-disclosure.

To facilitate such public postings, with the exception of proprietary information, the State of Nebraska reserves a royalty-free, nonexclusive, and irrevocable right to copy, reproduce, publish, post to a website, or otherwise use any contract, proposal, or response to this RFP for any purpose, and to authorize others to use the documents. Any individual or entity awarded a contract, or who submits a proposal or response to this RFP, specifically waives any copyright or other protection the contract, proposal, or response to the RFP may have; and, acknowledges that they have the ability and authority to enter into such waiver. This reservation and waiver is a prerequisite for submitting

a proposal or response to this RFP, and award of a contract. **Failure to agree to the reservation and waiver will result** in the proposal or response to the RFP being found **non-responsive and rejected.**

Any entity awarded a contract or submitting a proposal or response to the RFP agrees not to sue, file a claim, or make a demand of any kind, and will indemnify and hold harmless the State and its employees, volunteers, agents, and its elected and appointed officials from and against any and all claims, liens, demands, damages, liability, actions, causes of action, losses, judgments, costs, and expenses of every nature, including investigation costs and expenses, settlement costs, and attorney fees and expenses, sustained or asserted against the State, arising out of, resulting from, or attributable to the posting of the contract or the proposals and responses to the RFP, awards, and other documents.

TABLE OF CONTENTS

GLOSSARY OF TERMS

Acceptance Test Procedure: Benchmarks and other performance criteria, developed by the State of Nebraska or other sources of testing standards, for measuring the effectiveness of products or services and the means used for testing such performance.

Addendum: Something to be added or deleted to an existing document; a supplement.

After Receipt of Order (ARO): After Receipt of Order

Agency: Any state agency, board, or commission other than the University of Nebraska, the Nebraska State colleges, the courts, the Legislature, or any other office or agency established by the Constitution of Nebraska.

Agent/Representative: A person authorized to act on behalf of another.

Agnostic: Denoting or relating to hardware or software that is compatible with many types of platforms or operating systems.

Amend: To alter or change by adding, subtracting, or substituting.

Amendment: A written correction or alteration to a document.

Appropriation: Legislative authorization to expend public funds for a specific purpose. Money set apart for a specific use.

API: Application Programming Interface

Award: All purchases, leases, or contracts which are based on competitive proposals will be awarded according to the provisions in the RFP. The State reserves the right to reject any or all proposals, wholly or in part, or to award to multiple bidders in whole or in part. The State reserves the right to waive any deviations or errors that are not material, do not invalidate the legitimacy of the proposal, and do not improve the bidder's competitive position. All awards will be made in a manner deemed in the best interest of the State.

Best and Final Offer (BAFO): In a competitive bid, the final offer submitted which contains the bidder's (vendor's) most favorable terms for price.

Bid/Proposal: The offer submitted by a vendor in a response to a written solicitation.

Bid Bond: An insurance agreement, accompanied by a monetary commitment, by which a third party (the surety) accepts liability and guarantees that the vendor will not withdraw the bid.

Bidder: A vendor who submits an offer bid in response to a written solicitation.

Business: Any corporation, partnership, individual, sole proprietorship, joint-stock company, joint venture, or any other private legal entity.

Business Day: Any weekday, except State-recognized holidays.

Calendar Day: Every day shown on the calendar including Saturdays, Sundays, and State/Federal holidays.

Cancellation: To call off or revoke a purchase order without expectation of conducting or performing it at a later time.

Central Processing Unit (CPU): Any computer or computer system that is used by the State to store, process, or retrieve data or perform other functions using Operating Systems and applications software.

Change Order: Document that provides amendments to an executed purchase order or contract.

Collusion: An agreement or cooperation between two or more persons or entities to accomplish a fraudulent, deceitful, or unlawful purpose.

Commodities: Any equipment, material, supply or goods; anything movable or tangible that is provided or sold.

Commodities Description: Detailed descriptions of the items to be purchased; may include information necessary to obtain the desired quality, type, color, size, shape, or special characteristics necessary to perform the work intended to produce the desired results.

Competition: The effort or action of two or more commercial interests to obtain the same business from third parties.

Confidential Information: Unless otherwise defined below, "Confidential Information" shall also mean proprietary trade secrets, academic and scientific research work which is in progress and unpublished, and other information which if released would give advantage to business competitors and serve no public purpose (see Neb. Rev. Stat. §84-712.05(3)). In accordance with Nebraska Attorney General Opinions 92068 and 97033, proof that information is proprietary requires identification of specific, named competitor(s) who would be advantaged by release of the information and the specific advantage the competitor(s) would receive.

Contract: An agreement between two or more parties creating obligations that are enforceable or otherwise recognizable at law; the writing that sets forth such an agreement.

Contract Administration: The management of the contract which includes and is not limited to; contract signing, contract amendments and any necessary legal actions.

Contract Award: Occurs upon execution of the State document titled "Service Contract Award" by the proper authority.

Contract Management: The management of day to day activities at the agency which includes and is not limited to ensuring deliverables are received, specifications are met, handling meetings and making payments to the Contractor.

Contract Period: The duration of the contract.

Contractor: Any individual or entity having a contract to furnish commodities or services.

Control: The ability to issue all available commands in order to operate or regulate the behavior of a particular device as designed by the manufacturer.

Cooperative Purchasing: The combining of requirements of two or more political entities to obtain advantages of volume purchases, reduction in administrative expenses or other public benefits.

Copyright: A property right in an original work of authorship fixed in any tangible medium of expression, giving the holder the exclusive right to reproduce, adapt and distribute the work.

Critical Program Error: Any Program Error, whether or not known to the State, which prohibits or significantly impairs use of the Licensed Software as set forth in the documentation and intended in the contract.

Customer Service: The process of ensuring customer satisfaction by providing assistance and advice on those products or services provided by the Contractor.

Default: The omission or failure to perform a contractual duty.

Device: Used to describe a thing made or adapted for a particular purpose, especially a piece of mechanical or electronic equipment. Synonymous with implement, gadget, utensil, tool, appliance, apparatus, instrument, machine, mechanism, contrivance, contraption, gizmo, widget, and doohickey.

Deviation: Any proposed change(s) or alteration(s) to either the terms and conditions or deliverables within the scope of the written solicitation or contract.

Direct: Used to describe a connection to a device rather than an intermediary device connected to the device.
(Example: A KVM connection to a computer as opposed to a remote session.)

Evaluation: The process of examining an offer after opening to determine the vendor's responsibility, responsiveness to requirements, and to ascertain other characteristics of the offer that relate to determination of the successful award.

Evaluation Committee: Committee(s) appointed by the requesting agency that advises and assists the procuring office in the evaluation of bids/proposals (offers made in response to written solicitations).

Extension: Continuance of a contract for a specified duration upon the agreement of the parties beyond the original Contract Period. Not to be confused with "Renewal Period".

Free on Board (F.O.B.) Destination: The delivery charges are included in the quoted price and prepaid by the vendor. Vendor is responsible for all claims associated with damages during delivery of product.

Free on Board (F.O.B.) Point of Origin: The delivery charges are not included in the quoted price and are the responsibility of the agency. Agency is responsible for all claims associated with damages during delivery of product.

Foreign Corporation: A foreign corporation that was organized and chartered under the laws of another state, government, or country.

Installation Date: The date when the procedures described in "Installation by Contractor", and "Installation by State", as found in the RFP, or contract, are completed.

Interested Party: A person, acting in their personal capacity, or an entity entering into a contract or other agreement creating a legal interest therein.

Late Bid/Proposal: An offer received after the Opening Date and Time.

Licensed Software Documentation: The user manuals and any other materials in any form or medium customarily provided by the Contractor to the users of the Licensed Software which will provide the State with sufficient information to operate, diagnose, and maintain the Licensed Software properly, safely, and efficiently.

Mandatory/Must: Required, compulsory, or obligatory.

May: Discretionary, permitted; used to express possibility.

Module (see System): A collection of routines and data structures that perform a specific function of software.

Monitor: The act of using an instrument or device for observing, checking, or keeping a continuous record of the progress or quality of a process or processes over a period of time.

Must: See Mandatory/ Must and Shall/Will/Must.

National Institute for Governmental Purchasing (NIGP): National Institute of Governmental Purchasing – Source used for assignment of universal commodity codes to goods and services.

Network Management Control System (NMCS): A set of hardware and/or software tools that allow an IT or Engineering professional to supervise and control the individual components of a network within a larger network management framework.

NMCS: Network Management Control System.

Open Market Purchase: Authorization may be given to an agency to purchase items above direct purchase authority due to the unique nature, price, quantity, location of the using agency, or time limitations by the AS Materiel Division, State Purchasing Bureau.

Opening Date and Time: Specified date and time for the public opening of received, labeled, and sealed formal proposals.

Operating System: The control program in a computer that provides the interface to the computer hardware and peripheral devices, and the usage and allocation of memory resources, processor resources, input/output resources, and security resources.

Outsourcing: The contracting out of a business process which an organization may have previously performed internally or has a new need for, to an independent organization from which the process is purchased back.

Payroll & Financial Center (PFC): Electronic procurement system of record.

Performance Bond: An insurance agreement, accompanied by a monetary commitment, by which a third party (the surety) accepts liability and guarantees that the Contractor fulfills any and all obligations under the contract.

Platform: A specific hardware and Operating System combination that is different from other hardware and Operating System combinations to the extent that a different version of the Licensed Software product is required to execute properly in the environment established by such hardware and Operating System combination.

Point of Contact (POC): The person designated to receive communications and to communicate.

Pre-Bid/Pre-Proposal Conference: A meeting scheduled for the purpose of clarifying a written solicitation and related expectations.

Product: Something that is distributed commercially for use or consumption and that is usually (1) tangible personal property, (2) the result of fabrication or processing, and (3) an item that has passed through a chain of commercial distribution before ultimate use or consumption.

Program Error: Code in Licensed Software which produces unintended results or actions, or which produces results or actions other than those described in the specifications. A program error includes, without limitation, any Critical Program Error.

Program Set: The group of programs and products, including the Licensed Software specified in the RFP, plus any additional programs and products licensed by the State under the contract for use by the State.

Project: The total scheme, program, or method worked out for the accomplishment of an objective, including all documentation, commodities, and services to be provided under the contract.

Proposal: See Bid/Proposal.

Proprietary Information: Proprietary information is defined as trade secrets, academic and scientific research work which is in progress and unpublished, and other information which if released would give advantage to business competitors and serves no public purpose (see Neb. Rev. Stat. § 84-712.05(3)). In accordance with Attorney General Opinions 92068 and 97033, proof that information is proprietary requires identification of specific named competitor(s) advantaged by release of the information and the demonstrated advantage the named competitor(s) would gain by the release of information.

Protest/Grievance: A complaint about a governmental action or decision related to a RFP or resultant contract, brought by a vendor who has timely submitted a bid response in connection with the award in question, to AS Materiel Division or another designated agency with the intention of achieving a remedial result.

Public Proposal Opening: The process of opening correctly submitted offers at the time and place specified in the written solicitation and in the presence of anyone who wished to attend.

Recommended Hardware Configuration: The data processing hardware (including all terminals, auxiliary storage, communication, and other peripheral devices) to the extent utilized by the State as recommended by the Contractor.

Release Date: The date of public release of the written solicitation to seek offers.

Renewal Period: Optional contract periods subsequent to the original Contract Period for a specified duration with previously agreed to terms and conditions. Not to be confused with Extension.

Request for Information (RFI): A general invitation to vendors requesting information for a potential future solicitation. The RFI is typically used as a research and information gathering tool for preparation of a solicitation.

Request for Proposal (RFP): A written solicitation utilized for obtaining competitive offers.

Responsible Bidder: A bidder who has the capability in all respects to perform fully and lawfully all requirements with integrity and reliability to assure good faith performance.

Responsive Bidder: A bidder who has submitted a bid which conforms to all requirements of the solicitation document.

Shall/Will/Must: An order/command; mandatory.

Should: Expected; suggested, but not necessarily mandatory.

Software License: Legal instrument with or without printed material that governs the use or redistribution of licensed software.

Sole Source – Commodity: When an item is available from only one source due to the unique nature of the requirement, its supplier, or market conditions.
Sole Source – Services: A service of such a unique nature that the vendor selected is clearly and justifiably the only practical source to provide the service. Determination that the vendor selected is justifiably the sole source is based on either the uniqueness of the service or sole availability at the location required.

Specifications: The detailed statement, especially of the measurements, quality, materials, and functional characteristics, or other items to be provided under a contract.

Statutory: These clauses are controlled by state law and are not subject to negotiation.

Subcontractor: Individual or entity with whom the contractor enters a contract to perform a portion of the work awarded to the contractor.

System (see Module): Any collection or aggregation of two (2) or more Modules that is designed to function, or is represented by the Contractor as functioning or being capable of functioning, as an entity.

Termination: Occurs when either Party, pursuant to a power created by agreement or law, puts an end to the contract prior to the stated expiration date. All obligations which are still executory on both sides are discharged but any right based on prior breach or performance survives.

Third Party: Any person or entity, including but not limited to fiduciaries, shareholders, owners, officers, managers, employees, legally disinterested persons, and sub-contractors or agents, and their employees. It shall not include any entity or person who is an interested Party to the contract or agreement.

Trade Secret: Information, including, but not limited to, a drawing, formula, pattern, compilation, program, device, method, technique, code, or process that (a) derives independent economic value, actual or potential, from not being known to, and not being ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (b) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy (see Neb. Rev. Stat. §87-502(4)).

Trademark: A word, phrase, logo, or other graphic symbol used by a manufacturer or vendor to distinguish its product from those of others, registered with the U.S. Patent and Trademark Office.

Upgrade: Any change that improves or alters the basic function of a product or service.

Vendor: An individual or entity lawfully conducting business in the State of Nebraska, or licensed to do so, who seeks to provide goods or services under the terms of a written solicitation.

Vendor Performance Report: A report issued to the Contractor by State Purchasing Bureau when products or services delivered or performed fail to meet the terms of the purchase order, contract, and/or specifications, as reported to State Purchasing Bureau by the agency. The State Purchasing Bureau shall contact the Contractor regarding any such report. The vendor performance report will become a part of the permanent record for the Contractor. The State may require vendor to cure. Two such reports may be cause for immediate termination.

Will: See Shall/Will/Must.

Work Day: See Business Day.

I. PROCUREMENT PROCEDURE

A. GENERAL INFORMATION

The RFP is designed to solicit proposals from qualified Bidders who will be responsible for providing Network Management Control System at a competitive and reasonable cost.

Proposals shall conform to all instructions, conditions, and requirements included in the RFP. Prospective bidders are expected to carefully examine all documents, schedules, and requirements in this RFP, and respond to each requirement in the format prescribed. Proposals may be found non-responsive if they do not conform to the RFP.

B. PROCURING OFFICE AND COMMUNICATION WITH STATE STAFF AND EVALUATORS

Procurement responsibilities related to this RFP reside with the State Purchasing Bureau. The point of contact (POC) for the procurement is as follows:

Name:	Nancy Storant/Dianna Gilliland
Agency:	State Purchasing Bureau
Address:	1526 K Street, Suite 130
	Lincoln, NE 68508
Telephone:	402-471-6500
E-Mail:	as.materielpurchasing@nebraska.gov

From the date the RFP is issued until the Intent to Award is issued, communication from the Bidder is limited to the POC listed above. After the Intent to Award is issued, the Bidder may communicate with individuals the State has designated as responsible for negotiating the contract on behalf of the State. No member of the State Government, employee of the State, or member of the Evaluation Committee is empowered to make binding statements regarding this RFP. The POC will issue any clarifications or opinions regarding this RFP in writing. Only the buyer can modify the RFP, answer questions, render opinions, and only the SPB or awarding agency can award a contract. Bidders shall not have any communication with, or attempt to communicate or influence any evaluator involved in this RFP.

The following exceptions to these restrictions are permitted:

1. Contact made pursuant to pre-existing contracts or obligations;
2. Contact required by the schedule of events or an event scheduled later by the RFP POC; and
3. Contact required for negotiation and execution of the final contract.

The State reserves the right to reject a bidder's proposal, withdraw an Intent to Award, or terminate a contract if the State determines there has been a violation of these procurement procedures.

C. SCHEDULE OF EVENTS

The State expects to adhere to the procurement schedule shown below, but all dates are approximate and subject to change.

ACTIVITY		DATE/TIME
1.	Release RFP	3/30/2018
2.	Last day to submit "Notification of Intent to Attend Pre-Proposal Conference"	4/12/2018
3.	Mandatory Pre-Proposal Conference Location: Terry Carpenter Building Nebraska Educational Telecommunications 1800 N. 33rd Street Lincoln, Nebraska 68503 & KHNE Transmission Site (3 ½ Miles East, Aurora) 1105 W 6 RD. Giltner, NE 68441 40-46-20 N, 098-05-22 W (maps will be provided) * *Registration Advisement:* Bids will only be accepted from those Companies/Firms which properly register their attendance at this meeting by completing all of the required information on the State Registration Sheet.	4/19/2018 8:30am CDT 4/19/2018 2:30pm CDT
4.	Last day to submit written questions after Pre-Proposal Conference	4/27/2018
5.	State responds to written questions through RFP "Addendum" and/or "Amendment" to be posted to the Internet at: and/or http://das.nebraska.gov/materiel/purchasing.html	5/7/2018
6.	Proposal opening Location: State Purchasing Bureau 1526 K Street, Suite 130 Lincoln, NE 68508	5/31/2018 2:00 PM Central Time
7.	Review for conformance to RFP requirements	5/31/2018
8.	Evaluation period	6/05/2018 through 6/22/2018
9.	"Oral Interviews/Presentations and/or Demonstrations" (if required)	TBD
10.	*Post "Intent to Award" to Internet at: and/or* http://das.nebraska.gov/materiel/purchasing.html	7/16/2018
11.	Contract finalization period	7/30/2018
12.	Contract award	8/6/2018
13.	Contractor start date	9/1/2018

D. WRITTEN QUESTIONS AND ANSWERS

Questions regarding the meaning or interpretation of any RFP provision must be submitted in writing to the State Purchasing Bureau and clearly marked "RFP Number 5820 Z1; Network Management Control System Questions". The POC is not obligated to respond to questions that are received late per the Schedule of Events.

Bidders should present, as questions, any assumptions upon which the Bidder's proposal is or might be developed. Proposals will be evaluated without consideration of any known or unknown assumptions of a bidder. The contract will not incorporate any known or unknown assumptions of a bidder.

It is preferred that questions be sent via e-mail to as.materielpurchasing@nebraska.gov, but may be delivered by hand or by U.S. Mail. It is recommended that Bidders submit questions using the following format.

RFP Section Reference	RFP Page Number	Question

Written answers will be posted at http://das.nebraska.gov/materiel/purchasing.html per the Schedule of Events.

E. PRE-PROPOSAL CONFERENCE

A pre-proposal conference will be held per the Schedule of Events. Attendance at the pre-proposal conference is mandatory in order to submit proposal. Bidders will have an opportunity to ask questions at the conference to assist in the clarification and understanding of the RFP requirements. Questions that have a material impact on the RFP or process, and questions that are relevant to all bidders, will be answered in writing and posted at http://das.nebraska.gov/materiel/purchasing.html. An answer must be posted to be binding on the State. The State will attempt to provide verbal answers to questions that do not impact the RFP or process, and are only of interest to an individual bidder during the conference. If a bidder feels it necessary to have a binding answer to a question that was answered verbally, the question should be submitted in writing per the Schedule of Events.

E. NOTICE OF INTENT TO ATTEND MANDATORY PRE-PROPOSAL CONFERENCE

Bidders should notify the POC of their intent to attend by submitting a "Notification of Intent to Attend the Pre-Proposal Conference Form" (see Form B) by hand-delivery, U.S. Mail, or email at as.materielpurchasing@nebraska.gov

F. RECYCLING (§81-15,159(d)(2))

Preference will be given to items which are manufactured or produced from recycled material or which can be readily reused or recycled after their normal use. Preference will also be given to purchases of corn-based biodegradable plastics and road deicers if available and suitable. No preference shall be given if such preference would result in the purchase of products, materials, or supplies that are of inadequate quality or of substantially higher cost.

G. PRICES

Prices submitted on the cost proposal form shall remain fixed for the first two years (2) of the contract. Any request for a price increase subsequent to the first two years (2) of the contract shall not exceed seven and one half percent (7.5 %) of the previous Contract period. Increases will be cumulative across the remaining periods of the contract. Requests for an increase must be submitted in writing to the State Purchasing Bureau a minimum of 120 days prior to the end of the current contract period. Documentation may be required by the State to support the price increase.

The State reserves the right to deny any requested price increase. No price increases are to be billed to any State Agencies prior to written amendment of the contract by the parties.

H. SECRETARY OF STATE/TAX COMMISSIONER REGISTRATION REQUIREMENTS (Statutory)

All bidders must be authorized to transact business in the State of Nebraska and comply with all Nebraska Secretary of State Registration requirements. The bidder who is the recipient of an Intent to Award will be required to certify that it has complied and produce a true and exact copy of its current (within ninety (90) calendar days of the intent to award) Certificate or Letter of Good Standing, or in the case of a sole proprietorship, provide written documentation of sole proprietorship and complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at http://das.nebraska.gov/materiel/purchasing.html. This must be accomplished prior to execution of the contract.

I. ETHICS IN PUBLIC CONTRACTING

The State reserves the right to reject bids, withdraw an intent to award or award, or terminate a contract if a bidder commits or has committed ethical violations, which include, but are not limited to:

1. Offering or giving, directly or indirectly, a bribe, fee, commission, compensation, gift, gratuity, or anything of value to any person or entity in an attempt to influence the bidding process;

2. Utilize the services of lobbyists, attorneys, political activists, or consultants to influence or subvert the bidding process;
3. Being considered for, presently being, or becoming debarred, suspended, ineligible, or excluded from contracting with any state or federal entity;
4. Submitting a proposal on behalf of another Party or entity; and
5. Collude with any person or entity to influence the bidding process, submit sham proposals, preclude bidding, fix pricing or costs, create an unfair advantage, subvert the bid, or prejudice the State.

The Bidder shall include this clause in any subcontract entered into for the exclusive purpose of performing this contract.

Bidder shall have an affirmative duty to report any violations of this clause by the Bidder throughout the bidding process, and throughout the term of this contract for the successful Bidder and their subcontractors.

J. DEVIATIONS FROM THE REQUEST FOR PROPOSAL

The requirements contained in the RFP become a part of the terms and conditions of the contract resulting from this RFP. Any deviations from the RFP in Sections II through VI must be clearly defined by the bidder in its proposal and, if accepted by the State, will become part of the contract. Any specifically defined deviations must not be in conflict with the basic nature of the RFP, requirements, or applicable state or federal laws or statutes. "Deviation", for the purposes of this RFP, means any proposed changes or alterations to either the contractual language or deliverables within the scope of this RFP. The State discourages deviations and reserves the right to reject proposed deviations.

K. SUBMISSION OF PROPOSALS

Bidders should submit one proposal marked on the first page: "ORIGINAL". If multiple proposals are submitted, the State will retain one copy marked "ORIGINAL" and destroy the other copies. The Bidder is solely responsible for any variance between the copies submitted. Proposal responses should include the completed Form A, "Bidder Contact Sheet". Proposals must reference the RFP number and be sent to the specified address. Please note that the address label should appear as specified in Section I B. on the face of each container or bidder's bid response packet. If a recipient phone number is required for delivery purposes, 402-471-6500 should be used. The RFP number should be included in all correspondence.

Emphasis should be concentrated on conformance to the RFP instructions, responsiveness to requirements, completeness, and clarity of content. If the bidder's proposal is presented in such a fashion that makes evaluation difficult or overly time consuming the State reserves the right to reject the proposal as non-conforming.

By signing the "Request for Proposal for Contractual Services" form, the bidder guarantees compliance with the provisions stated in this RFP.

The State shall not incur any liability for any costs incurred by bidders in replying to this RFP, in the demonstrations and/or oral presentations, or in any other activity related to bidding on this RFP.

The Technical and Cost Proposals should be packaged separately (loose-leaf binders are preferred) on standard 8 ½" by 11" paper, except that charts, diagrams and the like may be on fold-outs which, when folded, fit into the 8 ½" by 11" format. Pages may be consecutively numbered for the entire proposal, or may be numbered consecutively within sections. Figures and tables should be numbered and referenced in the text by that number. They should be placed as close as possible to the referencing text. The Technical Proposal should not contain any reference to dollar amounts. However, information such as data concerning labor hours and categories, materials, subcontracts and so forth, shall be considered in the Technical Proposal so that the bidder's understanding of the scope of work may be evaluated. The Technical Proposal shall disclose the bidder's technical approach in as much detail as possible, including, but not limited to, the information required by the Technical Proposal instructions.

L. BID PREPARATION COSTS

The State shall not incur any liability for any costs incurred by Bidders in replying to this RFP, including any activity related to bidding on this RFP.

M. FAILURE TO COMPLY WITH REQUEST FOR PROPOSAL

Violation of the terms and conditions contained in this RFP or any resultant contract, at any time before or after the award, shall be grounds for action by the State which may include, but is not limited to, the following:

1. Rejection of a bidder's proposal;
2. Withdrawal of the Intent to Award;
3. Withdrawal of the Award;
4. Termination of the resulting contract;
5. Legal action; and

6. Suspension of the bidder from further bidding with the State for the period of time relative to the seriousness of the violation, such period to be within the sole discretion of the State.

N. BID CORRECTIONS

A bidder may correct a mistake in a bid prior to the time of opening by giving written notice to the State of intent to withdraw the bid for modification or to withdraw the bid completely. Changes in a bid after opening are acceptable only if the change is made to correct a minor error that does not affect price, quantity, quality, delivery, or contractual conditions. In case of a mathematical error in extension of price, unit price shall govern.

O. LATE PROPOSALS

Proposals received after the time and date of the proposal opening will be considered late proposals. Late proposals will be returned unopened, if requested by the bidder and at bidder's expense. The State is not responsible for proposals that are late or lost regardless of cause or fault.

P. PROPOSAL OPENING

The opening of proposals will be public and the bidders will be announced. Proposals **WILL NOT** be available for viewing by those present at the proposal opening. Vendors may contact the State to schedule an appointment for viewing proposals after the Intent to Award has been posted to the website. Once proposals are opened, they become the property of the State of Nebraska and will not be returned.

Q. REQUEST FOR PROPOSAL/PROPOSAL REQUIREMENTS

The proposals will first be examined to determine if all requirements listed below have been addressed and whether further evaluation is warranted. Proposals not meeting the requirements may be rejected as non-responsive. The requirements are:

1. Original Request for Proposal for Contractual Services form signed using an indelible method;
2. Clarity and responsiveness of the proposal;
3. Completed Corporate Overview;
4. Completed Sections II through VI;
5. Completed Technical Approach; and
6. Completed State Cost Proposal Template.

R. EVALUATION COMMITTEE

Proposals are evaluated by members of an Evaluation Committee(s). The Evaluation Committee(s) will consist of individuals selected at the discretion of the State. Names of the members of the Evaluation Committee(s) will not be published prior to the intent to award.

Any contact, attempted contact, or attempt to influence an evaluator that is involved with this RFP may result in the rejection of this proposal and further administrative actions.

S. EVALUATION OF PROPOSALS

All proposals that are responsive to the RFP will be evaluated. Each evaluation category will have a maximum point potential. The State will conduct a fair, impartial, and comprehensive evaluation of all proposals in accordance with the criteria set forth below. Areas that will be addressed and scored during the evaluation include:

1. Corporate Overview should include but is not limited to:
   - a. the ability, capacity, and skill of the bidder to deliver and implement the system or project that meets the requirements of the RFP;
   - b. the character, integrity, reputation, judgment, experience, and efficiency of the bidder;
   - c. whether the bidder can perform the contract within the specified time frame;
   - d. the quality of bidder performance on prior contracts;
   - a. such other information that may be secured and that has a bearing on the decision to award the contract;
2. Technical Approach;
   Understanding of the project requirements
   - b. Proposed development approach
   - c. Technical considerations
   - d. Detailed project work plan
   - a. Deliverables and due dates
3. Cost Proposal

Neb. Rev. Stat. §73-107 allows for a preference for a resident disabled veteran or business located in a designated enterprise zone. When a state contract is to be awarded to the lowest responsible bidder, a resident disabled veteran or a business located in a designated enterprise zone under the Enterprise Zone Act shall be allowed a preference over any other resident or nonresident bidder, if all other factors are equal.

Resident disabled veterans means any person (a) who resides in the State of Nebraska, who served in the United States Armed Forces, including any reserve component or the National Guard, who was discharged or otherwise separated with a characterization of honorable or general (under honorable conditions), and who possesses a disability rating letter issued by the United States Department of Veterans Affairs establishing a service-connected disability or a disability determination from the United States Department of Defense and (b)(i) who owns and controls a business or, in the case of a publicly owned business, more than fifty percent of the stock is owned by one or more persons described in subdivision (a) of this subsection and (ii) the management and daily business operations of the business are controlled by one or more persons described in subdivision(a) of this subsection. Any contract entered into without compliance with this section shall be null and void.

Therefore, if a resident disabled veteran or business located in a designated enterprise zone submits a proposal in accordance with Neb. Rev. Stat. §73-107 and has so indicated on the RFP cover page under "Bidder must complete the following" requesting priority/preference to be considered in the award of this contract, the following will need to be submitted by the vendor within ten (10) business days of request:

1. Documentation from the United States Armed Forces confirming service;
4. Documentation of discharge or otherwise separated characterization of honorable or general (under honorable conditions);
5. Disability rating letter issued by the United States Department of Veterans Affairs establishing a service-connected disability or a disability determination from the United States Department of Defense; and
6. Documentation which shows ownership and control of a business or, in the case of a publicly owned business, more than fifty percent of the stock is owned by one or more persons described in subdivision (a) of this subsection; and the management and daily business operations of the business are controlled by one or more persons described in subdivision (a) of this subsection.

Failure to submit the requested documentation within ten (10) business days of notice will disqualify the bidder from consideration of the preference.

T. ORAL INTERVIEWS/PRESENTATIONS AND/OR DEMONSTRATIONS

The State may determine after the completion of the Technical and Cost Proposal evaluation that oral interviews/presentations and/or demonstrations are required. Every bidder may not be given an opportunity to interview/present and/or give demonstrations; the State reserves the right, in its discretion, to select only the top scoring bidders to present/give oral interviews. The scores from the oral interviews/presentations and/or demonstrations will be added to the scores from the Technical and Cost Proposals. The presentation process will allow the bidders to demonstrate their proposal offering, explaining and/or clarifying any unusual or significant elements related to their proposals. Bidders' key personnel, identified in their proposal, may be requested to participate in a structured interview to determine their understanding of the requirements of this proposal, their authority and reporting relationships within their firm, and their management style and philosophy. Only representatives of the State and the presenting bidder will be permitted to attend the oral interviews/presentations and/or demonstrations. A written copy or summary of the presentation, and demonstrative information (such as briefing charts, et cetera) may be offered by the bidder, but the State reserves the right to refuse or not consider the offered materials. Bidders shall not be allowed to alter or amend their proposals.

Once the oral interviews/presentations and/or demonstrations have been completed, the State reserves the right to make an award without any further discussion with the bidders regarding the proposals received.

Any cost incidental to the oral interviews/presentations and/or demonstrations shall be borne entirely by the bidder and will not be compensated by the State.

U. BEST AND FINAL OFFER

If best and final offers (BAFO) are requested by the State and submitted by the bidder, they will be evaluated (using the stated BAFO criteria), scored, and ranked by the Evaluation Committee. The State reserves the right to conduct more than one Best and Final Offer. The award will then be granted to the highest scoring bidder. However, a bidder should provide its best offer in its original proposal. Bidders should not expect that the State will request a best and final offer.

II. TERMS AND CONDITIONS

Bidders should complete Sections II through VI as part of their proposal. Bidder is expected to read the Terms and Conditions and should initial either accept, reject, or reject and provide alternative language for each clause. The bidder should also provide an explanation of why the bidder rejected the clause or rejected the clause and provided alternate language. By signing the RFP, bidder is agreeing to be legally bound by all the accepted terms and conditions, and any proposed alternative terms and conditions submitted with the proposal. The State reserves the right to negotiate rejected or proposed alternative language. If the State and bidder fail to agree on the final Terms and Conditions, the State reserves the right to reject the proposal. The State of Nebraska is soliciting proposals in response to this RFP. The State of Nebraska reserves the right to reject proposals that attempt to substitute the bidder's commercial contracts and/or documents for this RFP.

The State will not consider incorporation of any document not submitted with the bidder's proposal as the document will not have been included in the evaluation process. These documents shall be subject to negotiation and will be incorporated as addendums if agreed to by the Parties.

If a conflict or ambiguity arises after the Addendum to Contract Award have been negotiated and agreed to, the Addendum to Contract Award shall be interpreted as follows:

1. If only one Party has a particular clause then that clause shall control;
2. If both Parties have a similar clause, but the clauses do not conflict, the clauses shall be read together;
3. If both Parties have a similar clause, but the clauses conflict, the State's clause shall control.

F. GENERAL

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DKC			

The contract resulting from this RFP shall incorporate the following documents:

4. Request for Proposal and Addenda;
5. Amendments to the RFP;
6. Questions and Answers;
7. Contractor's proposal (RFP and properly submitted documents);
8. The executed Contract and Addendum One to Contract, if applicable ; and,
9. Amendments/Addendums to the Contract.

These documents constitute the entirety of the contract.

Unless otherwise specifically stated in a future contract amendment, in case of any conflict between the incorporated documents, the documents shall govern in the following order of preference with number one (1) receiving preference over all other documents and with each lower numbered document having preference over any higher numbered document: 1) Amendment to the executed Contract with the most recent dated amendment having the highest priority, 2) executed Contract and any attached Addenda, 3) Amendments to RFP and any Questions and Answers, 4) the original RFP document and any Addenda, and 5) the Contractor's submitted Proposal.

Any ambiguity or conflict in the contract discovered after its execution, not otherwise addressed herein, shall be resolved in accordance with the rules of contract interpretation as established in the State of Nebraska.

B. NOTIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

Contractor and State shall identify the contract manager who shall serve as the point of contact for the executed contract.

Communications regarding the executed contract shall be in writing and shall be deemed to have been given if delivered personally or mailed, by U.S. Mail, postage prepaid, return receipt requested, to the parties at their respective addresses set forth below, or at such other addresses as may be specified in writing by either of the parties. All notices, requests, or communications shall be deemed effective upon personal delivery or three (3) calendar days following deposit in the mail.

Vendor Contract Manager: David Lassiter
Vendor: CodeMettle, LLC
Vendor Street Address: 6 Concourse Parkway Suite 1050
Vendor City, State, Zip: Atlanta, GA 30328

C. GOVERNING LAW (Statutory)

Notwithstanding any other provision of this contract, or any amendment or addendum(s) entered into contemporaneously or at a later time, the parties understand and agree that, (1) the State of Nebraska is a sovereign state and its authority to contract is therefore subject to limitation by the State's Constitution, statutes, common law, and regulation; (2) this contract will be interpreted and enforced under the laws of the State of Nebraska; (3) any action to enforce the provisions of this agreement must be brought in the State of Nebraska per state law; (4) the person signing this contract on behalf of the State of Nebraska does not have the authority to waive the State's sovereign immunity, statutes, common law, or regulations; (5) the indemnity, limitation of liability, remedy, and other similar provisions of the final contract, if any, are entered into subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity; and, (6) all terms and conditions of the final contract, including but not limited to the clauses concerning third party use, licenses, warranties, limitations of liability, governing law and venue, usage verification, indemnity, liability, remedy or other similar provisions of the final contract are entered into specifically subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity.

The Parties must comply with all applicable local, state and federal laws, ordinances, rules, orders, and regulations.

D. BEGINNING OF WORK

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The bidder shall not commence any billable work until a valid contract has been fully executed by the State and the successful Contractor. The Contractor will be notified in writing when work may begin.

E. CHANGE ORDERS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The State and the Contractor, upon the written agreement, may make changes to the contract within the general scope of the RFP. Changes may involve specifications, the quantity of work, or such other items as the State may find necessary or desirable. Corrections of any deliverable, service, or work required pursuant to the contract shall not be deemed a change. The Contractor may not claim forfeiture of the contract by reasons of such changes.

The Contractor shall prepare a written description of the work required due to the change and an itemized cost sheet for the change. Changes in work and the amount of compensation to be paid to the Contractor shall be determined in accordance with applicable unit prices if any, a pro-rated value, or through negotiations. The State shall not incur a price increase for changes that should have been included in the Contractor's proposal, were foreseeable, or result from difficulties with or failure of the Contractor's proposal or performance.

No change shall be implemented by the Contractor until approved by the State, and the Contract is amended to reflect the change and associated costs, if any. If there is a dispute regarding the cost, but both parties agree that immediate implementation is necessary, the change may be implemented, and cost negotiations may continue with both Parties retaining all remedies under the contract and law.

F. NOTICE OF POTENTIAL CONTRACTOR BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

If Contractor breaches the contract or anticipates breaching the contract, the Contractor shall immediately give written notice to the State. The notice shall explain the breach or potential breach, a proposed cure, and may include a request for a waiver of the breach if so desired. The State may, in its discretion, temporarily or permanently waive the breach. By granting a waiver, the State does not forfeit any rights or remedies to which the State is entitled by law or equity, or pursuant to the provisions of the contract. Failure to give immediate notice, however, may be grounds for denial of any request for a waiver of a breach.

G. BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

Either Party may terminate the contract, in whole or in part, if the other Party breaches its duty to perform its obligations under the contract in a timely and proper manner. Termination requires written notice of default and a thirty (30) calendar day (or longer at the non-breaching Party's discretion considering the gravity and nature of the default) cure period. Said notice shall be delivered by Certified Mail, Return Receipt Requested, or in person with proof of delivery. Allowing time to cure a failure or breach of contract does not waive the right to immediately terminate the contract for the same or different contract breach which may occur at a different time. In case of default of the Contractor, the State may contract the service from other sources and hold the Contractor responsible for any excess cost occasioned thereby.

The State's failure to make payment shall not be a breach, and the Contractor shall retain all available statutory remedies and protections.

H. NON-WAIVER OF BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The acceptance of late performance with or without objection or reservation by a Party shall not waive any rights of the Party nor constitute a waiver of the requirement of timely performance of any obligations remaining to be performed.

I. SEVERABILITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

If any term or condition of the contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the provision held to be invalid or illegal.

J. INDEMNIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

1. GENERAL

The Contractor agrees to defend, indemnify, and hold harmless the State and its employees, volunteers, agents, and its elected and appointed officials ("the indemnified parties") from and against any and all third party claims, liens, demands, damages, liability, actions, causes of action, losses, judgments, costs, and expenses of every nature, including investigation costs and expenses, settlement costs, and attorney fees and expenses ("the claims"), sustained or asserted against the State for personal injury, death, or property loss or damage, arising out of, resulting from, or attributable to the willful misconduct, negligence, error, or omission of the Contractor, its employees, Subcontractors, consultants, representatives, and agents, resulting from this contract, except to the extent such Contractor liability is attenuated by any action of the State which directly and proximately contributed to the claims.

2. INTELLECTUAL PROPERTY

The Contractor agrees it will, at its sole cost and expense, defend, indemnify, and hold harmless the indemnified parties from and against any and all claims, to the extent such claims arise out of, result from, or are attributable to, the actual or alleged infringement or misappropriation of any patent, copyright, trade secret, trademark, or confidential information of any third party by the Contractor or its employees, Subcontractors, consultants, representatives, and agents; provided, however, the State gives the Contractor prompt notice in writing of the claim. The Contractor may not settle any infringement claim that will affect

the State's use of the Licensed Software without the State's prior written consent, which consent may be withheld for any reason.
If a judgment or settlement is obtained or reasonably anticipated against the State's use of any intellectual property for which the Contractor has indemnified the State, the Contractor shall, at the Contractor's sole cost and expense, promptly modify the item or items which were determined to be infringing, acquire a license or licenses on the State's behalf to provide the necessary rights to the State to eliminate the infringement, or provide the State with a non-infringing substitute that provides the State the same functionality. At the State's election, the actual or anticipated judgment may be treated as a breach of warranty by the Contractor, and the State may receive the remedies provided under this RFP.

3. **PERSONNEL**
The Contractor shall, at its expense, indemnify and hold harmless the indemnified parties from and against any claim with respect to withholding taxes, worker's compensation, employee benefits, or any other claim, demand, liability, damage, or loss of any nature relating to any of the personnel, including subcontractor's and their employees, provided by the Contractor.

4. **SELF-INSURANCE**
The State of Nebraska is self-insured for any loss and purchases excess insurance coverage pursuant to Neb. Rev. Stat. § 81-8,239.01 (Reissue 2008). If there is a presumed loss under the provisions of this agreement, Contractor may file a claim with the Office of Risk Management pursuant to Neb. Rev. Stat. §§ 81-8,829 – 81-8,306 for review by the State Claims Board. The State retains all rights and immunities under the State Miscellaneous (Section 81-8,294), Tort (Section 81-8,209), and Contract Claim Acts (Section 81-8,302), as outlined in Neb. Rev. Stat. § 81-8,209 et seq. and under any other provisions of law and accepts liability under this agreement to the extent provided by law.

5. The Parties acknowledge that Attorney General for the State of Nebraska is required by statute to represent the legal interests of the State, and that any provision of this indemnity clause is subject to the statutory authority of the Attorney General.

K. ATTORNEY'S FEES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

In the event of any litigation, appeal, or other legal action to enforce any provision of the contract, the Parties agree to pay all expenses of such action, as permitted by law and if order by the court, including attorney's fees and costs, if the other Party prevails.

L. RETAINAGE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The State will withhold ten percent (10%) of each payment due as retainage. The entire retainage amount will be payable upon successful completion of the project phase. Upon completion of the project, the Contractor will invoice the State for any outstanding work and for the retainage. The State may reject the final invoice by identifying the specific reasons for such rejection in writing to the Contractor within forty-five (45) calendar days of receipt of the final invoice. Otherwise, the project will be deemed accepted and the State will release the final payment and retainage in accordance with the contract payment terms.

M. ASSIGNMENT, SALE, OR MERGER

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

Either Party may assign the contract upon mutual written agreement of the other Party. Such agreement shall not be unreasonably withheld.

The Contractor retains the right to enter into a sale, merger, acquisition, internal reorganization, or similar transaction involving Contractor's business. Contractor agrees to cooperate with the State in executing amendments to the contract to allow for the transaction. If a third party or entity is involved in the transaction, the Contractor will remain responsible for performance of the contract until such time as the person or entity involved in the transaction agrees in writing to be contractually bound by this contract and perform all obligations of the contract.

N. CONTRACTING WITH OTHER NEBRASKA POLITICAL SUB-DIVISIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The Contractor may, but shall not be required to, allow agencies, as defined in Neb. Rev. Stat. §81-145, to use this contract. The terms and conditions, including price, of the contract may not be amended. The State shall not be contractually obligated or liable for any contract entered into pursuant to this clause. A listing of Nebraska political subdivisions may be found at the website of the Nebraska Auditor of Public Accounts.

O. FORCE MAJEURE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

Neither Party shall be liable for any costs or damages, or for default resulting from its inability to perform any of its obligations under the contract due to a natural or manmade event outside the control and not the fault of the affected Party ("Force Majeure Event"). The Party so affected shall immediately make a written request for relief to the other Party, and shall have the burden of proof to justify the request. The other Party may grant the relief requested; relief may not be unreasonably withheld. Labor disputes with the impacted Party's own employees will not be considered a Force Majeure Event.

P. CONFIDENTIALITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

All materials and information provided by the Parties or acquired by a Party on behalf of the other Party shall be regarded as confidential information. All materials and information provided or acquired shall be handled in accordance with federal and state law, and ethical standards. Should said confidentiality be breached by a Party, the Party shall notify the other Party immediately of said breach and take immediate corrective action.

It is incumbent upon the Parties to inform their officers and employees of the penalties for improper disclosure imposed by the Privacy Act of 1974, 5 U.S.C. 552a. Specifically, 5 U.S.C. 552a (i)(1), which is made applicable by 5 U.S.C. 552a (m)(1), provides that any officer or employee, who by virtue of his/her employment or official position has possession of or access to agency records which contain individually identifiable information, the disclosure of which is prohibited by the Privacy Act or regulations established thereunder, and who knowing that disclosure of the specific material is prohibited, willfully discloses the material in any manner to any person or agency not entitled to receive it, shall be guilty of a misdemeanor and fined not more than $5,000.

Q. EARLY TERMINATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The contract may be terminated as follows:

1. The State and the Contractor, by mutual written agreement, may terminate the contract at any time.
2. The State, in its sole discretion, may terminate the contract for any reason upon thirty (30) calendar day's written notice to the Contractor. Such termination shall not relieve the Contractor of warranty or other service obligations incurred under the terms of the contract. In the event of termination the Contractor shall be entitled to payment, determined on a pro rata basis, for products or services satisfactorily performed or provided.
3. The State may terminate the contract immediately for the following reasons:
   - **a.** if directed to do so by statute;
   - **b.** Contractor has made an assignment for the benefit of creditors, has admitted in writing its inability to pay debts as they mature, or has ceased operating in the normal course of business;
   - **c.** a trustee or receiver of the Contractor or of any substantial part of the Contractor's assets has been appointed by a court;
   - **d.** fraud, misappropriation, embezzlement, malfeasance, misfeasance, or illegal conduct pertaining to performance under the contract by its Contractor, its employees, officers, directors, or shareholders;
   - **e.** an involuntary proceeding has been commenced by any Party against the Contractor under any one of the chapters of Title 11 of the United States Code and (i) the proceeding has been pending for at least sixty (60) calendar days; or (ii) the Contractor has consented, either expressly or by operation of law, to the entry of an order for relief; or (iii) the Contractor has been decreed or adjudged a debtor;
   - **f.** a voluntary petition has been filed by the Contractor under any of the chapters of Title 11 of the United States Code;
   - **g.** Contractor intentionally discloses confidential information;
   - **h.** Contractor has or announces it will discontinue support of the deliverable; and,
   - **i.** In the event funding is no longer available.

R. CONTRACT CLOSEOUT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

Upon contract closeout for any reason the Contractor shall within 30 days, unless stated otherwise herein:

1. Transfer all completed or partially completed deliverables to the State;
2. Transfer ownership and title to all completed or partially completed deliverables to the State;
3. Return to the State all information and data, unless the Contractor is permitted to keep the information or data by contract or rule of law. Contractor may retain one copy of any information or data as required to comply with applicable work product documentation standards or as are automatically retained in the course of Contractor's routine back up procedures;
4. Cooperate with any successor Contactor, person or entity in the assumption of any or all of the obligations of this contract;
5. Cooperate with any successor Contactor, person or entity with the transfer of information or data related to this contract;
6. Return or vacate any state owned real or personal property; and,
7. Return all data in a mutually acceptable format and manner.

Nothing in this Section should be construed to require the Contractor to surrender intellectual property, real or personal property, or information or data owned by the Contractor for which the State has no legal claim.

III. CONTRACTOR DUTIES

A. INDEPENDENT CONTRACTOR / OBLIGATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

It is agreed that the Contractor is an independent contractor and that nothing contained herein is intended or should be construed as creating or establishing a relationship of employment, agency, or a partnership.

The Contractor is solely responsible for fulfilling the contract. The Contractor or the Contractor's representative shall be the sole point of contact regarding all contractual matters.

The Contractor shall secure, at its own expense, all personnel required to perform the services under the contract. The personnel the Contractor uses to fulfill the contract shall have no contractual or other legal relationship with the State; they shall not be considered employees of the State and shall not be entitled to any compensation, rights or benefits from the State, including but not limited to, tenure rights, medical and hospital care, sick and vacation leave, severance pay, or retirement benefits.

By-name personnel commitments made in the Contractor's proposal shall not be changed without the prior written approval of the State. Replacement of these personnel, if approved by the State, shall be with personnel of equal or greater ability and qualifications.

All personnel assigned by the Contractor to the contract shall be employees of the Contractor or a subcontractor, and shall be fully qualified to perform the work required herein. Personnel employed by the Contractor or a subcontractor to fulfill the terms of the contract shall remain under the sole direction and control of the Contractor or the subcontractor respectively.

With respect to its employees, the Contractor agrees to be solely responsible for the following:

1. Any and all pay, benefits, and employment taxes and/or other payroll withholding;
2. Any and all vehicles used by the Contractor's employees, including all insurance required by state law;
3. Damages incurred by Contractor's employees within the scope of their duties under the contract;
4. Maintaining Workers' Compensation and health insurance that complies with state and federal law and submitting any reports on such insurance to the extent required by governing law; and
5. Determining the hours to be worked and the duties to be performed by the Contractor's employees.
6. All claims on behalf of any person arising out of employment or alleged employment (including without limit claims of discrimination alleged against the Contractor, its officers, agents, or subcontractors or subcontractor's employees)

If the Contractor intends to utilize any subcontractor, the subcontractor's level of effort, tasks, and time allocation should be clearly defined in the bidder's proposal. The Contractor shall agree that it will not utilize any subcontractors not specifically included in its proposal in the performance of the contract without the prior written authorization of the State.

The State reserves the right to require the Contractor to reassign or remove from the project any Contractor or subcontractor employee.

Contractor shall insure that the terms and conditions contained in any contract with a subcontractor does not conflict with the terms and conditions of this contract.

The Contractor shall include a similar provision, for the protection of the State, in the contract with any Subcontractor engaged to perform work on this contract.

B. EMPLOYEE WORK ELIGIBILITY STATUS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL			

The Contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of an employee.

If the Contractor is an individual or sole proprietorship, the following applies:

1. The Contractor must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at http://das.nebraska.gov/materiel/purchasing.html

   The completed United States Attestation Form should be submitted with the RFP response.

2. If the Contractor indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the US Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.

3. The Contractor understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. §4-108.

C. COMPLIANCE WITH CIVIL RIGHTS LAWS AND EQUAL OPPORTUNITY EMPLOYMENT / NONDISCRIMINATION (Statutory)

The Contractor shall comply with all applicable local, state, and federal statutes and regulations regarding civil rights laws and equal opportunity employment. The Nebraska Fair Employment Practice Act prohibits Contractors of the State of Nebraska, and their Subcontractors, from discriminating against any employee or applicant for employment, with respect to hire, tenure, terms, conditions, compensation, or privileges of employment because of race, color, religion, sex, disability, marital status, or national origin (Neb. Rev. Stat. §48-1101 to 48-1125). The Contractor guarantees compliance with the Nebraska Fair Employment Practice Act, and breach of this provision shall be regarded as a material breach of contract. The Contractor shall insert a similar provision in all Subcontracts for services to be covered by any contract resulting from this RFP.

D. COOPERATION WITH OTHER CONTRACTORS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL			

Contractor may be required to work with or in close proximity to other contractors or individuals that may be working on same or different projects. The Contractor shall agree to cooperate with such other contractors or individuals, and shall not commit or permit any act which may interfere with the performance of work by any other contractor or individual. Contractor is not required to compromise Contractor's intellectual property or proprietary information unless expressly required to do so by this contract.

E. PERMITS, REGULATIONS, LAWS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The contract price shall include the cost of all royalties, licenses, permits, and approvals, whether arising from patents, trademarks, copyrights or otherwise, that are in any way involved in the contract. The Contractor shall obtain and pay for all royalties, licenses, and permits, and approvals necessary for the execution of the contract. The Contractor must guarantee that it has the full legal right to the materials, supplies, equipment, software, and other items used to execute this contract.

F. OWNERSHIP OF INFORMATION AND DATA / DELIVERABLES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The State shall have the unlimited right to publish, duplicate, use, and disclose all information and data developed or obtained by the Contractor on behalf of the State pursuant to this contract.

The State shall own and hold exclusive title to any deliverable developed as a result of this contract. Contractor shall have no ownership interest or title, and shall not patent, license, or copyright, duplicate, transfer, sell, or exchange, the design, specifications, concept, or deliverable.

G. INSURANCE REQUIREMENTS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The Contractor shall throughout the term of the contract maintain insurance as specified herein and provide the State a current Certificate of Insurance/Acord Form (COI) verifying the coverage. The Contractor shall not commence work on the contract until the insurance is in place. If Contractor subcontracts any portion of the Contract the Contractor must, throughout the term of the contract, either:

1. Provide equivalent insurance for each subcontractor and provide a COI verifying the coverage for the subcontractor;
2. Require each subcontractor to have equivalent insurance and provide written notice to the State that the Contractor has verified that each subcontractor has the required coverage; or,
3. Provide the State with copies of each subcontractor's Certificate of Insurance evidencing the required coverage.

The Contractor shall not allow any Subcontractor to commence work until the Subcontractor has equivalent insurance. The failure of the State to require a COI, or the failure of the Contractor to provide a COI or require subcontractor insurance shall not limit, relieve, or decrease the liability of the Contractor hereunder.

In the event that any policy written on a claims-made basis terminates or is canceled during the term of the contract or within one (1) year of termination or expiration of the contract, the contractor shall obtain an extended discovery

or reporting period, or a new insurance policy, providing coverage required by this contract for the term of the contract and one (1) year following termination or expiration of the contract.

If by the terms of any insurance a mandatory deductible is required, or if the Contractor elects to increase the mandatory deductible amount, the Contractor shall be responsible for payment of the amount of the deductible in the event of a paid claim.

Notwithstanding any other clause in this Contract, the State may recover up to the liability limits of the insurance policies required herein.

1. **WORKERS' COMPENSATION INSURANCE**

The Contractor shall take out and maintain during the life of this contract the statutory Workers' Compensation and Employer's Liability Insurance for all of the contactors' employees to be engaged in work on the project under this contract and, in case any such work is sublet, the Contractor shall require the Subcontractor similarly to provide Worker's Compensation and Employer's Liability Insurance for all of the Subcontractor's employees to be engaged in such work. This policy shall be written to meet the statutory requirements for the state in which the work is to be performed, including Occupational Disease. **The policy shall include a waiver of subrogation in favor of the State. The COI shall contain the mandatory COI subrogation waiver language found hereinafter**. The amounts of such insurance shall not be less than the limits stated hereinafter. For employees working in the State of Nebraska, the policy must be written by an entity authorized by the State of Nebraska Department of Insurance to write Workers' Compensation and Employer's Liability Insurance for Nebraska employees.

4. **COMMERCIAL GENERAL LIABILITY INSURANCE AND COMMERCIAL AUTOMOBILE LIABILITY INSURANCE**

The Contractor shall take out and maintain during the life of this contract such Commercial General Liability Insurance and Commercial Automobile Liability Insurance as shall protect Contractor and any Subcontractor performing work covered by this contract from claims for damages for bodily injury, including death, as well as from claims for property damage, which may arise from operations under this contract, whether such operation be by the Contractor or by any Subcontractor or by anyone directly or indirectly employed by either of them, and the amounts of such insurance shall not be less than limits stated hereinafter.

The Commercial General Liability Insurance shall be written on an **occurrence basis**, and provide Premises/Operations, Products/Completed Operations, Independent Contractors, Personal Injury, and Contractual Liability coverage. **The policy shall include the State, and others as required by the contract documents, as Additional Insured(s). This policy shall be primary, and any insurance or self-insurance carried by the State shall be considered secondary and non-contributory. The COI shall contain the mandatory COI liability waiver language found hereinafter.** The Commercial Automobile Liability Insurance shall be written to cover all Owned, Non-owned, and Hired vehicles.

REQUIRED INSURANCE COVERAGE	
COMMERCIAL GENERAL LIABILITY	
General Aggregate	$2,000,000
Products/Completed Operations Aggregate	$2,000,000
Personal/Advertising Injury	$1,000,000 per occurrence
Bodily Injury/Property Damage	$1,000,000 per occurrence
Medical Payments	$10,000 any one person
Damage to Rented Premises (Fire)	$300,000 each occurrence
Contractual	Included
XCU Liability (Explosion, Collapse, and Underground Damage)	Included
Independent Contractors	Included
Abuse & Molestation	Included
If higher limits are required, the Umbrella/Excess Liability limits are allowed to satisfy the higher limit.	
WORKER'S COMPENSATION	
Employers Liability Limits	$500K/$500K/$500K
Statutory Limits- All States	Statutory - State of Nebraska
USL&H Endorsement	Statutory
Voluntary Compensation	Statutory
COMMERCIAL AUTOMOBILE LIABILITY	
Bodily Injury/Property Damage	$1,000,000 combined single limit
Include All Owned, Hired & Non-Owned Automobile liability	Included
Motor Carrier Act Endorsement	Where Applicable
UMBRELLA/EXCESS LIABILITY	
Over Primary Insurance	$5,000,000 per occurrence
PROFESSIONAL LIABILITY	
All Other Professional Liability (Errors & Omissions)	$1,000,000 Per Claim / Aggregate
COMMERCIAL CRIME	
Crime/Employee Dishonesty Including 3rd Party Fidelity	$1,000,000
CYBER LIABILITY	
Breach of Privacy, Security Breach, Denial of Service, Remediation, Fines and Penalties	$10,000,000
MANDATORY COI SUBROGATION WAIVER LANGUAGE	
"Workers' Compensation policy shall include a waiver of subrogation in favor of the State of Nebraska."	
MANDATORY COI LIABILITY WAIVER LANGUAGE	
"Commercial General Liability & Commercial Automobile Liability policies shall name the State of Nebraska as an Additional Insured and the policies shall be primary and any insurance or self-insurance carried by the State shall be considered secondary and non-contributory as additionally insured."	

If the mandatory COI subrogation waiver language or mandatory COI liability waiver language on the COI states that the waiver is subject to, condition upon, or otherwise limit by the insurance policy, a copy of the relevant sections of the policy must be submitted with the COI so the State can review the limitations imposed by the insurance policy.

5. **EVIDENCE OF COVERAGE**

The Contractor shall furnish the Contract Manager, with a certificate of insurance coverage complying with the above requirements prior to beginning work at:

Nebraska Educational Telecommunications
Attn: Contract Manager
1800 N. 33rd Street
Lincoln, NE, 68503

These certificates or the cover sheet shall reference the RFP number, and the certificates shall include the name of the company, policy numbers, effective dates, dates of expiration, and amounts and types of coverage afforded. If the State is damaged by the failure of the Contractor to maintain such insurance, then the Contractor shall be responsible for all reasonable costs properly attributable thereto.

Reasonable notice of cancellation of any required insurance policy must be submitted to the contract manager as listed above when issued and a new coverage binder shall be submitted immediately to ensure no break in coverage.

6. **DEVIATIONS**

The insurance requirements are subject to limited negotiation. Negotiation typically includes, but is not necessarily limited to, the correct type of coverage, necessity for Workers' Compensation, and the type of automobile coverage carried by the Contractor.

H. ANTITRUST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The Contractor hereby assigns to the State any and all claims for overcharges as to goods and/or services provided in connection with this contract resulting from antitrust violations which arise under antitrust laws of the United States and the antitrust laws of the State.

I. CONFLICT OF INTEREST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

By submitting a proposal, bidder certifies that there does not now exist a relationship between the bidder and any person or entity which is or gives the appearance of a conflict of interest related to this RFP or project.

The bidder certifies that it shall not take any action or acquire any interest, either directly or indirectly, which will conflict in any manner or degree with the performance of its services hereunder or which creates an actual or an appearance of conflict of interest.

The bidder certifies that it will not knowingly employ any individual known by bidder to have a conflict of interest.

The Parties shall not knowingly, for a period of two years after execution of the contract, recruit or employ any employee or agent of the other Party who has worked on the RFP or project, or who had any influence on decisions affecting the RFP or project.

J. STATE PROPERTY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The Contractor shall be responsible for the proper care and custody of any State-owned property which is furnished for the Contractor's use during the performance of the contract. The Contractor shall reimburse the State for any loss or damage of such property; normal wear and tear is expected.

K. SITE RULES AND REGULATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The Contractor shall use its best efforts to ensure that its employees, agents, and Subcontractors comply with site rules and regulations while on State premises. If the Contractor must perform on-site work outside of the daily operational hours set forth by the State, it must make arrangements with the State to ensure access to the facility and the equipment has been arranged. No additional payment will be made by the State on the basis of lack of access, unless the State fails to provide access as agreed to in writing between the State and the Contractor.

L. ADVERTISING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The Contractor agrees not to refer to the contract award in advertising in such a manner as to state or imply that the company or its services are endorsed or preferred by the State. Any publicity releases pertaining to the project shall not be issued without prior written approval from the State.

M. NEBRASKA TECHNOLOGY ACCESS STANDARDS (Statutory)

Contractor shall review the Nebraska Technology Access Standards, found at http://nitc.nebraska.gov/standards/2-201.html and ensure that products and/or services provided under the contract are in compliance or will comply with the applicable standards to the greatest degree possible. In the event such standards change during the Contractor's performance, the State may create an amendment to the contract to request the contract comply with the changed standard at a cost mutually acceptable to the parties.

N. DISASTER RECOVERY/BACK UP PLAN

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL			

The Contractor shall have a disaster recovery and back-up plan, of which a copy should be provided upon request to the State, which includes, but is not limited to equipment, personnel, facilities, and transportation, in order to continue services as specified under the specifications in the contract in the event of a disaster.

O. DRUG POLICY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL			

Contractor certifies it maintains a drug free work place environment to ensure worker safety and workplace integrity. Contractor agrees to provide a copy of its drug free workplace policy at any time upon request by the State.

IV. PAYMENT

A. PROHIBITION AGAINST ADVANCE PAYMENT (Statutory)

Payments shall not be made until contractual deliverable(s) are received and accepted by the State.

B. TAXES (Statutory)

The State is not required to pay taxes and assumes no such liability as a result of this solicitation. Any property tax payable on the Contractor's equipment which may be installed in a state-owned facility is the responsibility of the Contractor.

B. INVOICES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

Invoices for payments must be submitted by the Contractor to the agency requesting the services with sufficient detail to support payment. Invoices for payment shall be submitted to Nebraska Educational Telecommunications 1800 N. 33rrd Street, Lincoln, Nebraska, 68503. The terms and conditions included in the Contractor's invoice shall be deemed to be solely for the convenience of the parties. No terms or conditions of any such invoice shall be binding upon the State, and no action by the State, including without limitation the payment of any such invoice in whole or in part, shall be construed as binding or estopping the State with respect to any such term or condition, unless the invoice term or condition has been previously agreed to by the State as an amendment to the contract.

C. INSPECTION AND APPROVAL

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

Final inspection and approval of all work required under the contract shall be performed by the designated State officials.

The State and/or its authorized representatives shall have the right to enter any premises where the Contractor or Subcontractor duties under the contract are being performed, and to inspect, monitor or otherwise evaluate the work being performed. All inspections and evaluations shall be at reasonable times and in a manner that will not unreasonably delay work.

D. PAYMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

State will render payment to Contractor when the terms and conditions of the contract and specifications have been satisfactorily completed on the part of the Contractor as solely determined by the State. (Neb. Rev. Stat. Section 73-506(1)) Payment will be made by the responsible agency in compliance with the State of Nebraska Prompt Payment

Act (See Neb. Rev. Stat. §81-2401 through 81-2408). The State may require the Contractor to accept payment by electronic means such as ACH deposit. In no event shall the State be responsible or liable to pay for any services provided by the Contractor prior to the Effective Date of the contract, and the Contractor hereby waives any claim or cause of action for any such services. No payment shall be made prior to the delivery of any hardware or software; all shipments will be FOB destination.

E. LATE PAYMENT (Statutory)

The Contractor may charge the responsible agency interest for late payment in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. §81-2401 through 81-2408).

F. SUBJECT TO FUNDING / FUNDING OUT CLAUSE FOR LOSS OF APPROPRIATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The State's obligation to pay amounts due on the Contract for a fiscal years following the current fiscal year is contingent upon legislative appropriation of funds. Should said funds not be appropriated, the State may terminate the contract with respect to those payments for the fiscal year(s) for which such funds are not appropriated. The State will give the Contractor written notice thirty (30) calendar days prior to the effective date of termination. All obligations of the State to make payments after the termination date will cease. The Contractor shall be entitled to receive just and equitable compensation for any authorized work which has been satisfactorily completed as of the termination date. In no event shall the Contractor be paid for a loss of anticipated profit.

G. RIGHT TO AUDIT (First Paragraph is Statutory)

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within RFP Response (Initial)	NOTES/COMMENTS:
DBL DBL			

The State shall have the right to audit the Contractor's performance of this contract upon a 30 days' written notice. Contractor shall utilize generally accepted accounting principles, and shall maintain the accounting records, and other records and information relevant to the contract (Information) to enable the State to audit the contract. The State may audit and the Contractor shall maintain, the Information during the term of the contract and for a period of five (5) years after the completion of this contract or until all issues or litigation are resolved, whichever is later. The Contractor shall make the Information available to the State at Contractor's place of business or a location acceptable to both Parties during normal business hours. If this is not practical or the Contractor so elects, the Contractor may provide electronic or paper copies of the Information. The State reserves the right to examine, make copies of, and take notes on any Information relevant to this contract, regardless of the form or the Information, how it is stored, or who possesses the Information. Under no circumstance will the Contractor be required to create or maintain documents not kept in the ordinary course of contractor's business operations, nor will contractor be required to disclose any information, including but not limited to product cost data, which is confidential or proprietary to contractor.

The Parties shall pay their own costs of the audit unless the audit finds a previously undisclosed overpayment by the State. If a previously undisclosed overpayment exceeds one percent (.1% of the total contract billings, or if fraud, material misrepresentations, or non-performance is discovered on the part of the Contractor, the Contractor shall reimburse the State for the total costs of the audit. Overpayments and audit costs owed to the State shall be paid within ninety days of written notice of the claim. The Contractor agrees to correct any material weaknesses or condition found as a result of the audit.

V. PROJECT DESCRIPTION AND SCOPE OF WORK

The bidder should provide the following information in response to this RFP.

A. PROJECT OVERVIEW

Nebraska Educational Telecommunications Commission (NETC) uses the Industrial Logic Corporation (ILC) MaxView System purchased in 2000 for its Network Monitoring and Control needs. The current ILC MaxView system is maintained by NETC Engineering and it is operational and functional. However, the system is dated and needs to be updated, refreshed or replaced to accommodate newer technologies and support the latest best practices approach for a Network Management Control System (NMCS). NETC intends to purchase a replacement NMCS for the purpose of controlling and monitoring its Television and Radio broadcast and non-broadcast facilities, including but not limited to:

1. Television and Radio Transmission sites across the State of Nebraska
2. Television and Radio Satellite Teleport
3. Television and Radio Building Facilities

And further expanding it to control and monitor broadcast and non-broadcast operations systems including but not limited to:

1. Television and Radio Terminal Equipment and Production Matrix Routers
2. Television and Radio Master Control, Production Studios and Remote Systems
3. Television and Radio Web Services and IT Networking Systems
4. NETC Government Services Audio-Video Systems

Over time, integrating all existing systems under one unified control and monitoring system as well as providing a centralized control to simplify the transition to new IP based systems while maintaining the same control surface for the operators. Operational efficiency will be achieved by allowing core hardware components to be freely exchanged without changing interfaces or workflows for operational and technical staff.

B. SCOPE OF WORK

NETC intends to purchase a NMCS for the purpose of replacing the existing NMCS and allowing NETC to take advantage of newer technologies and expand the system into other areas of NETC. NETC is planning on a phased approach for installation, integration, and implementation of such products and/or systems which would meet or exceed the NMCS requirements stated in this RFP. The project is estimated to be completed within 3 years upon awarding the contract. NETC will work with awarded bidder to select, choose, combine, alter, or split bidder proposed phases for the phased approach installation, integration and implementation that best fit NETC organizational strategy, annual budget and equipment refreshment needs.

NETC invites innovative solutions that will simplify and optimize existing NMCS workflows and practices to drive down cost and also provide a uniformed platform for all technical functional areas listed in this RFP.

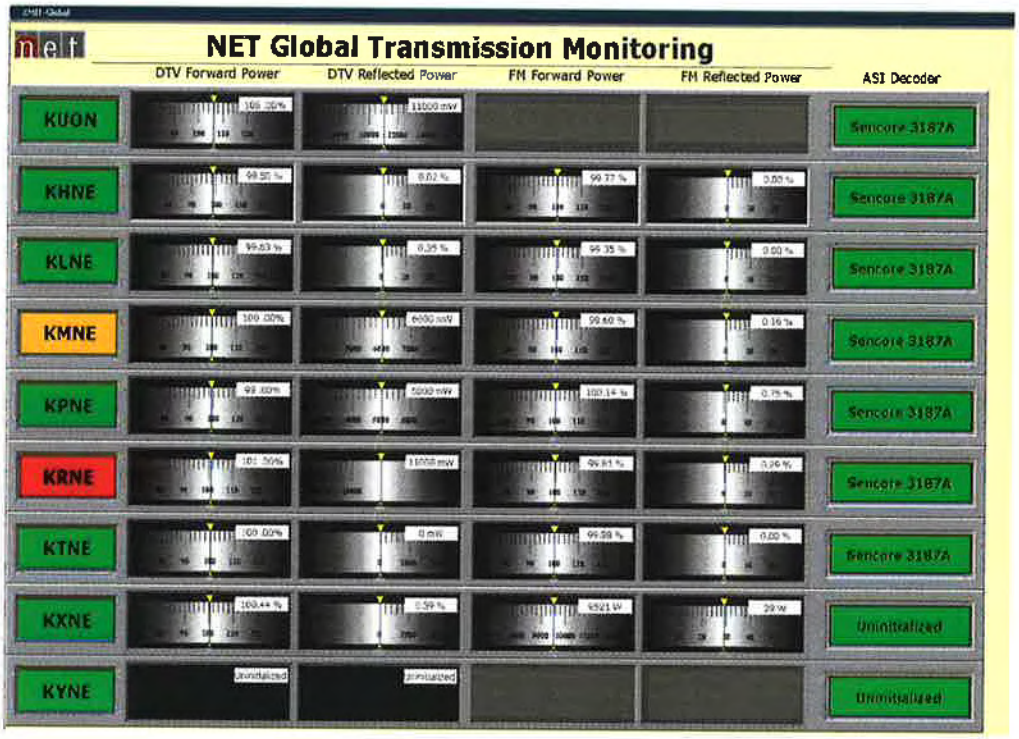
C. CURRENT PROJECT ENVIRONMENT

NETC's main facilities and all of the remote transmission sites are interconnected via a terrestrial broadband network with 50Mbps or 100Mbps connectivity via various VLAN's. The terrestrial broadband connectivity is provided by Network Nebraska. NETC's Television and Radio main multicast broadcast services, monitoring and control signals, and return multicast video/audio signals are all on the same broadband private network.

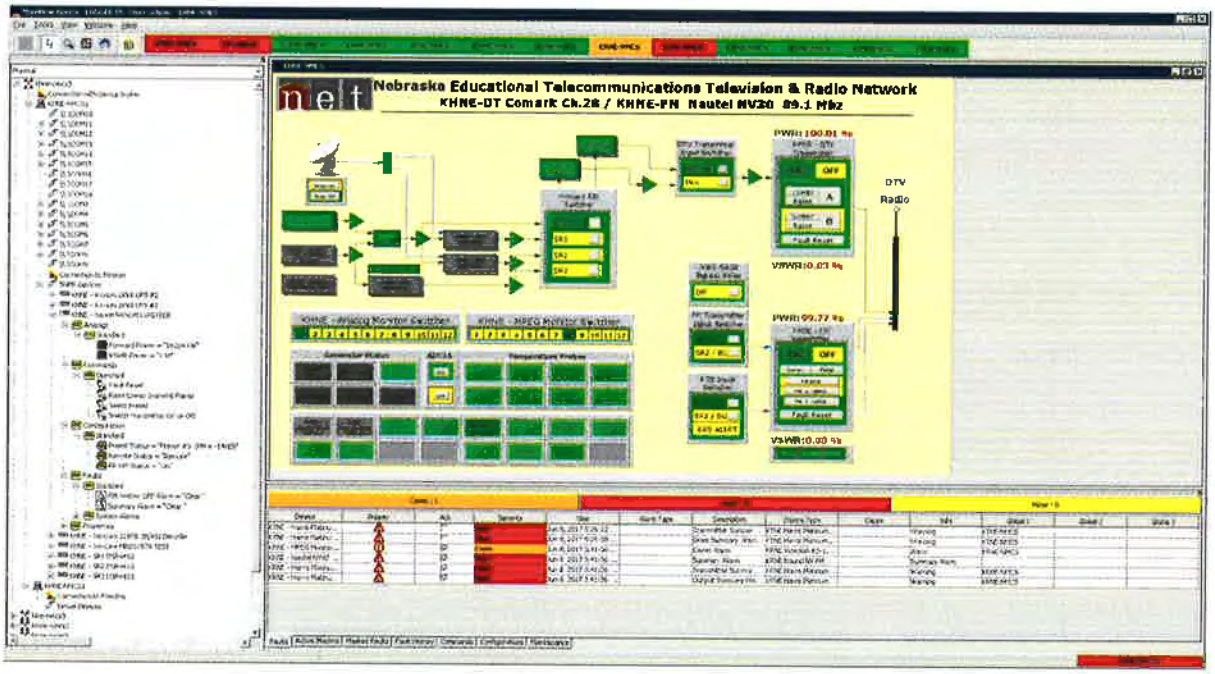
The current NMCS (ILC MaxView) operates at the NETC main facility and nine (9) full power television and radio transmitter sites located across the State of Nebraska. The existing NMCS graphical user interface provides control and monitoring of the NETC broadcast television and radio transmission sites across the State of Nebraska, the NETC Satellite Teleports, and the NETC building facilities and terminal equipment.

The attached screen captures are a few examples of the NETC NMCS graphical user interface panels currently being used in the MaxView system at NETC.

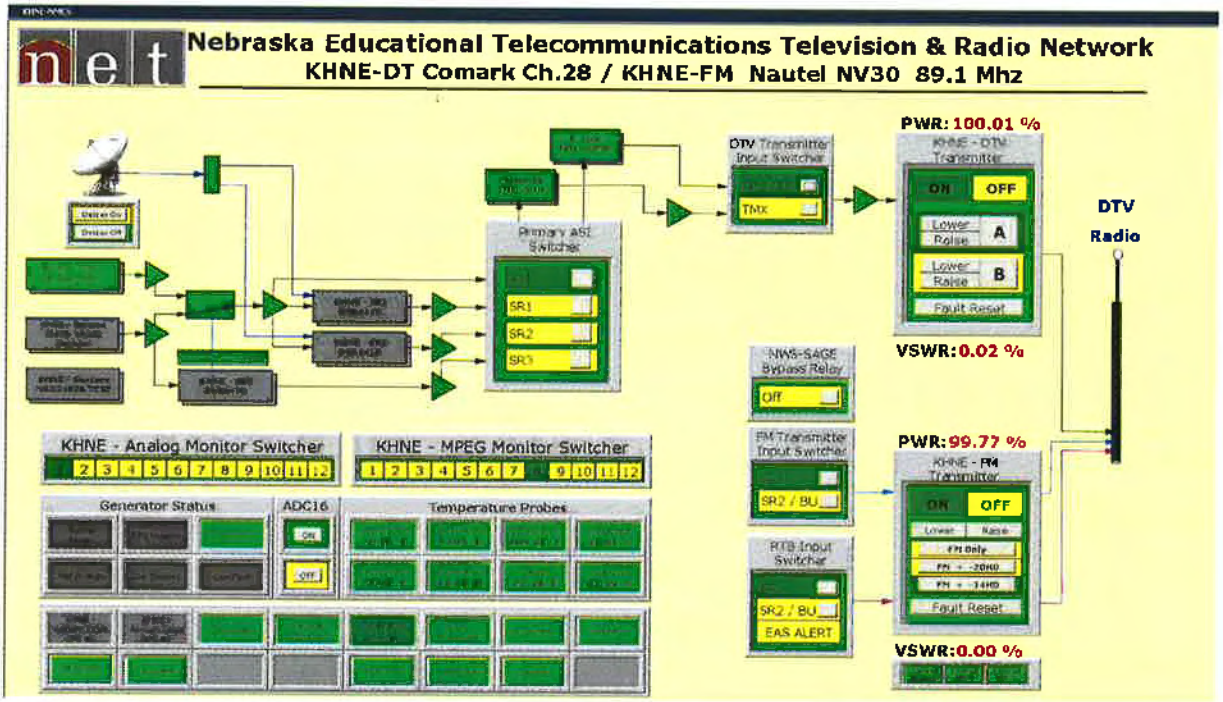
Overview monitoring



NETC XMIT-NMCS GUI

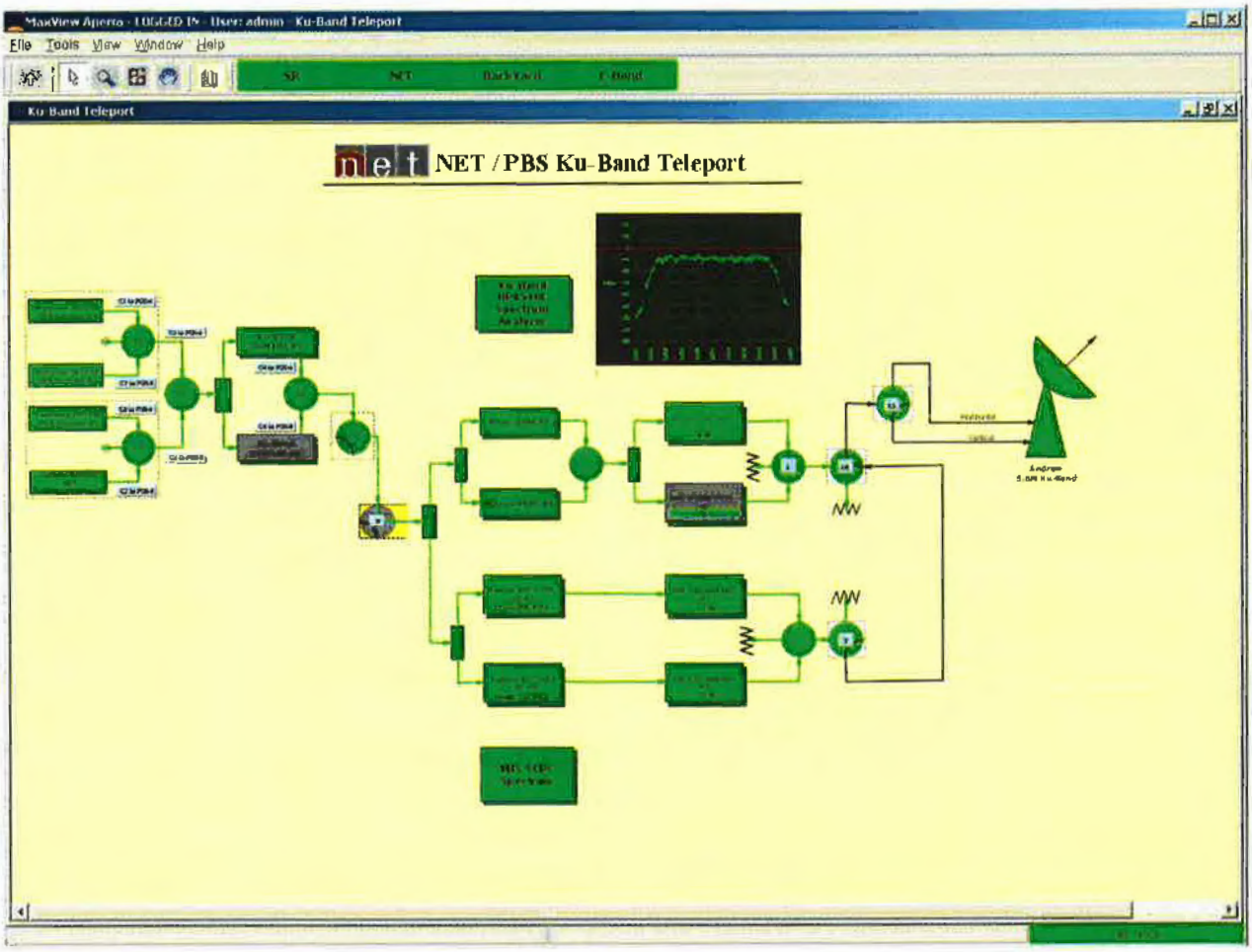


One of the NETC remote transmission sites

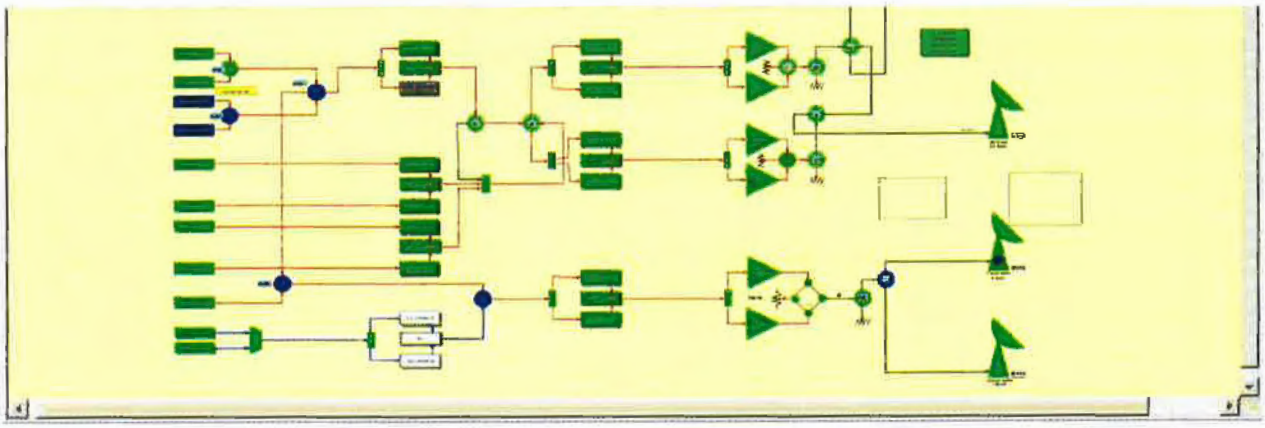


NETC Teleport

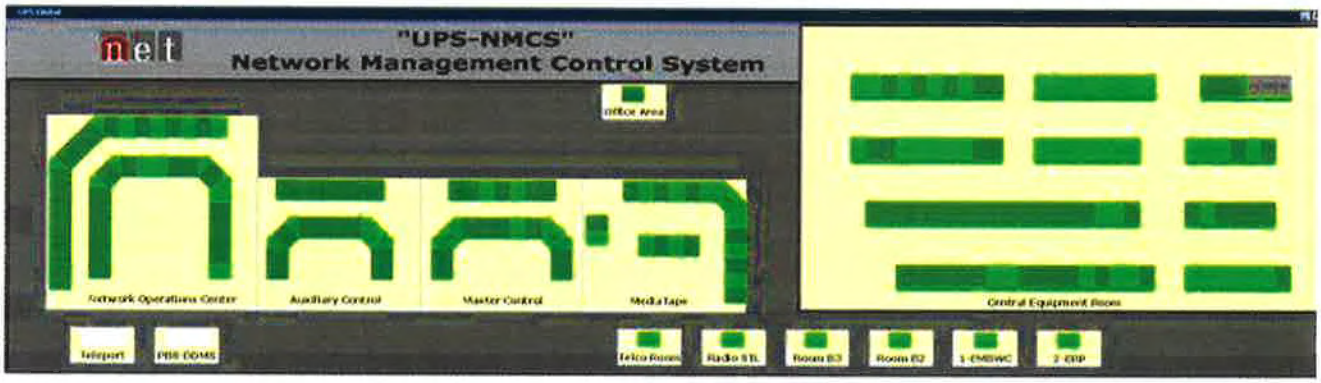
Operators Panel



Engineers Panel



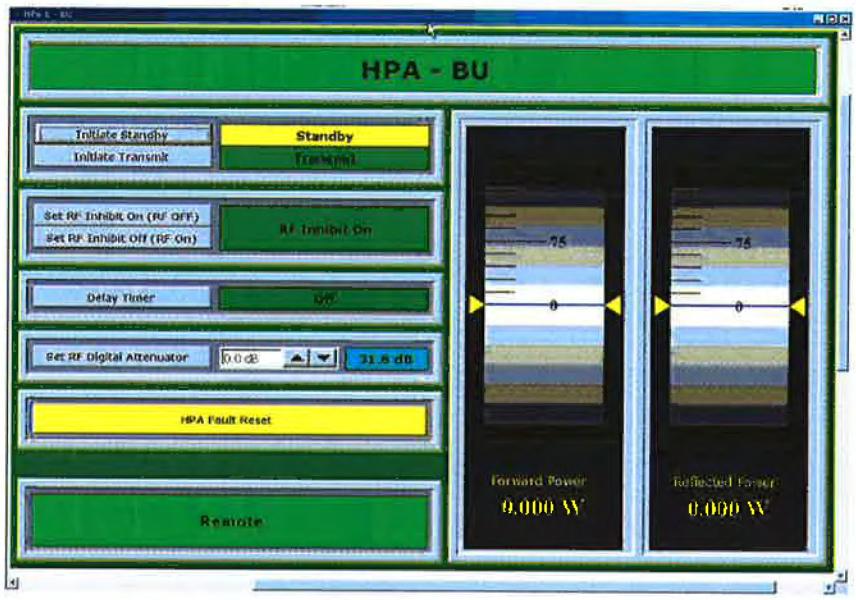
NETC UPS and Facilities



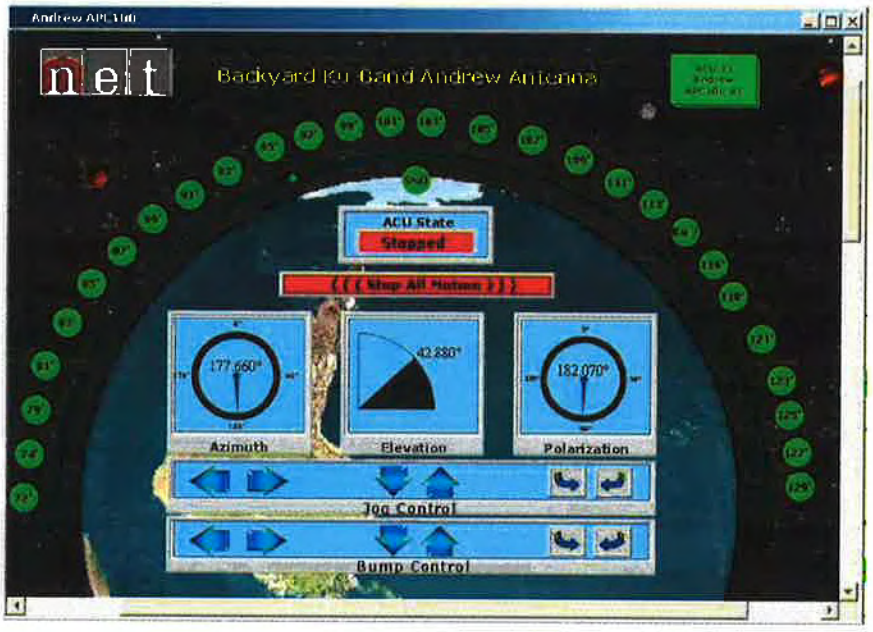
Equipment Device Type Panels

UPS

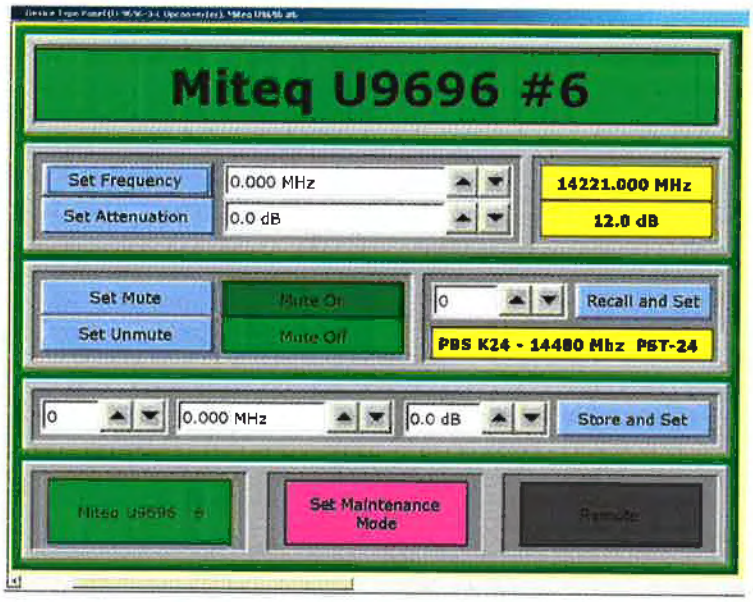
High Power Amplifier



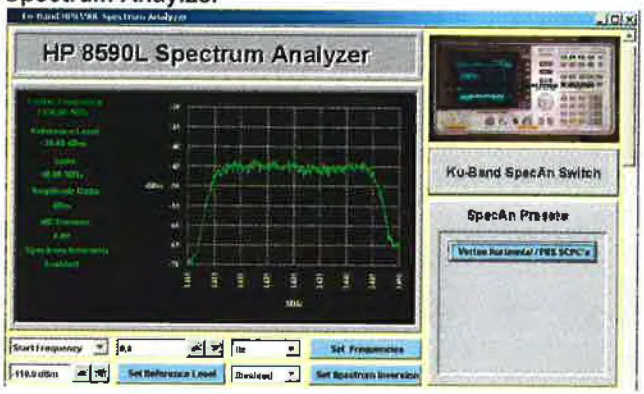
Antenna Controller



RF Upconverter



Spectrum Anaylzer



D. PROJECT REQUIREMENTS

NETC intends to replace the existing NMCS with a system which will be integrated in parallel to the existing system allowing for no disruption of services or capabilities. The expansion of the NMCS into new areas will require installation, integration, and implementation of new and existing equipment and infrastructure, including running and terminating of a variety of cables and connectors. Adherence to NETC engineering practices and policies will be enforced (see Exhibit A). NETC seeks the following capabilities. Bidders shall indicate which capabilities are existing, in development, and will be developed to suite NETC's needs. (See Attachment 1)

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 disparate system.

2. The NMCS bid shall provide the ability to communicate with remote devices over dial up telephone modems, direct connection and Ethernet IP.

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.

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.

5. The NMCS bid shall provide the ability of executing simultaneous commands or instructions to multiple remote devices at multiple diverse sites.

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.

7. The NMCS bid should have an open architecture protocol to allow for integration with existing and future third party systems.

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.

9. The NMCS bid shall have provisions for redundancy, for both hardware and software systems.

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 but not included shall be specified.

11. The NMCS bid should state any special "value added" features such as self-diagnostics, virtualization, accessibility, etc...

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...

13. The levels of technical and operational support shall be specified for the NMCS bid.

14. The NMCS bid shall have all system single-points-of-failure clearly indicated in the bid response.

15. A clearly defined list of proprietary and off-the-shelf technology for the NMCS bid shall be submitted for all hardware and software.

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.

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.

18. The NMCS bid shall be capable of executing automated workflows related to equipment failovers, conditional variables, and backup solutions.

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.

20. The NMCS bid should 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).

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.

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.

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.

24. All device drivers that are not fully pointed drivers, allowing for all parameters as designed by the manufacturer, shall be indicated.

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.

26. All cabling shall conform to NETC cable specifications* and industry standard best practices. (See Exhibit A)

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.

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.

E. BUSINESS REQUIREMENTS

These are the minimum business requirements. A full explanation of all specifications for system bid shall be submitted in order to evaluate the bid responses and to determine the best value in function and price.

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.

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.

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.

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.

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.

6. All items requested in this RFP shall be supplied by a single contractor. All items shall integrate into a complete NMCS.

7. The bidder awarded the contract shall coordinate and work with the NETC NMCS Project Manager to create and develop a timeline for planning, installation, implementation, integration, configuration, and testing of the system or systems in all aspects of this contract prior to deployment.

8. NETC 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 that are part of this RFP, and support technology advancement and industry standards change.

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 VLAN environments in accordance with NETC Information Security Policies, Standards and Procedures.

10. The NMCS bid shall have high availability, be able to automatically reconnect all devices, recall latest settings, retain latest captured status and regain control functions after power and /or network outages.

11. The NMCS bid shall be media and hardware agnostic

F. TECHNICAL REQUIREMENTS

Below is a list of the minimum technical requirements for this RFP. A full explanation of all specifications for the system bid shall be submitted on Attachment 1.

1.0 Provide NMCS as Specified for NETC Transmission Systems and Remote Transmission sites.

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).

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).

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).

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).

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).

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).

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).

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).

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).

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).

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).

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

1.30.0 The NMCS bid should be able to communicate with the tower lighting systems in place at the remote transmission sites, providing direct monitoring.

2.0 Provide NMCS as Specified for NETC Satellite Teleport Systems.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

3.0 Provide NMCS as Specified for NETC Television and Radio Facilities.

3.1.0 The NMCS bid shall provide the ability to control and monitor the NETC Television and Radio Facilities.

3.2.0 The NMCS bid shall have the ability to communicate with facilities equipment via serial RS232, RS422, and RS485 protocol. Bid response should specify exactly how serial communications will be established, administered, maintained, and operated.

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.

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.

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.

3.6.0 The NMCS bid should be able to communicate with the Lieberts HVAC systems via SNMP protocol, providing direct monitor and control.

3.7.0 The NMCS bid should be able to communicate with the Cummins/Onan generators, providing direct monitoring.

3.8.0 The 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.

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.

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.

3.11.0 The NMCS bid should be able to communicate with the Pelco DX4800 security camera systems, providing direct monitor and control. NETC is looking to modernize its existing outdated analog security camera system, bidder should provide a list of specified solution currently supported security camera systems.

3.12.0 The NMCS bid should be able to communicate with the HID security door system, providing direct monitor and control.

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

4.0 Provide NMCS as Specified for NETC Television and Radio Terminal Equipment and Production Matrix Routing Switcher Systems.

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.

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.

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.

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.

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.

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.

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.

4.8.0 The NMCS bid should be able to communicate with the Utah Scientific UTAH-300 analog matrix routing switcher.

4.9.0 The NMCS bid should be able to communicate with the Grass Valley Venus Wideband digital matrix routing switcher.

4.10.0 The NMCS bid should be able to communicate with the Imagine Communications Platinum VX 3G Digital matrix routing switcher.

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 .

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.

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.

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.

5.0 Provide NMCS as Specified for NETC Television and Radio Master Control, Production Studios and Remote Systems.

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.

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.

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, Telnet and Networked Media Open Specifications protocols. Bidder should specify exactly how ethernet communications and IP protocols will be established, administered, maintained, and operated.

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.

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.

5.6.0 The NMCS bid should have the ability to respond to SNMP traps sent from the Imagine Communications Versio Integrated Video Server (Channel-in-a-box).

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.

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.

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.

5.10.0 The NMCS bid should be able to communicate with the Vizrt Treo Graphics System via SNMP protocol, providing monitor and control.

5.11.0 The NMCS bid should be able to communicate with the AVID Thunder Video Server System, providing monitor and control.

5.12.0 The NMCS bid should be able to communicate with the Grass Valley Summit K2 Video Server System, providing monitor and control.

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.

5.14.0 The NMCS bid should I be able to communicate with the Harris Predator Multiviewer System via SNMP protocol, providing monitor and control.

5.15.0 The NMCS bid should be able to communicate with the Grass Valley Trinix NXT Multiviewer, providing monitor and control.

5.16.0 The NMCS bid should be able to communicate with the Bosch (RTS / Telex) Intercom System, providing monitor and control.

5.17.0 The NMCS bid should be able to communicate with the Grass Valley LDK3000 Camera System, providing monitor and control.

5.18.0 The NMCS bid should be able to communicate with the Grass Valley LDK80 and LDX86N Camera System, providing monitor and control.

5.19.0 The NMCS bid should be able to communicate with the AJA FS2 Frame Synchronizer System, providing monitor and control.

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.

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.

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.

5.23.0 The NMCS system bid should be able to communicate with the ETC Express 48/96 Lighting Board System via DMX protocol, providing monitor and control.

5.24.0 The bid should be able to communicate with the Newtec Tricaster Model 460 and Model 8000 Vision Mixer via serial protocol, providing monitor and control.

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.

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.

5.27.0 The NMCS bid should be able to communicate with the Image Video TSI3000 Tally System, providing monitor and control.

5.28.0 The NMCS bid should be able to communicate with the Tektronix SPG8000 Master Clock/Sync System, providing monitor and control.

5.29.0 The NMCS bid should be able to communicate with the Grass Valley Trinix Wideband digital matrix routing switcher.

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.

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.

5.29.3 The 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.

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. Bidder should specify exactly how communications will be established, administered, maintained, and operated.

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. Bidder should specify exactly how communications will be established, administered, maintained, and operated.

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. Bidder should specify exactly how communications will be established, administered, maintained, and operated.

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. Bidder should specify exactly how communications will be established, administered, maintained, and operated.

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. Bidder should specify exactly how communications will be established, administered, maintained, and operated.

5.35.0 The NMCS system bidshould 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. Bidder should specify exactly how communications will be established, administered, maintained, and operated.

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. Bidder should specify exactly how communications will be established, administered, maintained, and operated.

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. Bidder should specify exactly how communications will be established, administered, maintained, and operated.

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.

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. Bidder should specify exactly how communications will be established, administered, maintained, and operated.

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. Bidder should specify exactly how communications will be established, administered, maintained, and operated.

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. Bidder should specify exactly how communications will be established, administered, maintained, and operated.

6.0 Provide NMCS as Specified for NETC Television and Radio Web Services and IT Networking Systems

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.

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.

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.

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 should be able to support single and multiple bit drivers for alarm, status, and command functions as provided by discrete connections.

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.

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.

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.

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.

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.

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.

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.

7.0 Provide NMCS as Specified for NETC Government Services Audio-Video Systems

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.

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.

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.

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 should be able to support single and multiple bit drivers for alarm, status, and command functions as provided by discrete connections.

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.

7.6.0 The NMCS bid should be able to communicate with the Crestron Pro2 Controller via SNMP, providing monitor and control.

7.7.0 The NMCS system bid should be able to communicate with the Yamaha DME 64/24 Audio Processor via ethernet and/or serial protocol, providing monitor and control.

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.

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.

VI. PROJECT PLANNING AND MANAGEMENT

The NMCS project continues to support an innovative, modular, scalable, secure open platform, future ready and phased approach. The NETC Chief Technology Officer (CTO) and NETC NMCS Project Manager will have ultimate authority over the NMCS project with the NETC project manager being the single point of contact for NETC.

The bidder shall establish a primary contact person within their proposal, including the contact's name, address, phone and fax numbers, and email address.

The bidder shall provide project implementation plan including but not limited to installation, integration, and phased approach timelines with milestones for completing the project.

The awarded contractor will schedule a conference call within ten (10) working days of contract finalization with the NETC NMCS Project Manager and designees to set a regular weekly conference call which will take place for the duration of the contract. The contractor will work with NETC NMCS Project Manager to establish a workable timeline for planning, installation, implementation, integration, configuration, and testing of the system or systems deployed.

The bidder should present a detailed description of its proposed approach to the management of this project, and a block diagram describing the NMCS system architecture they are proposing.

All service shall be coordinated in advance with the NETC project manager during normal business hours, Monday through Friday, 8:30 AM through 4:30 PM CST.

Precaution shall be taken by the contractor and it's designees to prevent any interruption of NETC broadcast and non-broadcast services. All installation, integration and implementation work to be performed will be coordinated with the NETC NMCS Project Manager who will coordinate with NET television and radio operations, content creation and production departments.

The contractor must identify any specific professionals and/or subcontractors who will work on the project if their company is awarded the bid resulting from the Request for Proposal.

A copy of the final inspection report, test results, services performed, and recommended improvements is to be left on site with NETC NMCS Project Manager or designee upon completion of service and will be submitted with the final invoice for each phase.

The bidder will provide complete documentation of the NMCS system deployed (manuals, drawings, schematics, charts, graphs, lists, etc....) software copies are acceptable.

A. EVALUATE CURRENT PROJECT ENVIRONMENT

The awarded contractor will coordinate and schedule an on-site visit to evaluate the project environment and work with NETC NMCS Project Manager and designees to determine the best methods and mechanisms for installation, implementation, integration, configuration, and testing of the systems deployed.

B. POST IMPLEMENTATION SUPPORT

The awarded contractor will provide project follow-up for five (5) years including quarterly scheduled phone calls and an itemized list of ongoing action items and issues and their planned resolutions.

Support will also be provided as outlined in section E.3.

C. DELIVERABLES

Bidder shall provide all hardware and/or software and/or services which will include but not be limited to the entire systems as listed in this RFP, and any upgrades, changes, additions or deletions for the NMCS as indicated for the NETC facility or facilities.

Contractor shall respond to all non-emergency service requests or questions within forty-eight (48) hours after receiving a phone call, email, or opened support ticket.

The Contractor will provide emergency service as requested. Response time via E mail, telephone or fax for emergency or requested service will not exceed twelve (12) hours after receiving a phone call, email, or opened support ticket..

The Contractor shall provide system information or communication via E mail and/or telephone as requested by the NETC NMCS Project Manager or designee within forty eight (48) hours after receiving a phone call, email, or opened support ticket..

A copy of the final inspection report, test results, services performed, and recommended improvements is to be left on site with NETC NMCS Project Manager or designee upon completion of service.

The Bidder shall establish a primary contact person within their proposal, including the contact's name, address, phone and fax numbers, and email address.

All service shall be coordinated in advance with NETC NMCS Project Manager or designee during normal business hours, Monday through Friday, 8:30 AM through 4:30 PM CST.

The contractor will work with NETC NMCS Project Manager to finalize a "Proof of Performance Acceptance Checklist" for each phase of the project. This will be used during installation, implementation, integration, configuration, and testing of the system or systems deployed. Once the "Proof of Performance Acceptance Checklist" has been signed off and accepted, the remaining retainage for that phase of the project will be released for payment.

All equipment warranties will not take effect until the equipment is unboxed, uncrated, or opened for installation. Any equipment failures which occur during installation will be covered under the manufactures warranty.

Support contract and any Service Level Agreement (SLA) will not take effect until commissioning has taken place and "Proof of Performance Checklist" has been completed.

VII. PROPOSAL INSTRUCTIONS

This section documents the requirements that should be met by bidders in preparing the Technical and Cost Proposal. Bidders should identify the subdivisions of "Project Description and Scope of Work" clearly in their proposals; failure to do so may result in disqualification. Failure to respond to a specific requirement may be the basis for elimination from consideration during the State's comparative evaluation.

Proposals are due by the date and time shown in the Schedule of Events. Content requirements for the Technical and Cost Proposal are presented separately in the following subdivisions; format and order:

A. PROPOSAL SUBMISSION

1. REQUEST FOR PROPOSAL FORM

By signing the "RFP for Contractual Services" form, the bidder guarantees compliance with the provisions stated in this RFP, agrees to the Terms and Conditions stated in this RFP unless otherwise agreed to, and certifies bidder maintains a drug free work place environment.

The RFP for Contractual Services form must be signed using an indelible method (not electronically) and returned per the schedule of events in order to be considered for an award.

Sealed proposals must be received in the State Purchasing Bureau by the date and time of the proposal opening per the Schedule of Events. No late proposals will be accepted. No electronic, e-mail, fax, voice, or telephone proposals will be accepted.

It is the responsibility of the bidder to check the website for all information relevant to this solicitation to include addenda and/or amendments issued prior to the opening date. Website address is as follows: http://das.nebraska.gov/materiel/purchasing.html

Further, Sections II through VII must be completed and returned with the proposal response.

2. CORPORATE OVERVIEW (Delete Corporative Overview if Cost Only)

The Corporate Overview section of the Technical Proposal should consist of the following subdivisions:

a. BIDDER IDENTIFICATION AND INFORMATION

The bidder should provide the full company or corporate name, address of the company's headquarters, entity organization (corporation, partnership, proprietorship), state in which the bidder is incorporated or otherwise organized to do business, year in which the bidder first organized to do business and whether the name and form of organization has changed since first organized.

b. FINANCIAL STATEMENTS

The bidder should provide financial statements applicable to the firm. If publicly held, the bidder should provide a copy of the corporation's most recent audited financial reports and statements, and the name, address, and telephone number of the fiscally responsible representative of the bidder's financial or banking organization.

If the bidder is not a publicly held corporation, either the reports and statements required of a publicly held corporation, or a description of the organization, including size, longevity, client base, areas of specialization and expertise, and any other pertinent information, should be submitted in such a manner that proposal evaluators may reasonably formulate a determination about the stability and financial strength of the organization. Additionally, a non-publicly held firm should provide a banking reference.

The bidder must disclose any and all judgments, pending or expected litigation, or other real or potential financial reversals, which might materially affect the viability or stability of the organization, or state that no such condition is known to exist.

The State may elect to use a third party to conduct credit checks as part of the corporate overview evaluation.

c. CHANGE OF OWNERSHIP

If any change in ownership or control of the company is anticipated during the twelve (12) months following the proposal due date, the bidder should describe the circumstances of such change and indicate when the change will likely occur. Any change of ownership to an awarded vendor(s) will require notification to the State.

d. OFFICE LOCATION

The bidder's office location responsible for performance pursuant to an award of a contract with the State of Nebraska should be identified.

e. RELATIONSHIPS WITH THE STATE

The bidder should describe any dealings with the State over the previous ten (10) years. If the organization, its predecessor, or any Party named in the bidder's proposal response has contracted with the State, the bidder should identify the contract number(s) and/or any other information available to identify such contract(s). If no such contracts exist, so declare.

f. BIDDER'S EMPLOYEE RELATIONS TO STATE

If any Party named in the bidder's proposal response is or was an employee of the State within the past thirty-six (36) months, identify the individual(s) by name, State agency with whom employed, job title or position held with the State, and separation date. If no such relationship exists or has existed, so declare.

If any employee of any agency of the State of Nebraska is employed by the bidder or is a Subcontractor to the bidder, as of the due date for proposal submission, identify all such persons by name, position held with the bidder, and position held with the State (including job title and agency). Describe the responsibilities of such persons within the proposing organization. If, after review of this information by the State, it is determined that a conflict of interest exists or may exist, the bidder may be disqualified from further consideration in this proposal. If no such relationship exists, so declare.

g. CONTRACT PERFORMANCE

If the bidder or any proposed Subcontractor has had a contract terminated for default during the past ten (10) years, all such instances must be described as required below. Termination for default is defined as a notice to stop performance delivery due to the bidder's non-performance or poor performance, and the issue was either not litigated due to inaction on the part of the bidder or litigated and such litigation determined the bidder to be in default.

It is mandatory that the bidder submit full details of all termination for default experienced during the past ten (10) years, including the other Party's name, address, and telephone number. The response to this section must present the bidder's position on the matter. The State will evaluate the facts and will score the bidder's proposal accordingly. If no such termination for default has been experienced by the bidder in the past ten (10) years, so declare.

If at any time during the past ten (10) years, the bidder has had a contract terminated for convenience, non-performance, non-allocation of funds, or any other reason, describe fully all circumstances surrounding such termination, including the name and address of the other contracting Party.

h. SUMMARY OF BIDDER'S CORPORATE EXPERIENCE

The bidder should provide a summary matrix listing the bidder's previous projects similar to this RFP in size, scope, and complexity. The State will use no more than three (3) narrative project descriptions submitted by the bidder during its evaluation of the proposal.

The bidder should address the following:

Provide narrative descriptions to highlight the similarities between the bidder's experience and this RFP. These descriptions should include:

a) The time period of the project;
b) The scheduled and actual completion dates;
c) The Contractor's responsibilities;
d) For reference purposes, a customer name (including the name of a contact person, a current telephone number, a facsimile number, and e-mail address); and
e) Each project description should identify whether the work was performed as the prime Contractor or as a Subcontractor. If a bidder performed as the prime Contractor, the description should provide the originally scheduled completion date and budget, as well as the actual (or currently planned) completion date and actual (or currently planned) budget.

Contractor and Subcontractor(s) experience should be listed separately. Narrative descriptions submitted for Subcontractors should be specifically identified as Subcontractor projects.

If the work was performed as a Subcontractor, the narrative description should identify the same information as requested for the Contractors above. In addition, Subcontractors should identify what share of contract costs, project responsibilities, and time period were performed as a Subcontractor.

i. **SUMMARY OF BIDDER'S PROPOSED PERSONNEL/MANAGEMENT APPROACH**
The bidder should present a detailed description of its proposed approach to the management of the project.

The bidder should identify the specific professionals who will work on the State's project if their company is awarded the contract resulting from this RFP. The names and titles of the team proposed for assignment to the State project should be identified in full, with a description of the team leadership, interface and support functions, and reporting relationships. The primary work assigned to each person should also be identified.

The bidder should provide resumes for all personnel proposed by the bidder to work on the project. The State will consider the resumes as a key indicator of the bidder's understanding of the skill mixes required to carry out the requirements of the RFP in addition to assessing the experience of specific individuals.

Resumes should not be longer than three (3) pages. Resumes should include, at a minimum, academic background and degrees, professional certifications, understanding of the process, and at least three (3) references (name, address, and telephone number) who can attest to the competence and skill level of the individual. Any changes in proposed personnel shall only be implemented after written approval from the State.

j. **SUBCONTRACTORS**
If the bidder intends to Subcontract any part of its performance hereunder, the bidder should provide:

1. name, address, and telephone number of the Subcontractor(s);
2. specific tasks for each Subcontractor(s);
3. percentage of performance hours intended for each Subcontract; and
4. total percentage of Subcontractor(s) performance hours.

3. **TECHNICAL APPROACH**
The technical approach section of the Technical Proposal should consist of the following subsections

a. Understanding of the project requirements;
The bidder should provide an overview of proposed solution(s) including but not limited to demonstration of understanding the NETC RFP requirements; the proposed solution(s) whether will meet the RFP specified Project Requirements, Business Requirement, Technical Requirements and Project Planning and Management, will simplify and optimize existing MNCS and able to extend to other identified functional areas; describe phased implementation approach and how the proposed solution will serve future NETC control and monitoring growth and expansion.

b. Proposed development approach;
The bidder should provide proposed solution(s) architecture and design including but not limited to methodology of development approach for technology advancement, standards change; adaptability and flexibility of drop or add functionalities and features; roadmap of proposed solution(s) moving forward, and project change management and change order process.

c. Technical considerations;
The bidder should provide proposed solution(s) technical considerations including but not limited to methodology of maintaining high availability, quality of services, and traffic and bandwidth management in live, real-time, 24/7/365, 99.99% uptime, broadcast environment; methodology to meet NETC RFP project and technical requirement; system build and validation process; describe project risks and risk management.

d. Detailed project work plan;
The bidder should provide a fully executable implementation plan including but not limited to support a smooth transition from existing NMCS (ILC MaxView) to proposed NMCS solution(s) with no business disruption, detailed phased approach for making all RFP listed technical areas fully operational with milestones and timeline for full completion; ongoing technical support during and after the implementation, project planning and management, and system integration.

e. Deliverables and due dates
The bidder should provide a detailed deliverables and due dates to meet requirements as set out in this RFP.

VIII. COST PROPOSAL REQUIREMENTS

This section describes the requirements to be addressed by bidders in preparing the State's Cost Sheet. The bidder must use the State's Cost Sheet. The bidder should submit the State's Cost Sheet in accordance with Section I Submission of Proposal.

THE STATE'S COST SHEET AND ANY OTHER COST DOCUMENT SUBMITTED WITH THE PROPOSAL SHALL NOT BE CONSIDERED CONFIDENTIAL OR PROPRIETARY AND IS CONSIDERED A PUBLIC RECORD IN THE STATE OF NEBRASKA AND WILL BE POSTED TO A PUBLIC WEBSITE.

A. COST SHEET

This summary shall present the total fixed price to perform all of the requirements of the RFP. The bidder must include details in the State's Cost Sheet supporting any and all costs.

The State reserves the right to review all aspects of cost for reasonableness and to request clarification of any proposal where the cost component shows significant and unsupported deviation from industry standards or in areas where detailed pricing is required.

B. PRICES

Prices quoted shall be net, including transportation and delivery charges fully prepaid by the bidder, F.O.B. destination named in the RFP. No additional charges will be allowed for packing, packages, or partial delivery costs. When an arithmetic error has been made in the extended total, the unit price will govern.

Form A
Bidder Contact Sheet
Request for Proposal Number 5820 Z1

Form A should be completed and submitted with each response to this RFP. This is intended to provide the State with information on the bidder's name and address, and the specific person(s) who are responsible for preparation of the bidder's response.

Preparation of Response Contact Information	
Bidder Name:	CodeMettle, LLC
Bidder Address:	6 Concourse Parkway Suite 1050 Atlanta, GA 30328
Contact Person & Title:	David Lassiter, Mgr Business Development
E-mail Address:	dave@codemettle.com
Telephone Number (Office):	678-336-8590
Telephone Number (Cellular):	770-335-3907
Fax Number:	+1 (866) 923-4278

Each bidder should also designate a specific contact person who will be responsible for responding to the State if any clarifications of the bidder's response should become necessary. This will also be the person who the State contacts to set up a presentation/demonstration, if required.

Communication with the State Contact Information	
Bidder Name:	CodeMettle, LLC
Bidder Address:	6 Concourse Parkway Suite 1050 Atlanta, GA 30328
Contact Person & Title:	David Lassiter, Mgr Business Development
E-mail Address:	dave@codemettle.com
Telephone Number (Office):	678-336-8590
Telephone Number (Cellular):	770-335-3907
Fax Number:	+1 (866) 923-4278

Form B
Notification of Intent to Attend Pre-Proposal Conference
Request for Proposal Number 5820 Z1

Bidder Name:	CodeMettle, LLC
Bidder Address:	6 Concourse Parkway Suite 1050 Atlanta, GA 30328
Contact Person:	David Lassiter
E-mail Address:	dave@codemettle.com
Telephone Number:	770-335-3007
Fax Number:	(866) 923-4278
Number of Attendees:	1

The "*Notification of Intent to Attend Pre-Proposal* Conference" form should be submitted to the State Purchasing Bureau via e-mail (as.materielpurchasing@nebraska.gov), hand delivered or US Mail by the date shown in the Schedule of Events.

REQUEST FOR PROPOSAL FOR CONTRACTUAL SERVICES FORM

By signing this Request for Proposal for Contractual Services form, the bidder guarantees compliance with the procedures stated in this Request for Proposal, and agrees to the terms and conditions unless otherwise indicated in writing and certifies that bidder maintains a drug free work place.

BIDDER MUST COMPLETE THE FOLLOWING

Per Nebraska's Transparency in Government Procurement Act, Neb. Rev Stat § 73-603 DAS is required to collect statistical information regarding the number of contracts awarded to Nebraska Contractors. This information is for statistical purposes only and will not be considered for contract award purposes.

_____ NEBRASKA CONTRACTOR AFFIDAVIT: Bidder hereby attests that bidder is a Nebraska Contractor. "Nebraska Contractor" shall mean any bidder who has maintained a bona fide place of business and at least one employee within this state for at least the six (6) months immediately preceding the posting date of this RFP.

_____I hereby certify that I am a Resident disabled veteran or business located in a designated enterprise zone in accordance with Neb. Rev. Stat. § 73-107 and wish to have preference, if applicable, considered in the award of this contract.

_____ I hereby certify that I am a blind person licensed by the Commission for the Blind & Visually Impaired in accordance with Neb. Rev. Stat. §71-8611 and wish to have preference considered in the award of this contract.

FORM MUST BE SIGNED USING AN INDELIBLE METHOD (NOT ELECTRONICALLY)

FIRM:	**CodeMettle, LLC**
COMPLETE ADDRESS:	**6 Concourse Parkway Suite 1050** **Atlanta, GA 30328**
TELEPHONE NUMBER:	**678-336-8590**
FAX NUMBER:	**+1 (866) 923-4278**
DATE:	**5-29-18**
SIGNATURE:	
TYPED NAME & TITLE OF SIGNER:	**David Lassiter, Mgr Business Development**

CODEMETTLE

NETC NMCS RFP

CodeMettle Technical Volume

Submitted by:

David Lassiter

CodeMettle, LLC
Six Concourse Parkway, Suite 1050
Atlanta, GA 30328
(678) 336-8590

CodeMettle NETC NMCS Technical Volume:

Table of Contents

Table of Figures:

1 Executive Summary

CodeMettle ConOptic provides the path for NET build the roadmap into the future. The proposal from CodeMettle is designed to first unify infrastructure updates for the NMCS, simplify the functional abstraction from the presentation layer, provide resilient network operations, correlate device centric management to service management. ConOptic is future-proof allowing trained client SME's with the tools, confidence, and ability to customize and update the solution to evolve with network and infrastructure changes. It includes advanced data analytics for historical analysis and the ability to integrate machine learning for automated remediation responses in the future.

CodeMettle differentiates itself in the aggregation, correlation, and visualization of large complex networks. It is commonly used to retrieve data from disparate network and element managers, associating alarms and events of assets to business services, and visualizing correlated data with user configurable dashboards and reports. The CodeMettle platform is built on a scalable big data open architecture and provides the following unique capabilities in the user experience:

Umbrella and/or Device Management (Element Managers and devices reporting to ConOptic):

- Architecture
  - Distributed and open allowing geographic diverse sites
  - High Availability configuration for resilience and fault tolerance
  - Highly secure platform scalable to service growth
  - Use any and multiple interfaces to connect and control data sources including custom integration of proprietary systems and non-network equipment
  - Connects with existing systems such as ILC MaxView out of the box to provide multiple seamless transition strategies
- Aggregation
  - Vendor and technology agnostic network management and data integration
  - Centralized fault, capacity, performance, and usage analytics
  - Efficient end-to-end Centralized Management System controlling distributed instances
  - Big Data platform and complex event processor to handle volume and velocity of network comprised of thousands of endpoints and hundreds of services
- Correlation
  - Tracks alarms and properties to functional services rather than device management
  - Associate alarms from assets to active business services to instantly understand impact
  - Native service management with service discovery, correlation, and reporting
  - Compare associated alarms and pinpoint anomalies of service affecting alarms
- Visualization
  - Real-time HTML5 web-tool that supports unlimited simultaneous users
  - User experience with aggregated and correlated data for separate functional groups
  - Easy to use widgets, custom SVG files, and ability to design and create custom dashboards
  - Each user and/or functional group has their own views and privileges linked to their role and responsibility.

CodeMettle developed the ConOptic software to provide unified network management of hybrid networks within a single solution. ConOptic provides umbrella management of sub-systems and direct management of network components into a single platform with configurable dashboards. The data is collected and parsed from disparate data sources, then aggregated and correlated to business services. The versatile user experience is aligned to individual users and groups such that when an operator logs in with their credentials they will immediately get access to their own custom and purpose-built dashboards. ConOptic enables operators of widely distributed complex network infrastructure to instantly ascertain the health of the critical services in their specific functional areas. CodeMettle's solution provides scheduled and ad-hoc reporting of real-time and historical network and service events, health, and performance.

Key features of the software architecture include:

- MaxView translator that connects to existing systems for data (ingest only)
- ActiveMQ Enterprise Service Bus with SOA framework

- Massively scalable NoSQL database
- Object Oriented Translators that enable quick adaptation to virtually any communications protocol
    - Translator Development Kit sold separately
    - Training for super users whom wish to create their own CodeMettle data translators
- High performance HTML5 WEB based operator interface
- Extremely flexible data model that leverages metadata to adapt to any environment
- Modular applications that provides scalability for distributed networks
- Integration with 3rd party ticketing and asset management
- Role based user authorizations that allows for restrictions of visualizations and operations based on responsibilities
- Complex event processor and business rules engine
- Big Data analytics and visualization tool and dashboard generation system

Finally, ConOptic creates a common operating environment across the diverse hybrid network and its related infrastructure with inter-process communications that is tunable for data transmission. It is tolerant of low bandwidth, high latency networks and has demonstrated it capability to communicate effectively over these networks (e.g., satellite and radio networks) with minimal bandwidth usage and overhead.

2 Corporate Overview

A) **Bidder Identification and Information:** CodeMettle, LLC is a private company established in the state of Georgia in 2009 and headquartered at 6 Concourse Parkway Suite 1050 Atlanta, GA 30328.

CodeMettle provides network services and provisioning management software for commercial and government organizations that depend on the reliable and continual delivery of revenue-generating and mission-critical services to customers or for internal operations. CodeMettle is the only network management company with solutions specifically designed to unify network and service management and provisioning for the most diverse and complex networks in the world, including those in the media and entertainment, aerospace and defense, telecommunications and cloud computing industries.

Founded by a team of network management and software development experts in 2009, CodeMettle is headquartered in Atlanta, Georgia. CodeMettle was founded by the same NMS experts that founded and managed ILC. This group created MaxView and made it the leading NMS product for satellite systems in the world by the time the Company was sold around 2005. CodeMettle's technical and managerial leadership is the most elite of the ILC team and has been augmented through over a decade of successful sales and deployments.

Because of the extensive experience of the CodeMettle team, the Company was able to design its next generation ConOptic solution so that it can better handle complex requirements that are difficult or impossible to address with MaxView and other NMS systems. The same core philosophies from ILC are inherent with CodeMettle, namely:

- **Low Cost of Total Ownership**
    - **Object Oriented Translators** (commonly referred to as drivers in industry terms):CodeMettle Translators are created to support an entire class of equipment (such as HPAs or Modems) reducing the effort to create individual translators for each specific piece of equipment, make, model number, and version. It also simplifies how the data is pushed to the presentation layer resulting in cost and labor savings with faster development and deployment. It provides additional operational benefits such as enabling hot-swapping of different vendor equipment with no downtime.

    - **Open, standards-based architecture**. CodeMettle deploys with a SOA-compliant backplane Enterprise Service Bus simplifying 3rd party integration and data sharing with other systems (i.e., ticketing, asset management, playout systems, scheduling tools, and more). The solution is designed to handle both legacy and modern interfaces seamlessly.

- **Advanced flexible Data Model:** When MaxView was developed and sold to NETC in 2005, data was in its infancy and consistent. There was only a minimal amount of data and MaxView only characterized it as either an Analog, Configuration, or Fault. CodeMettle, realized this inherent inflexibility would limit the solution capabilities in the future as data growth in the industry is occurring exponentially. Therefore, ConOptic was designed as a Data Management system with a data model to facilitate complex network aspects and characteristics. The core ability to acquire and analyze various data formats, both structured and unstructured, unlocks the ability to transform disparate data into actionable human information.
- **Translator Development Kit (TDK)**: CodeMettle provides tools and SME training to allow clients to expand and customize solutions without requiring vendor help. Clients can customize and create translators, visualization components, and automation scripting after completing CodeMettle provided training.
- **Security Framework**: CodeMettle is utilized by the US Department of Defense and owns certifications of hardened security for the most secure network in the world. ConOptic alleviates the client from the worry and potential impact of a data breach.

B) Financial Statements

CodeMettle, LLC is a privately held firm and as such will not provide direct financial reports. It has a large and diverse client base that includes a mixture of diverse commercial clients and government clients. CodeMettle provides its software to many large commercial broadcast and media companies such as; Bloomberg, Encompass Digital Media, DirecTV, AT&T (separately and now merged), Bell TV, HBO-LA, Telstra, etc. CodeMettle also has federal customers with the US DoD (Army, Air Force, and Marine Corp), FEMA, and the FAA.

CodeMettle has been in business for almost a decade and has seen steady growth in every year. CodeMettle invests in its own product through maintenance plans which support existing customers and offset funding of R&D activities.

Please contact CodeMettle's controller, Meredith Norman, (meredith@codemettle.com, 678-336-8590) for banking references and any other questions related to fiscal health of the company.

There are no judgements, pending or expected litigation, or other real or potential financial reversals, which might materially affect the viability of stability of the organization.

C) Change Of Ownership

CodeMettle is not anticipating any change of ownership in the next twelve months but will comply with the notification to the State should such an event occur.

D) Office Location

6 Concourse Parkway Suite 1050, Atlanta GA 30328

E) Relationships with the State

CodeMettle has not done any business with the State of Nebraska in the last 10 years.

F) Bidders's employee relations to state

CodeMettle does not have any employee relations to the State of Nebraska.

G) Contract Performance

CodeMettle has not had any terminations of contracts in the past 10 years. There have been on such termination for default with any of its customers.

H) Summary of Bidder's corporate experience

(H) Corporate Experience and Qualifications

JCSE (H1)

(A) Period of Performance from 9-27-2017 through current with ongoing leave behind engineering support element for continuous improvement. This project and all of CodeMettle's projects are performed as Firm Fixed Price contracts.

(B) Same

(C) CodeMettle was responsible for the implementation of its software product as described below:

Joint Communications Support Element (JCSE) utilizes ConOptic as its central data management, orchestration, and network management platform. CodeMettle provides an automated end-to-end Mission Management system which simplifies planning, executing, monitoring, supporting, and analyzing C4 mission support. The following describes the data managed:

- **Asset and Config data**: IP ranges (by location, enclave, and network), physical inventory (RF, Baseband)

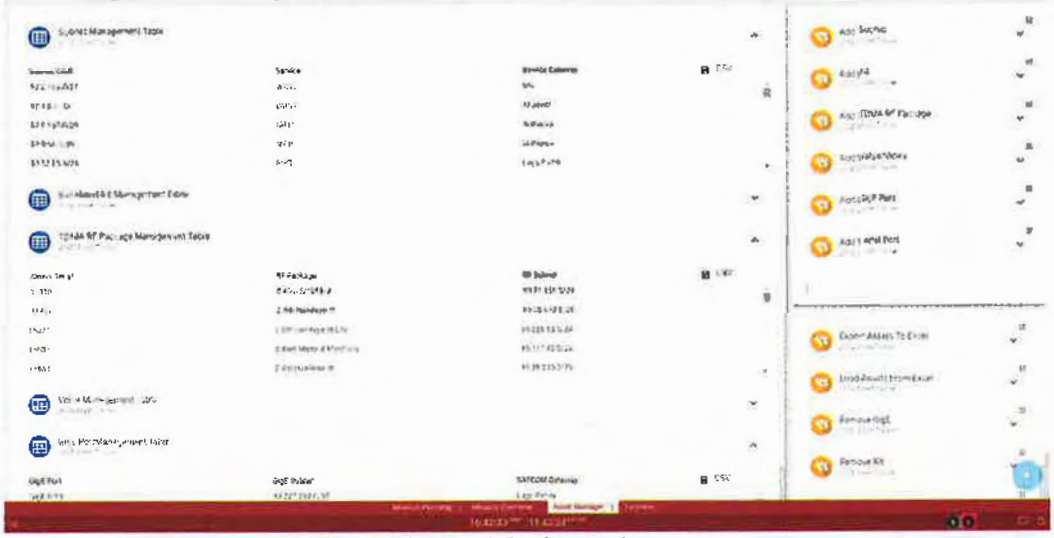


Figure 1: Asset and Config Mgt data

- **Initialization and Service Data**: Asset data tied to mission/service requirements and schedule. Includes the output to service packet data including cutsheet, IP ranges, assigned inventory, and services delivered.

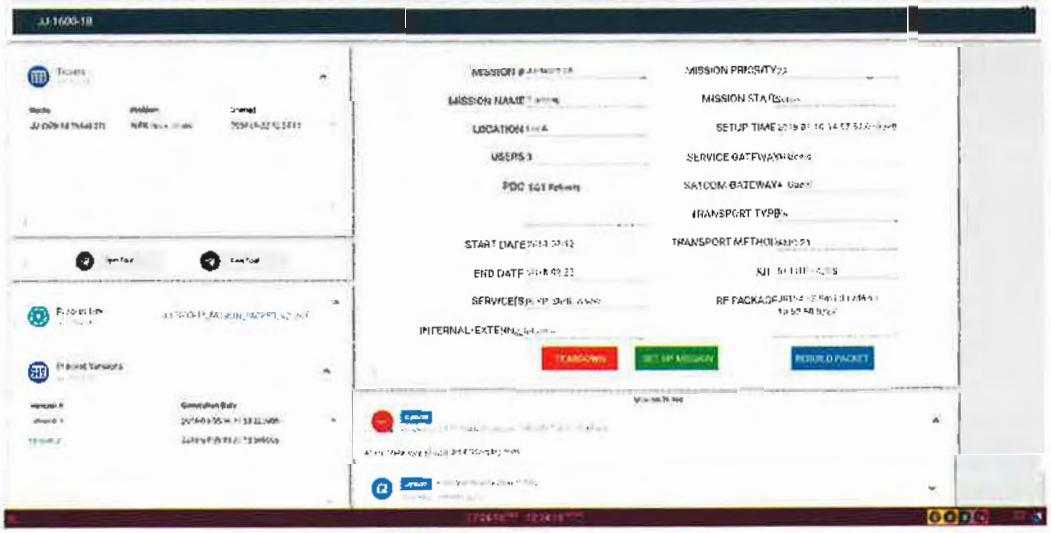


Figure 2: Service Data

- **Operational correlated data**: During mission service, the equipment and network health and performance (e.g., alarms, bandwidth usage, link-quality) for real-time situational awareness and future analysis is managed. Trouble tickets or incidents are correlated to the service provided and are also stored in the database.

Figure 3:Service Correlated data

ConOptic guides JCSE mission planners through an intuitive workflow that selects only the available and appropriate assets to support mission requirements. These assets are booked for the defined time and released back to the asset pool when the mission completes. This empowers multi-level collaboration in DIL environment as mission data is shared with both network operators at headquarters and users in the field through ConOptic's distributed architecture. With a flexible data model and configurable platform, JCSE intends to store data such as personnel schedule to automate processes and operations.

(D) Reference will be provided by direct phone call request to CodeMettle contacts. It is not possible or prudent to put customer information directly into publicly available documents.
(E) The work for JCSE was performed as a sub-contractor but in name only. Essentially, the client is required to use certain acquisition strategies and contract vehicles. This was achieved through a pass-through contract in which a Prime was required for access to the contract vehicle.

Bell Canada (H2)

(A) Initially contracted to perform Phase 1 and 2 in May 2016 with a Period of Performance of two years.
(B) The scheduled and actual completion dates track to a two year period of performance.
(C) CodeMettle is the Prime vendor responsible for the project as described briefly below:

Bell is Canada's largest telecommunications company, providing mobile phone, TV, high speed and wireless internet. Bell TV operates the complex video infrastructure across multiple locations spanning from broadcast studios, content developers, processing content through ingesting, encoding, transcoding, encrypting, through delivery to end playout devices for Bell OTT, DTH and IPTV service platforms. When Bell required a system to aggregate and correlate fault and capacity data to better serve its customers, they selected CodeMettle to provide centralized monitoring and alarming of its varied infrastructure. CodeMettle provides customized dashboards to identify the root cause of service affecting faults optimizing the network services from a single system.

- Convergence of 27 EMS systems and more than 5000 network elements:
  - Broadcast
  - Applications
  - Server/Virtual
  - Routing/switch
  - Sub-systems
  - Facilities
- Enterprise Integration
  - Ticket & CMDB
  - Big Data analytics
- Orchestration
  - SLA Management
  - Incident Management

Figure 4: Unified Network Mgt

(D) A customer name and contact person can be provided through the telephone and will not be submitted in publicly shared data and format.
(E) The work was performed as prime contractor in a Firm Fixed Price project.

Regional Hub Nodes (H3)

(A) Initially contracted to start work in November 2016 to install and integrate 5 Regional Hub Node centers each with three separate security networks and systems. Final sign-off of the last site is in progress.
(B) CodeMettle performed the installation and project in less than the two years initially forecasted. Additionally capabilities are being added with new phases.
(C) CodeMettle performed all the work associated with its ConOptic platform and the project details are below:

The Regional Hub Nodes (RHN) have more than 7000 interfaces and process over 2000 missions per year. RHN uses ConOptic to plan and execute missions delivering services to end users globally. Asset data is stored in terms of both physical inventory and capability (NCW, TDMA, FDMA). Planners book available assets to support mission requirements and the combined mission and asset initialization data is stored in the database. During execution, the platform manages the equipment to collect, display, and store operational data. Additionally, CodeMettle digitized the incident management process while facilitating collaboration across Help Desk tiers and echelons for the first time.

RHN wants to increase its ability to collaborate with terminal end users utilizing the ConOptic extensible ecosystem framework (e.g. Satellite Transportable Terminal [STT], Transportable Tactical Command Communications [T2C2]). ConOptic's native data sharing capabilities provide the distributed end terminals with unit and mission specific data allowing RHN's to automate remote terminal configuration and collaborate on remediation across the satellite network.

(D) For reference purposes, please contact CodeMettle for information. Personal data will not be shared in a public document.
(E) This work was also performed as a "sub-contractor". CodeMettle is the prime on its project and the only entity responsible for the work, however the government requires contract vehicles for access to clients which are performed as pass through. This project was a Firm Fixed Price contract.

(I) Summary of Bidder's proposed personnel/management approach

CodeMettle utilizes Agile Development processes. Monthly sprint reviews will be scheduled with the client to review previews month's progress and planning for the next month's sprint. CodeMettle is the product owner of the Agile Development process but the client has visibility into the process and is able to prioritize and refine requirements collaboratively.

CodeMettle utilizes Trello as the Agile Development tool which is user friendly and provides easy administration and movement of tasks using cards. It is highly configurable to create proper columns (e.g. backlog, in progress, testing, etc.). Trello is accessible via the web for real-time status of current and future sprints.

The Agile process is a closed loop that keeps the customer in the middle of understanding what is happening at any point in the project and breaks down large goals into manageable short-term achievable chunks. It highlights outliers from both progress and stalling such that resources may be handled and routed appropriately in critical timeframes.

CodeMettle does not assign any resources to any long-term projects as key personnel with the exception of a consistent program manager. CodeMettle has found that it drains talent, reduces their learning chances and experience, stunts their knowledge and individual growth, and reduces retention. CodeMettle believes it is healthier for its own business and the clients to cycle through engineers in roughly 3-month intervals for projects. This provides more and varied inputs throughout the project collaboration life-cycle, it develops a deeper bench of engineering resources that can support the project, it forces engineering to provide better documentation for knowledge base sharing, and it ultimately allows for more flexibility in the project. CodeMettle plans the project by resource types with specific knowledge and skill levels than names or resumes.

Program Manager (Key Personnel, Justin Welborn role) – Product Owner of Agile Process, owner and creator of project plans, retains and cultivates all project knowledge internally and externally, provides best and single source of contact, manages business process of invoices, milestones, and payments, guides team through Agile and project. Justin

possesses broadcast engineering experience from CNN, engineering and MBA degree from Georgia Tech, is a Six Sigma Green Belt and has led large teams and founded companies. His resume follows on the next pages:

JUSTIN WELBORN, MBA

www.linkedin.com/justin-welborn-mba

Experienced MBA with a diverse background in broadcast, sales, & engineering. Proven skills in strategy, analytics, management, and creative problem-solving. Excellent communicator and with strong leadership and innovation abilities .

SKILLS AND AREAS OF EXPERTISE

Business Strategy	Operations	Business Intelligence	Marketing, Advertising
B2B Sales	Six Sigma Green Belt	Management Consulting	Programming (Java, CSS)
Sales Management	Salesforce	AutoCAD, Solidworks	Tech, Apps, and Data
Fundraising	Business Development	Agile Development	Media, TV, and Theatre

EXPERIENCE

CodeMettle **Atlanta, GA**
Sr Project Manager *2018-Present*

- Managed multiple teams of developers throughout software integration, customization, and installation process
- Ran 6 projects with broadcast equipment, including Satellite Communications, hitting schedule and budget targets

Incubate Messenger, Inc. **Atlanta, GA**
Cofounder & COO *2016-2018*

- Handled daily operations, accounting, strategic partnerships, user experience, product design, and sales
- Directly managed 2 development teams in an agile environment, completing both web and mobile app products
- Led fundraising effort, raising over $300k and pitching on Apple's new TV show, "Planet of the Apps"
- Created marketing and advertising campaigns, driving thousands of app downloads and generating paid users

Independent Consultant **Atlanta, GA**
Consultant *2016-2018*

- **Landing Lion:** Managed all operations for 6 months (including sales, marketing, partnerships, and fundraising), developed sales processes at product launch, built a sales team, and grew company from $0 to $20k monthly recurring revenue (MRR), through the competitive Techstars program 2017
- **AutoTec Data Governance:** Created comprehensive data governance plan (practices, implementation, and management) for AutoTec and its subsidiaries 2016
- **LM Business Intelligence:** Collected and interpreted BI data, improving lead generation, marketing focus, close rate, and partner strategy and doubling revenue 2016

eFolder, *Brandable channel-only data backup and cloud services* **Atlanta, GA**
B2B Sales, Sales Management, Channel Development *2008-2015*

- Helped shape successful channel-only SaaS recurring revenue business model
- Built and managed a sales team, creating new procedures and strategies, doubling revenue each year
- Developed marketing materials and created new marketing and lead generation strategies

Devised and spearheaded entry plan for international markets which now comprises 15% of business

- **Time Warner, CNN** — **Atlanta, GA**

Broadcast Engineer — *2009-2011*

- Led team of engineers on project designing and creating the Studio 7 newsroom
- Maintained and improved the broadcast infrastructure for CNN and HLN networks
- Developed new methods for efficient ingest of all media, leveraging technology to improve efficiency network-wide
- Decided final edits and tech adjustments, directly improving quality in outgoing content on live global broadcast

Vanderlande Industries — **Seattle, WA**

Automation Controls Engineer — *2008*

- Designed and supervised installation and testing of automated baggage handling and security system in airport
- Led team of 12 multi-company individuals for a 10-month project, finishing early and under budget

EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY, Scheller College of Management — **Atlanta, GA**

Master of Business Administration (MBA) — *2013*

Concentration in Business Strategy and Entrepreneurship, GMAT: 780

GEORGIA INSTITUTE OF TECHNOLOGY, Woodruff College of Engineering — **Atlanta, GA**

Bachelor of Science: Mechanical Engineering — *2007*

Concentration in Robotics and Design

NOTEWORTHY PROJECTS

Ponce City Market — *2013*

- Worked on branding and community engagement with Jamestown Development as part of the Commercial Real Estate Practicum

Autotrader – Lean Six Sigma — *2012*

- Analyzed dealer support call data, interviewed, and made recommendations showing savings of $45k/yr

TI:GER, *selective startup incubation program in collaboration with Emory Law School* — *2011-2013*

- Brought hydrophobic microgel medical coating from GT PhD lab to market on a team with Emory JDs

AWARDS, COMMUNITY INVOLVEMENT, AND INTERESTS

Awards: Award for Civilian Heroism by Chicago Police, 2010
1st Prize, "Whiteboard Innovation Challenge" pitch contest at National Black MBA Association, 2013

Activities: Leader of GT Robotics Team, 2007
Black Belt in Shaolin Kung Fu and Tai Chi
Eagle Scout and Scout Leader
Improviser and Musician

Volunteering: Habitat for Humanity
Center for Puppetry Arts, Fundraising Gala
Dad's Garage Theater Company, Customer Service and Operations

Program Manager: Justin WelBorn

Minimum/General Experience: One to three years' experience in software and technology field, with management experience in project and resource administration and direct customer management. Requires knowledge and skills of AGILE processes, technology, engineering, utilization review, quality assurance, customer relations, project planning/ management, budgeting/financial management, project accounting, contract management, and communications.

Functional Responsibility: Directs all contract activities so that all deliverables and tasks are carried out accurately, successfully and timely, and within budget. Develops, monitors and manages team of engineers and multiple projects. Provides oversight and technical assistance to staff. Assists senior management with strategic, business/financial and action planning for current operations and future business endeavors.

Minimum Education: BS in technology, engineering, or sciences.

Senior Engineer (QTY 1 for kickoff and project start)

Minimum/General Experience: Three to seven years engineering experience with demonstrated ability to handle multiple priorities/tasks. Excels at understanding system and architectural level technical concepts and is knowledgeable of constraints of network technology, broadcast industry, virtual/physical network, compute and storage, and applications. Excellent organizational and communication skills.

Functional Responsibility: Analyzes complex and layered requirements to outline and develop problem definitions, operational workflows, and technical solutions. Excels at and completes the most complex and difficult tasks within the CodeMettle ecosystem including development of complex rules and algorithms. Incorporates and designs architecture, scripting, and leads technical team in agile development approach.

Minimum Education: BS in technology, engineering, or sciences and three to seven years job experience.

Senior Engineer Project role: CodeMettle assigns a varying role and number of engineers per project depending on the type of work being done at the time within the project. For a project of this scope, a senior engineer would be assigned to kickoff the project. The role performed by them to make sure the team starts off in the right direction and with senior technical leadership by providing oversight of the project as engineering team lead, architectural and systems planning and implementation, hardware and network setup recommendations, documentation of Concept of Operations, document and create attributes, classes, and data properties necessary to meet functional requirements for presentation layer and automation, develop testing cases, outline automation and complex algorithms, and provide inputs into Agile process outline. Senior engineers provide SME training.

After the project is started, a senior engineer will stay involved through many of the collaboration aspects that CodeMettle uses, such as peer reviews, slack hotline help channels, and injecting goals into Agile process of "what" needs to be done – but allowing engineers to figure out "how" to do it.

Project Engineer

Minimum/General Experience: One to three years of engineering experience configuring data management solutions. Experienced in deploying CodeMettle software but without the overall level of experience and understanding of overall system functionality that Systems Engineers possess.

Functional Responsibility: Produces and develops documentation, flowcharts, layouts, code comments and clear code. Integrates, tests, and produces translation scripts against documented API's. Integrates applications and establishes initial dashboard and topology visualizations of complex networks. Perform on-site software installations and tests while inducting and documenting troubleshooting procedures.

Minimum Education: BS in technology, engineering, or sciences.

Project Engineer role: This resource group is the most heavily utilized group in any project. They typically configure the translators per manufacturer's documented specifications and customer requirements, do component testing, configure dashboards and topologies, assign attributes and meta-data needed for visualizations, configure algorithms and automation routines per senior leadership advice, provide wiring documents as needed, test hardware and network setup, install software, configure redundancy, and a host of other implementation work necessary to complete any project. The project engineers are utilized for on-site installation, testing and troubleshooting, configuring and admin/operator training.

Project Structure: The Agile process and its collaborative nature provide all the structure to how CodeMettle projects are run. The customer is invited to share in the process monthly and iteratively. The sprints allow flexibility to best utilize a mixture of engineering resources to meet project goals and requirements on time. Most communication will be between respective project managers and categorized by the Agile process sprint cards. Direct engineer to engineer communication is allowed and encouraged but should be limited to specific sprint tasks while also CC'ing the respective PMs. Escalation with CodeMettle, typically goes direct to the General Manager (Andres Giles, former ILC engineer that performed original NETC installation) and CodeMettle's CEO (Richard Graham former founder and owner of ILC).

(J) Subcontractors

CodeMettle does not propose or intend to utilize subcontractors for any part of its performance. However, CodeMettle is not proposing wiring or hardware which may be subcontracted directly by the State of Nebraska. CodeMettle would provide input, documentation, and specifications, as necessary to their performance for the State of Nebraska in fulfilling the overall contract.

3 Technical Approach

(A) Understanding of the project requirements

CodeMettle understands the NETC environment and its approach to solutions. CodeMettle ownership and stakeholders were the providers of the original MaxView system from ILC that NETC has stretched beyond its intended life-cycle. The core company and technology philosophies that made that possible are ingrained in CodeMettle's corporate culture for the top down. CodeMettle believes in the power of its technology and that it is the best value solution available on the market. This does not usually equal the lowest cost solution, but the ability to implement, customize, and evolve the software at its own pace will provide NETC with long-lasting foundation to build the roadmap to the future and extend the life-cycle of its existing equipment and software. The full traceable requirements are available in "94612 O5 Attachment One – CodeMettle".

Overview of Proposed Solution and capabilities:

3.1 CodeMettle System Overview

ConOptic is a next-generation network monitoring, management, control, configuration, and orchestration platform built on a scalable big data architecture. It is a flexible and versatile management tool that enables operators to aggregate, correlate, and automate a widely distributed complex network infrastructure supplying critical services. ConOptic eliminates complex and expensive management silos to simplify overall operation of the network while improving its performance.

ConOptic provides the technology framework to Unify NetOps:

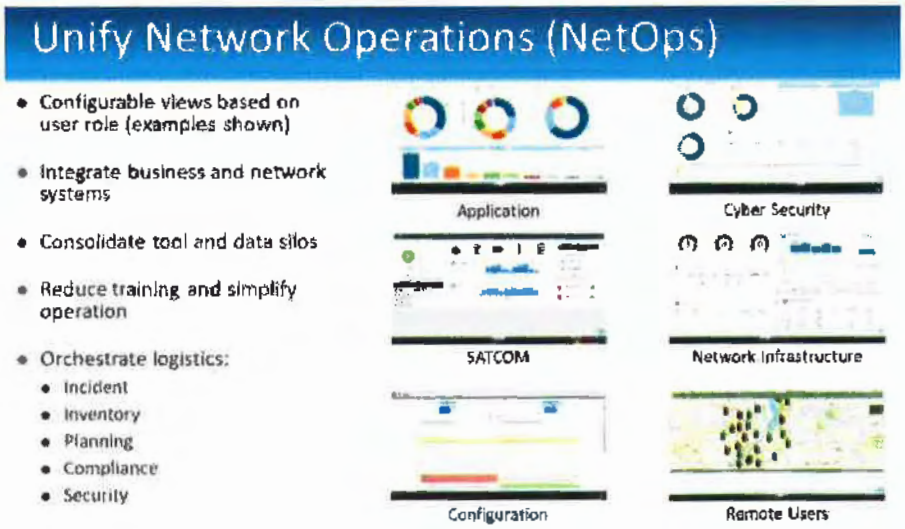


Figure 5: Unified NetOps

ConOptic's native capabilities are required by NETC to enable the customer to have a modern flexible solution that meets and exceeds the current and future system requirements. It allows translation and management of legacy equipment extending the life and capabilities of those systems while providing easy integration with modern equipment and technologies that host valuable data. The detailed descriptions of ConOptics extensible software framework and GUI for each topic follow the bulleted list to provide efficiency in convergence in the implementation of NETC's base requirements.

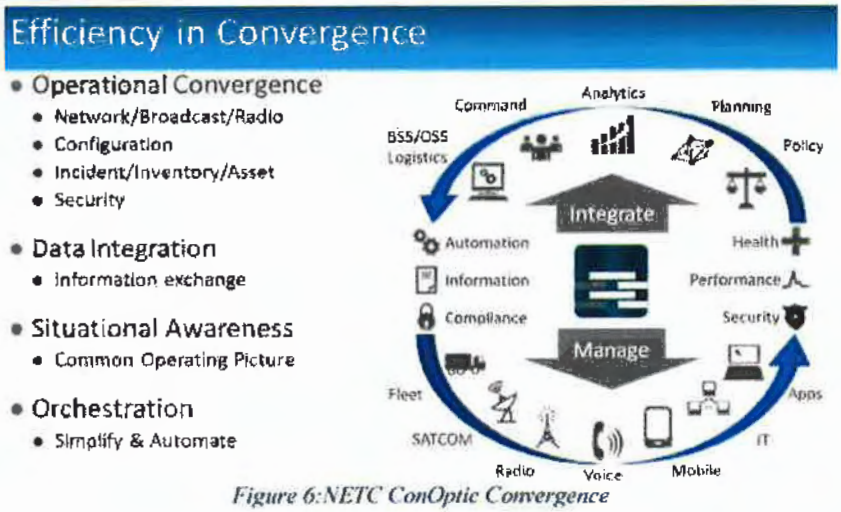


Figure 6: NETC ConOptic Convergence

- Data model and translation – allows ConOptic to integrate and model all technologies and data in a complex network.
- Topologies - provides understanding of the relationship between resources for optimizing network planning.
- Service management – enables management of disparate resources aligned to services delivered per mission.
- Provisioning - automates the configuration changes required per the network plan for execution.
- Booking – allocates the necessary resources and capabilities to execute a scheduled service.
- ConOptic distributed architecture - facilitates data exchange between managed nodes to synchronize information in a distributed network.
- Service Oriented Architecture (SOA) – enables secure, standards-based connections to external systems and data via Enterprise Service Bus and SOA framework.

3.1 Data Management

3.1.1 Data Model

CodeMettle's flexible data model facilitates modeling of NETC's complex network aspects and characteristics. The framework utilizes an extremely flexible data model that is well suited for managing and correlating all data types across heterogeneous networks. It is based on the concept, that all information is data no matter the source it comes from. CodeMettle's data model provides the ability to create relationships for data as well as apply multiple descriptors for use in various parts of the system. The descriptors allow CodeMettle to utilize information from multiple data sources to provide one coherent operational picture to a human. NETC will be able to easily categorize, visualize, and sort through its various network types in a single system and web-tool. Each user will be able to only see the data and dashboards that are assigned to them preventing user error from untrained operators.

At the core of the data model are items known as Datapoints. A Datapoint is a piece of collected data such as a network port state. If the fact that the port is down should indicate an alarm state, CodeMettle attaches an Attribute to identify the Datapoint as an "alarm". The Attribute contains the severity level of the alarm in the given state. The level is configurable based on the implementation of the CodeMettle system. Higher level objects, called Resources, are used to associate a collection of Datapoints for a piece of monitored equipment such as a network switch.

ConOptic will implement the data model shown in figure 7 as the best way to characterize the various and multitude types of data sources and equipment that will be managed over the life-cycle of the project.

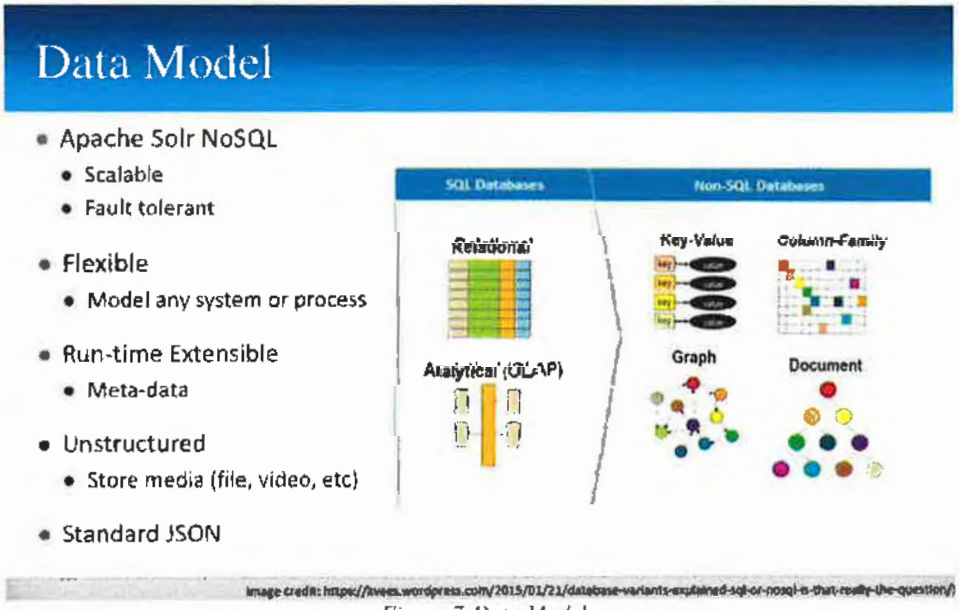


Figure 7: Data Model

3.1.2 Data Translation

CodeMettle's data translators (sometimes referred to as drivers) allow ConOptic to interact with NETC's network entities and database objects and are written in fully open and configurable Jython scripts. CodeMettle Translators are Object Oriented and are created to support an entire class of equipment (such as HPAs or Modems). This reduces the amount of unique work for any individual translators down to the specific piece of equipment, make, model number, and version. This also limits the individual component level work for pushing data and relevant attributes to the presentation layer resulting in dramatic cost and labor savings as well as faster development and deployment. It provides additional operational benefits such as enabling hot-swapping of different vendor equipment with no downtime.

As NETC requires, ConOptic data translators are open and extensible. They may be worked on directly in code or by utilizing the Translator Development Kit (TDK). The TDK allows for direct testing of translator components without requiring a full ConOptic system. It provides a way to easily navigate through loaded MIB files and create SNMP translators with ease. The concept for NETC would be similar to how CodeMettle pursues projects with 3rd party systems integrators.

- *Together, they would negotiate and agree to a baseline plan and implementation approach of a FFP project.*
- *CodeMettle would provide the first week of SME training for TDK and ConOptic specific integration techniques and concepts early in the implementation of the baseline project.*
- *Client team would have small but own part in process and implementation of Agile sprints. CodeMettle would peer review, answer questions, and help during the Sprint.*
- *Second round of one week of training for NETC SME would occur after completion of Agile sprints and practical experience. A deeper dive, with more relevant hand's-on experience is initiated and more advanced concepts are incorporated, including presentation layer and automation concepts beyond the scope of translators.*
- *Customer SME's are incorporated into another round of Agile sprint with peer reviews and collaborative help.*
- *CodeMettle on-site work begins and customer is invited to oversee common install, implementation, and trouble-shooting. This should include some of the customers' own work. The oversight should be limited to not more than 2-3 hours per day so as not to completely disrupt the ability of CodeMettle's engineer to adequately perform his own work.*
- *This collaborative process has been proven to provide the best and most sustainable results of client self-sufficiency.*

Common tasks of a translator include:

- Schedule polls to be run periodically or at specified dates/times
- Listen for unsolicited data from managed objects
- Issue instructions to managed objects
- Perform error checking and message validation
- Convert vendor data to a common data model for use by the system
- Send/receive messages to/from other translators and managed objects
- Define correlation rules to detect network events and take automated actions.

Translators are not limited to communication with any particular type of network entity. Entities can include any physical or virtual devices with capacity for communications, other applications, databases, web services, and many other accessible sources of data.

CodeMettle also has translators for direct monitoring of NETC Element Management Systems like Vistalink and MaxView. This monitoring assures that the data is collected and transformed into ConOptics' data model while allowing the EMS to continue its full responsibilities without disruption. This can be essential in long-term technology swap-outs and maintenance window testing so the customer is confident that current operations will not be disrupted.

3.1.3 Data Analytics

Normalizing the disparate network data into a single model enables the creation of a central repository to perform data analytics. The ConOptic platform's data storage is a Big Data, NoSQL database capable of storing billions of records. *For NETC's architecture, CodeMettle will distribute systems for operational redundancy but collect the correlated and aggregated information at the centralized NOC. The NOC will be High Availability and installed on server clusters which can be added to in order to scale capacity. This capability will essentially be new to NETC.* The reporting tool and capabilities will provide a mechanism to learn and understand what is effecting changes in the overall network. Is a change in the IP layer by the Enterprise network causing intermittent issues at a site? Big data is also a future capability that is here to stay. The solution will already be compatible for a future injection of technology such as machine learning or AI remediation workflows to automate responses in real-time to common network failures (additional license would be required – however it is not possible to project the price currently).

Below are example reports:

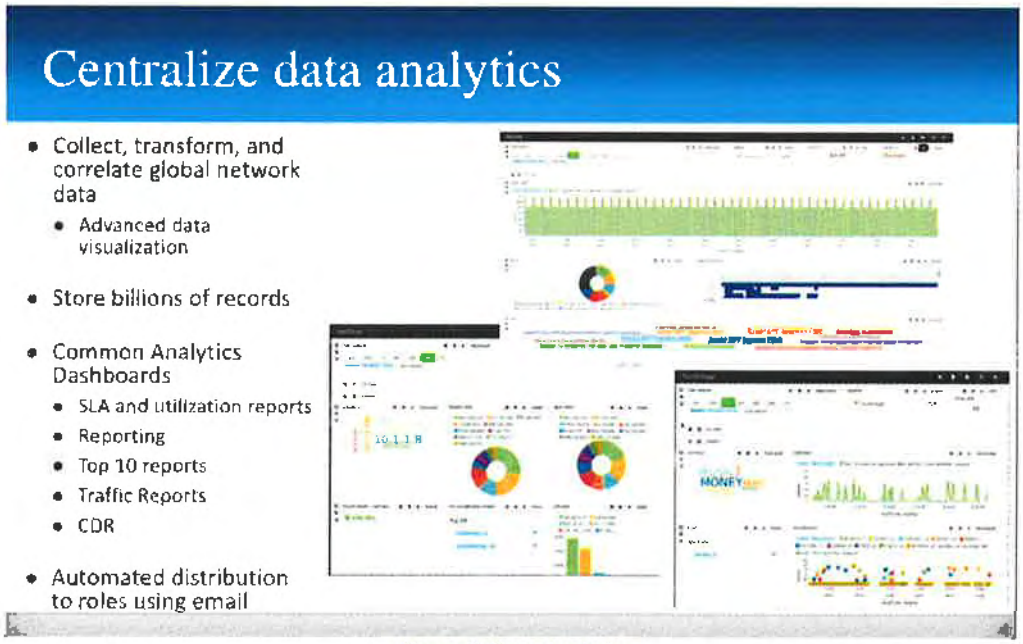


Figure 8: Data Analytics

3.2 Topologies

To make sense of a monitored network, it is important to know the physical relationships between Resources. A Topology is a part of the data model that tells the system those relationships and the rules for optimizing the network. It identifies that there are physical or logical links between equipment. Having this knowledge allows for high-order correlations to take place. An example might be that if an upstream router is in a failed state, the system can identify the downstream equipment that is affected by this and squelch any alarms that would have occurred on the downstream equipment. *Topologies of data flows, individual sites, and hierarchical views from the NOC will all be implemented to meet NETC project requirements.*

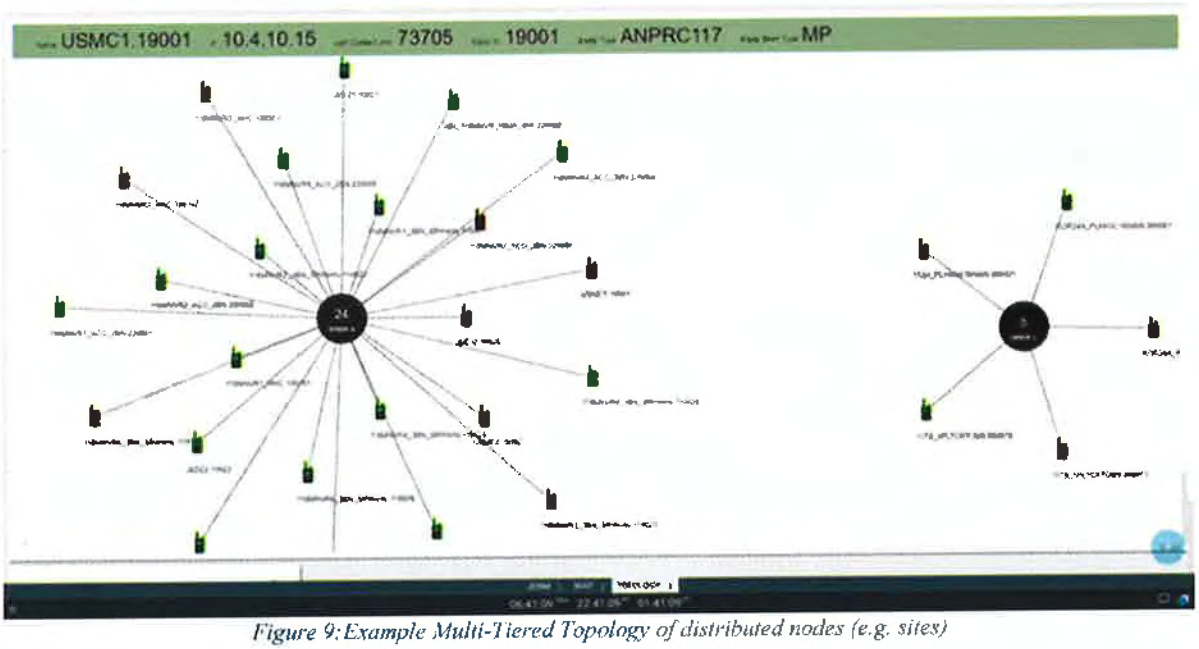


Figure 9: Example Multi-Tiered Topology of distributed nodes (e.g. sites)

3.3 Service Management

Service Management enables management of disparate resources and components aligned to the services delivered over time. *This is very key to NETC as it provides real-time understanding and context to the impact of events in the network.*

Services are logical items that are carried over the monitored networks. A logical example for NETC is a broadcast channel. The system natively understands the physical network layout using Topologies, it can dynamically figure out the path a channel is going over by simply knowing the ingress point. When the network changes, the system will recalculate the path and identify any new equipment it is travelling over.

By defining something as a Service, the system will automatically monitor this logical association of equipment and identify the real-time health of the Service to end users. The system also allows for defining service affecting alarms on a per-service basis.

During the booking, operators can visualize the Service they are providing comprising of the various network technologies. This simplifies identifying root causes of failures when you are monitoring the end-to-end network chain providing services for the mission.

In the hybrid environment, using ConOptic, missions are managed as an end-to-end delivered service and transparent to the operator and the system whether it is a SatCom network, Radio network, Terrestrial network or combination of all.

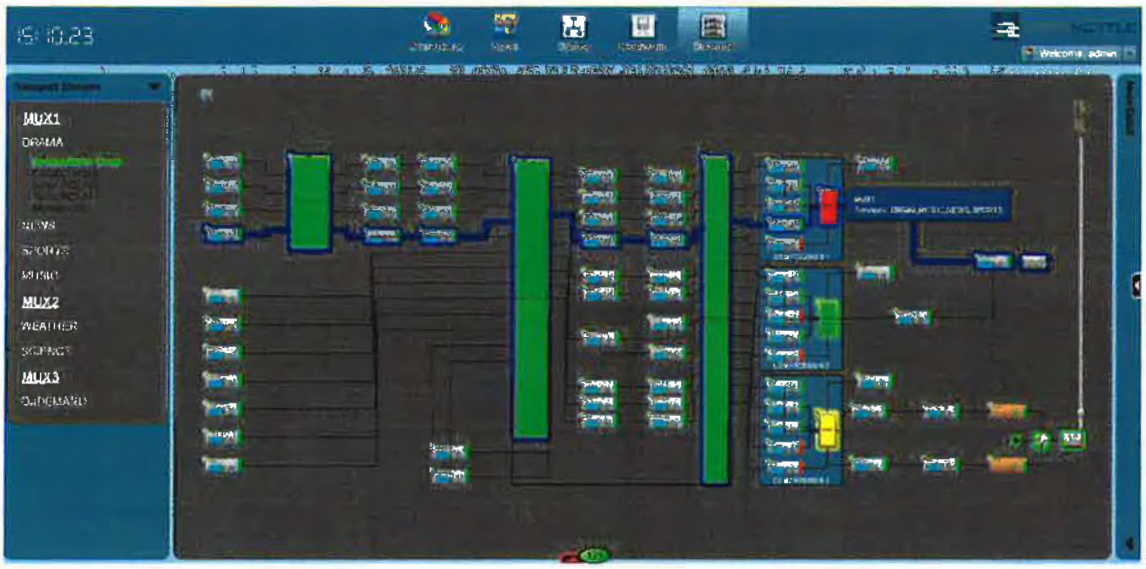


Figure 10: Highlighted Service through Network Topology

3.4 Provisioning Management

CodeMettle automates the configuration changes required per the network plan for execution. Provisioning plans allow for custom workflows to be defined based on the needs of the end-users. They allow for the simplification of configuring network resources. For instance, setting up a broadcast channel manually requires knowledge of lots of different equipment and settings.

Provisioning Plans can be created to do all the heavy-lifting on the backend while just presenting the end-user with information that they already know. A Provision Plan executes in a step-by-step manner and prompts the user only where their input is needed. A Plan can be changed by the network expert in the background but the end user without that knowledge would still run through the same steps even though the execution of the complex setup has changed in the background. These plans can be disseminated throughout the CodeMettle ecosystem and typically flow from the NOC or decentralized system out to the individual interconnected nodes as required.

Figure 11: Workflow example

3.5 Booking

Additionally, the system must understand the necessary resources and capabilities required to execute a scheduled service. Bookings provide a mechanism for reserving and configuring system resources for a given duration. The booking system enables the user to allocate resources based on properties (ex. cost, time, and capabilities) to ensure service requirements are met while avoiding resource conflict. This booking data rolls up from individual sites to the NOC. These booked resources can be assigned and re-assigned to ensure required capabilities are met while cost/time factors are minimized. The following is a simple example to portray the booking process.

An end-user wants to setup network resources to configure an ad-hoc broadcast channel for a single 24-hour period, they can request a Booking. The user will identify key choices based on a Booking Template, and the system will identify the available Resources for the period in question.

Once the Resources are identified, they will be reserved during that period and cannot be used by for other purposes. The CodeMettle platform keeps a global view of available and reserved Resources and can perform conflict resolution and identify network contention issues.

When a Booking goes active, the system can recognize and monitor the end-to-end path. Rules can be used to identify when something goes awry with the delivery of the Booking and automatically perform corrective actions such as failing over to backup equipment to ensure high-availability of the service being provided through the Booking.

When the scheduled Booking complete, the system will automatically tear down the circuit and put Resources it has previously reserved back into the pool of available equipment.

The logic behind Bookings is handle by defining Booking Templates. Booking Templates identify the types of network resources needed as well as in what topological order things need to be connected.

For instance, one would need to define a Booking Template for a circuit that had an ingress point at a specific Resource in the network and a specific egress point. The Booking Template may also define additional requirements such as using a managed switch or using routers that already have QOS configured.

The end user would simply need to know the ingress and egress point when requesting the booking and the system would figure out what to reserve and how to configure the Resources needed to complete the circuit.

Figure 12: Booking walkthrough

3.6 ConOptic Distributed Architecture

The CodeMettle architecture allows for standalone/distributed systems to discover and securely connect to each other through its built-in protocol and messaging interface. This enables the network to operate as a distributed, synchronized set of nodes with functionality distributed across those nodes.

Once connected, encrypted data is exchanged on an exception basis. That is, critical data is sent based on configurable threshold breaches versus polled or periodically sent. This provides real-time health and performance and reduces the burden on the network to only user-defined critical data. Beyond health & performance, this interconnection can be used to disseminate data (ex. configuration files, training, workflows, software patches, documentation) or provide remote support such as chat or view of network details.

Once their network connection information is known, then on-demand TCP connections can be established to perform tasks such as pushing configuration changes out or checking status of remote equipment from a centralized NOC.

Interconnected nodes can be designated to have *Responsibilities*. For instance, a single node can be designated as the node responsible for correlating events network-wide. Important changes in the state of equipment at a node will be sent up to the *Correlation Node* and it can act on the state changes accordingly. Other nodes in the infrastructure can also be designated for Ticketing and Email responsibilities if desired.

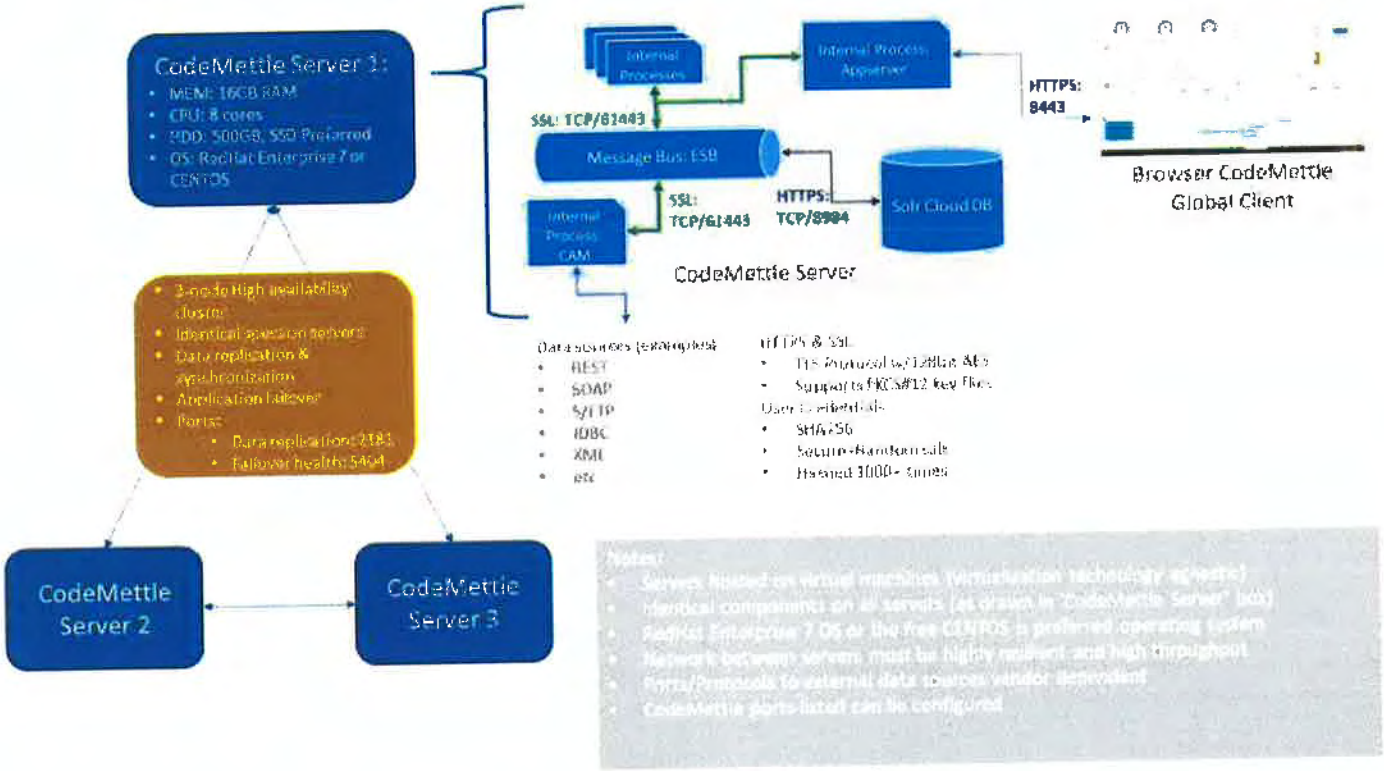


Figure 13: HA Component Architecture of NOC

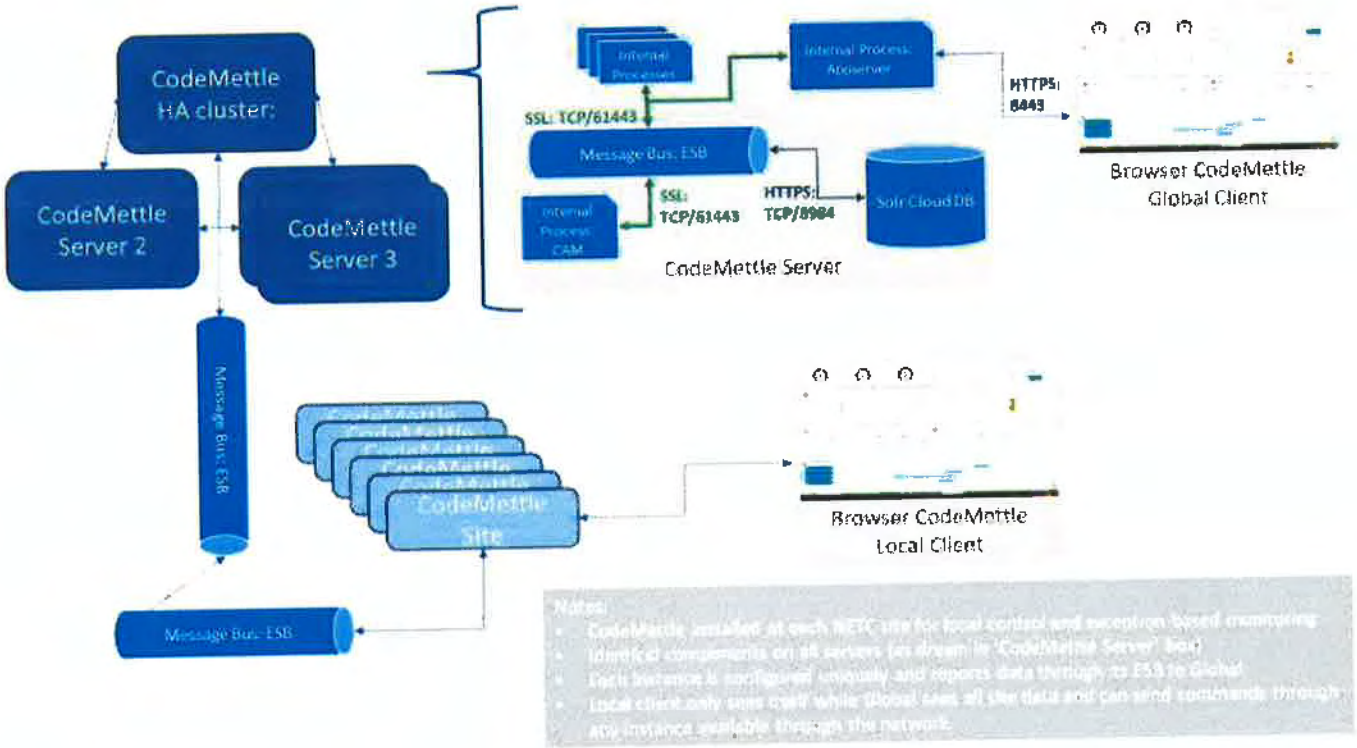


Figure 14: Distributed Architecture

3.7 Service Oriented Architecture (SOA Framework)

ConOptic is an open data management platform with a Service Oriented Architecture (SOA) based Enterprise Service Bus at its core. This open architecture enables authorized external systems to securely interact with the ConOptic platform using standards based APIs. For NETC considerations, CodeMettle is designed to easily integrate with existing MaxView platforms.

The following diagram describes the numerous integration options for NETC. The gray objects are CodeMettle components and the blue objects are options for external parties to inject or extract data from the ecosystem

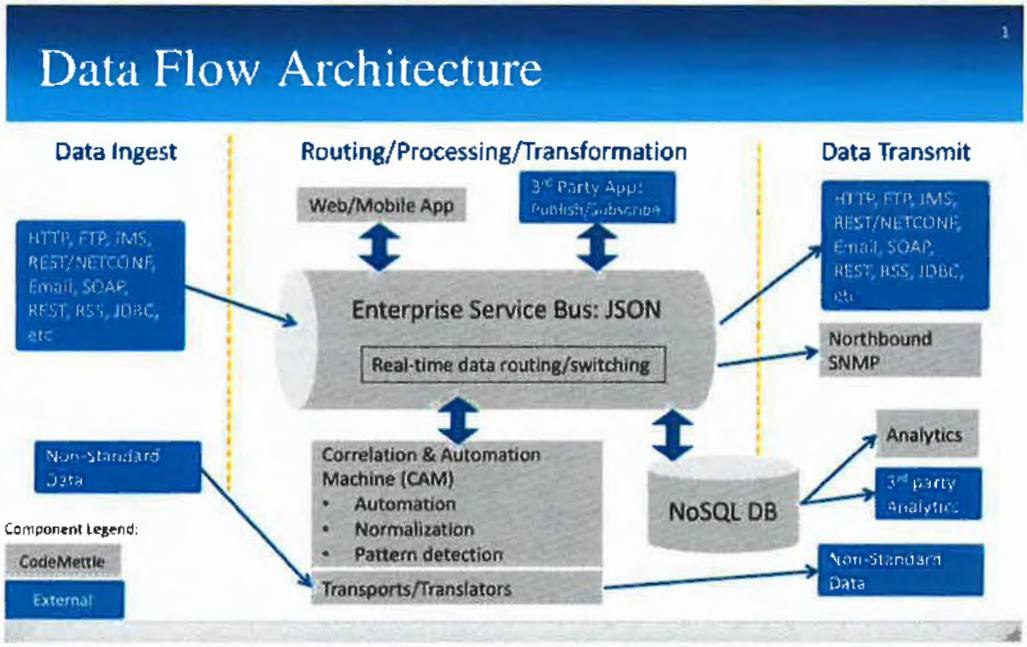


Figure 15: Open Framework Architecture

3.7 Summary of core CodeMettle concepts

CodeMettle's flexible data model allows ConOptic to model complex networks, resources, and data. Topologies provides understanding of the relationship between resources for optimizing converged network operations. Service management enables management of disparate resource aligned to the services delivered to the user. Provisioning plans automate the configuration changes and complex implementation stages. Booking finds and reserves the necessary resources to provide a service over time, while avoiding resource conflicts. CodeMettle's native architecture extensibility enables secure, efficient information exchange to manage and synchronize a network of distribute nodes. Finally, the SOA framework enables secure interaction with external systems and data sources using standards-based APIs. These key capabilities make CodeMettle's the comprehensive integration environment and framework for all the capabilities required.

(B) Proposed development approach

Project Requirements:

CodeMettle is providing a Firm Fixed Price proposal that meets or exceeds the requested requirements from NETC as outlined in attachment 1. CodeMettle has been in the industry for a very long time and understands that project churn, scope change, and challenges in the execution phase are to be expected. By utilizing the Agile process there have been less than a handful of ECP's over all of the projects that CodeMettle has delivered. Change requests are initiated by the customer and would only include significant scope creep or architecture changes.

The distributed architecture will include a ConOptic instance at each of the individual sites and a High Availability clustered solution as the centralized NOC that manages all of the other sites.

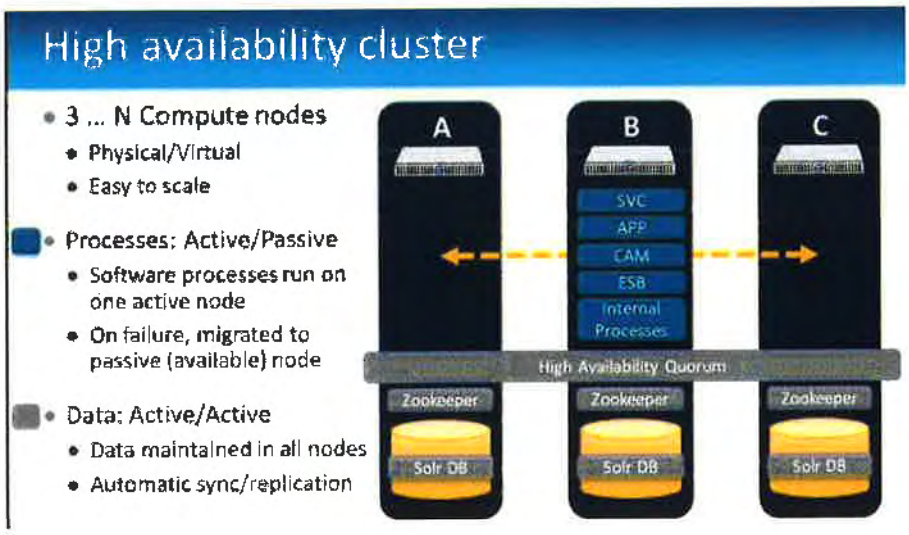
ConOptic's framework is extensible at the component level and configurable by the trained end client without CodeMettle involvement providing the foundation of the roadmap to the future for NETC.

- The GUI may be customized at several different layers but ultimately the client has the ability to work on custom SVG and widget components to provide visualization of data however they see fit in the future.
- Data translators are open and extensible scripting algorithms that the client can improve, change, or add new capabilities without CodeMettle involvement. In the event of a new standard, changing firmware, or additional capabilities, the translator components may be changed at run-time without requiring system restart.
- If new services are provided by the customer it is simple to initiate and add new services into the system from the GUI. The customer can also implement and add to the service coverage, add new topologies, resources, and translator attributes or meta-data properties.
- If NETC NMCS grows into new functional areas to expand the coverage of a unified NetOps tool, CodeMettle's data model simplifies the approach and is future proof in this aspect.
- If NETC stays compliant and up to date on CodeMettle's Software Maintenance Plan, they are entitled to all relevant system updates and patches of the licenses they have purchased. The client can take advantage of CodeMettle's diverse customer base to leverage new solutions and capabilities that are added to the base solution at no cost.
- Patches and updates to the base solution are tested in labs, implemented without loss of system capabilities, performed in maintenance windows such that there is never significant downtime.
- CodeMettle is integrated with 3rd party enterprise systems through a SOA compliant ESB which simplifies how data is shared in a common format and not through changing API's. This reduces the system upkeep.
- CodeMettle also provides many of the same sub-sets of functions of enterprise systems such as ticketing, asset/inventory management, configuration management, network planning and scheduling, and more. By being both hardware and technology agnostic, ConOptic provides the client with the freedom of choice. The lack of constraints in how ConOptic is deployed allows NETC to potentially target redundant systems for deletion thereby reducing maintenance and training.
- A full roadmap can be presented in person but won't be published in an open document forum due to its sensitive nature.

(C) Technical Considerations

CodeMettle considers itself a partner to work with and establish client self-sufficiency in deployments. CodeMettle's pnOptic is an innovative solution framework that will be utilized to complete the NETC NMCS project. Section A provides an outline of the key functionality of ConOptic that will be configured to meet the requirements of the project.

As outlined in section A (3.6), CodeMettle will provide a distributed architecture with High Availability cluster solution. This option is shown in detail below:



CodeMettle's system is designed to manage by exception and reduce the traffic utilization of the distributed monitoring solution. Polling rates are available for administrators to change at run-time in the GUI at individual or system levels without changing code. As a technology and vendor agnostic solution, NETC will be granted the freedom of choice to use the best vendors and technologies to evolve the network and know that CodeMettle will be right there to manage it. NETC will realize many benefits from adopting a common data model and managing the disjointed technologies under a single system including a streamlining of NetOps and automation that orchestrates network setup. With an open architecture the client will be able to expand, customize, and utilize this system for as many years as the ILC MaxView system.

Hardware recommendations and specifications

The ConOptic browser-based user interface can run on any computer with 4GB RAM and dual core CPU with no drive space requirements. There is no reason nor recommendation for workstations dedicated to the GUI.

The application server backend depends on the size of the managed node due to the amount of data required to be translated, correlated, stored and exchanged. Drive space is based on data retention requirements. Examples based on node size:

- Remote Site 250 devices or less network elements – 16GB, Server
- Remote Site 500 devices or less network elements – 16GB, Virtual
- NOC aggregating 5000 or less network elements – 32GB, 3-node virtual cluster

ConOptic is supported on Windows and Linux platforms and can operate in a physical or virtualized environment. The preferred minimum hardware specifications for a remote site are 16GB MEM, dual-core CPU, and 40GB drive space. CodeMettle doesn't recommend any specific COTS brand of servers over any other, merely that the CPU and RAM are high performance enough to make the best use of ConOptic. This gives the customer the ability to choose whether redundant power supplies and NICS are important as well as the support contract from the supplier. Typically a remote site is installed on a physical server and the NOC is installed in a virtual cluster.

- 11 sites utilize physical server (i.e. PowerEdge R330 customized for NETC specifications)
- 1 NOC site utilizes a virtual cluster or 3 independent server nodes with at least two NICS (i.e. PowerEdge R540 customized for NETC specifications)

In addition to the hardware that the ConOptic will be installed on, there will be a few other types of hardware necessary to complete the project appropriately. These are necessary to support serial RS-232/422/485 connections, GPIB, and GPIO.

Serial communications enabling Hardware:
There is existing hardware that NETC owns. CodeMettle would recommend leaving this in place and continuing to utilize what exists. It is already wired properly and in theory should be working unless there is a known issue. Rather than ripping and replacing all of these, a few spares could be purchased. This would allow the customer to replace ones where multiple ports may not working properly and move those with known issues to new areas that don't have as many serial connections. In general, the industry is moving away from serial connections and as NETC continues to refresh equipment, fewer devices will require this hardware. Therefore, it is recommended not to invest a whole lot into this network infrastructure hardware. Any COTS hardware will work, however CodeMettle and its engineering team has used Comtrol Device masters for more than 20 years with high quality service and results. They also have a variety of port options for NETC to choose from if they determine they do want room for growth.

GPIB:

Some Spectrum Analyzers require a GPIB interface which is sort of a specialized serial communications port/protocol. If an update or refresh of these are necessary CodeMettle would recommend something from National Instruments.

GPIO and analog:

NETC currently has the IOLinks in place which were customized proprietary GPIO boxes sold from ILC. The components have long since obsolesced and a recent quotation from the original manufacturer was around $10k ea. to make replacements – pending volume. This is an expensive solution that is unnecessary as the marketplace has developed a number of replacement non-proprietary hardware solutions in the decades since the IOLink was rolled out. However, the IOLinks were unique in some aspects as any pin could be used for about anything. This made it simpler to wire and use. During the site visit, these seemed to be in the worst condition of the existing hardware and should be targeted for updates with solutions that are still supported.

CodeMettle would recommend the products produced by Direct Logic PLC, made by Koyo electronics but is able to utilize any system available on the COTS marketplace if NETC chooses something else. To replace the IOLinks there are chassis style boxes which have open slots for cards that can be customized to support the needs of NETC (i.e. analog and relays). Likely, the termination blocks that are already wired could be re-used. Additionally, for the remote sites there are stand-alone modules that are less expensive and should provide just what is needed.

Methodology of implementation

CodeMettle's methodology of implementation utilizes the Agile sprint processes. The customer is part of the process and can login in remotely to view the plans. Thus they are able to understand at every step what the current progress looks like and how it is prioritized. This allows the customer visibility into schedules and makes alignment with their own goals and schedules easy. For instance, if it is known that some hardware will be updated in the near future, they can lower the priority for configuration on the existing platform.

The first thing that occurs is a kickoff meeting. The goal of this is to introduce stakeholders, prioritize near term sprints, and look at the project from an overall 10,000 foot view. The other key aspect of this meeting is the exchange of questions and documentation around NETC's Concept of Operations. This informs the project schedules, deadlines, and key components, and cutover strategy. It also informs the implementation plan from visualization strategies, automation necessities, and the flow of data in the system. After this meeting, the project will go from an all-around RFP that incorporates all things for any possible vendor, to a project that is specific to the tool that has been selected and the engineering team that will configure it to NETC's requirements.

CodeMettle typically configures all data translators first against the technical documentation provided by the vendor. The client ConOps helps to inform the evolution of the configuration and visualization of the data collected. This project has an unusually large and various amounts and types of legacy equipment. The configuration will likely start with the NOC and then expand into the various sub-categories at the clients suggested prioritization. Once the translators are completed against the documentation, engineering will then test remotely. This will require client to organize remote access, and maintenance windows and time for testing against one specific unit type. This drastically reduces the on-site time and risk.

While the translators are being built, the team will also be working on the presentation layer. They will enable data flow and topology views and get customer sign-off on all strategies of the implementation. The customer will also be able to view, edit, and create their own dashboards. Once the translators are tested remotely against live equipment, the team will start targeting times for on-site installation and final verification.

This is where the cutover strategy will be very important. CodeMettle is a veteran of this process and has removed MaxView and replaced it with ConOptic for many customers. However, NETC is unique in the sense that they have an older version and one that has been highly customized through Maestro. There will be a number of customized elements that will be built into the ConOptic system prior to cutover. The typical procedure involves side-by-side servers at the NOC. The MaxView system will stay live and in use until all of the testing at the NOC is performed. This would include a translator for the MaxView distributed systems that pulls the alerts and alarms out. When the cutover at the NOC is performed, CodeMettle would have control of all NOC equipment while also monitoring the alarms from the distributed sites. All alarms would be visible in the CodeMettle system, but to perform control at the remote sites at this stage, the MaxView system would still be in place and used by the operator. From there, CodeMettle engineering would visit each site, perform the installation and testing, and take down and remove the MaxView system. The system build and validation process is DevOps driven to ensure the quality of the product and each unique configuration in a system is tested and validated against collaborative Test Plans.

In addition to this overall deployment plan, CodeMettle believes that the customer will have a strong interest in pursuit of the hybrid ownership strategy that is laid out in previous section 3.1.2. The baseline for this plan would be different from the full project plan and costs that are proposed to meet the RFP requirements. This would be negotiated after award and allow the client to take on some responsibilities and perhaps do heavy lifting on legacy equipment and the very custom GUI items that could reduce the risk as well as price.

Project risks and risk management –

This project has some unique risks due to factors that are beyond control. The remote sites are physically very far apart and require large amounts of travel to perform on-site engineering. This will be mitigated in one of two ways:

- Remote access and testing
- Trained customer SME may do remote site installs 5-11. (not part of current proposal)

The age of the legacy equipment is also a slight risk. In particular, asynchronous communications are outdated and can be finnicky. However, CodeMettle has its own legacy of performing and managing equipment that scares others. There is no software mitigation plan as these will produce binary results, either it is achievable or not. The customer may mitigate some of this by securing new equipment. In addition to device age, there is the network hardware aging factor. The mitigation plan for this is to re-use what exists for serial management and stock up on spares for replacement or new areas that they may be needed. A related risk is that there is a significant amount of wiring that will be necessary for the GPIO management. Due to the irreplaceability of the IOLink, the plan should be to re-wire these professionally from the start. Fortunately, NETC has great documentation available on this. CodeMettle also has its own internal knowledge by virtue of employing several engineers that have worked on the NETC ILC system over the years.

The last bit of project risk is that there is a large amount of customization that is being requested which isn't always fiscally responsible. CodeMettle's plan to mitigate this is to negotiate the baseline and identify particular outliers which the trained SME from the client can work on.

(D) Detailed Project work plan

The detailed project plan can be shared electronically to provide Gantt chart and better formatting.

Task Name	Duration	Start	Finish	Predecessors
NETC	516d	09/01/18	08/21/20	
Kickoff Meeting	4d	09/01/18	09/05/18	
Implementation	296d	09/07/18	10/25/19	2FS +1d
Sprint 1	20d	09/07/18	10/04/18	
NOC Translators - first draft	15d	09/07/18	09/27/18	2
NOC GUI & Topologies - first draft	5d	09/28/18	10/04/18	5
Sprint 2	20d	10/05/18	11/01/18	
Translators - TV and Radio TX - first draft	15d	10/05/18	10/25/18	4
Test previous sprint	5d	10/26/18	11/01/18	8
Sprint 3	20d	11/02/18	11/29/18	
Translators - TV and Radio Teleport - first draft	15d	11/02/18	11/22/18	7
Test previous sprint	5d	11/23/18	11/29/18	11
Quarterly Design Review	2d	11/30/18	12/03/18	10
Sprint 4	20d	11/30/18	12/27/18	
Translators - TV and Radio Facilities - first draft	5d	11/30/18	12/06/18	10
GUI and Topologies, Phase 1 review	15d	12/07/18	12/27/18	15
Sprint 5	20d	12/28/18	01/24/19	
Translators - TV and Radio Production 1	15d	12/28/18	01/17/19	14
Test previous sprint progress	5d	01/18/19	01/24/19	18
Sprint 6	20d	01/25/19	02/21/19	
Translators - TV and Radio Production 2	20d	01/25/19	02/21/19	17
Quarterly Design Review	2d	02/22/19	02/25/19	20
Sprint 7	20d	02/26/19	03/25/19	
Translators - TV and Radio Remote first draft	10d	02/26/19	03/11/19	22
Translators - Production Routers first draft	5d	03/12/19	03/18/19	24
Test previous sprint	5d	03/19/19	03/25/19	25
Sprint 8	20d	03/26/19	04/22/19	
Translators - refinement and testing	20d	03/26/19	04/22/19	23
Sprint 9	20d	04/23/19	05/20/19	
Translators - refinement and testing	5d	04/23/19	04/29/19	27
GUI & Topologies, Phase 2 refinement and testing	15d	04/30/19	05/20/19	30
Quarterly Design Review	2d	05/21/19	05/22/19	29
Sprint 10	20d	05/23/19	06/19/19	
Translators - Master Control Systems - first draft	7d	05/23/19	05/31/19	32

Translators - Web Services - first draft	7d	06/03/19	06/11/19	34
Translators - Government AV - first draft	6d	06/12/19	06/19/19	35
Sprint 11	20d	06/20/19	07/17/19	
GUI & Topologies, Phase 3 - refinement, testing	20d	06/20/19	07/17/19	33
Sprint 12	20d	07/18/19	08/14/19	
Automation and Customization	20d	07/18/19	08/14/19	37
Design Review	2d	08/15/19	08/16/19	39
Sprint 13	20d	08/19/19	09/13/19	
Automation and Customization continue and refinement	15d	08/19/19	09/06/19	41
Review and test previous sprint	5d	09/09/19	09/13/19	43
Sprint 14	20d	09/16/19	10/11/19	
Automation and Customization continue and refinement	15d	09/16/19	10/04/19	42
Review and test previous sprint	5d	10/07/19	10/11/19	46
Sprint 15	10d	10/14/19	10/25/19	
UX final revisions	5d	10/14/19	10/18/19	45
Final testing and preparation for cutover	5d	10/21/19	10/25/19	49
Installation	210d	11/04/19	08/21/20	
Noc - Integrations On-site Testing and cutover	10d	11/04/19	11/15/19	3FS +5d
Site 1 – Integration, and on-site testing	10d	12/02/19	12/13/19	52FS +10d
Site 2 - Integration, and on-site testing	10d	12/30/19	01/10/20	53FS +10d
Site 3 - Integration, and on-site testing	10d	01/27/20	02/07/20	54FS +10d
Site 4 - Integration, and on-site testing	10d	02/24/20	03/06/20	55FS +10d
Site 5 - Integration, and on-site testing	10d	03/23/20	04/03/20	56FS +10d
Site 6 - Integration, and on-site testing	10d	04/20/20	05/01/20	57FS +10d
Site 7 - Integration, and on-site testing	10d	05/18/20	05/29/20	58FS +10d
Site 8 - Integration, and on-site testing	10d	06/15/20	06/26/20	59FS +10d
Site 9 - Integration, and on-site testing	10d	07/13/20	07/24/20	60FS +10d
Site 10 - Integration, and on-site testing	10d	08/10/20	08/21/20	61FS +10d

(E) Deliverables and due dates

This is a complex project and plan. The project will be done in monthly Sprint cycles during which there will be movement forward and testing of last Sprint's progress. There will be quarterly review cycles with the customer in addition to the Sprints. CodeMettle schedule is roughly a two-year implementation while the customer is requesting a 3-year project. This naturally builds in schedule time and risk factors to complete the project.

The deliverables are software products and documentation. The general terms and conditions of invoicing and scheduling are below but it is assumed that some give and take would be done during negotiations if the vendor is selected.

CodeMettle's General Terms and Conditions

1. Payment terms are net 30 days against invoiced milestone.
2. Invoice Milestones are
    a. Purchase Order receipt:
        i. Licenses: 100% invoiced
        ii. Services: 50% invoiced
        iii. SMP: 0% invoiced
    b. Deployment of licenses or substantial completion of project
        i. Services: 40% invoiced
    c. Site Acceptance
        i. Services: 10% invoiced
        ii. SMP: 100% invoiced
3. Software Products are warranted for a period of 90 days from the date of delivery and cover all material defects.
4. First year Software Maintenance & Technical Support fees must be purchased with the initial system purchase order.
5. The quotation is valid for 120 days.
6. Hardware and wiring is not provided by CodeMettle
7. Price does not include import duties or taxes of any kind.

CODEMETTLE

NETC ATTACHMENT ONE

Submitted by:

David Lassiter

CodeMettle, LLC
Six Concourse Parkway, Suite 1050
Atlanta, GA 30328
(678) 336-8590

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.	Comply		
Bidder Response: CodeMetle provides the system, ConOptic, which has the ability to control and monitor the NETC NMCS systems. It is deployed in an open and distributed architecture such that if one site loses connectivity, it is in isolation and the only system affected. CodeMettle can use backup paths for control and has demonstrated its capabilities over small Irridium links. The dial-up telephone should have sufficient bandwidth to utilize in emergencies for very limited functions.				
PRM #2	The NMCS bid shall provide the ability to communicate with remote devices over dial up telephone modems, direct connection and Ethernet IP.	Comply		
Bidder Response: CodeMettle's system is verified to work in Disconnected, Intermittent, or Limited (DIL) Bandwidth environments. The software architecture and framework is designed to communicate efficiently and require limited amounts of bandwidth.				
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	Comply		
Bidder Response: ConOptic utilizes a high-performance HTML5 web-GUI. It may be logged into by multiple operators simultaneously which is only limited by the hardware the application is installed on, not the software.				
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.	Comply		
Bidder Response: CodeMettle's system uses standard IPV4 addressing where appropriate. Any user that can reach the application server shall have the ability to remotely use the system.				
PRM #5	The NMCS bid shall provide the ability of executing simultaneous commands or instructions to multiple remote devices at multiple diverse sites.	Comply		
Bidder Response: ConOptic's software framework is distributable and capable of executing commands independently and simultaneously.				
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.	Comply		

Bidder Response: ConOptic provides the ability to create workflows and automation to execute specified responses. These may be scheduled or unscheduled. Unscheduled automations require preprogrammed network or event stimuli which prompt the system to kick off the automation in a remediation response. The system abstracts out the type of interface rendering it irrelevant to the user.

PRM #7	The NMCS bid should have an open architecture protocol to allow for integration with existing and future third party systems.	Comply		

Bidder Response:
CodeMettle's architecture is open. It uses modern industry standard protocols to make the sharing of information between systems easy to accomplish. CodeMettle is utilized as both an umbrella management system managing tens of thousands of devices through Element Management Systems or is capable of managing the same infrastructure directly. The client decides what is best for them on a per system basis. CodeMettle is continuously improving the software framework in Agile development manner and all customers that are current on the SMP shall continue to receive updates automatically ensuring future compatibility.

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.	Comply		

Bidder Response:

This requirement is a basic function of any system. All of the information that is generated by a device or a user is collected and stored. What differentiates ConOptic is that it has been developed on a big data database allowing it to collect and keep all the information for longer periods of time. The data model that CodeMettle uses also makes it easy to correlate data into information the user actually wants. This capability not only provides historical and real-time reporting capabilities but allows for data analytics to be incorporated and assist in pattern and event recognition. Once patterns are recongnizable, remediation workflows may be instituted to automate easy responses to commonly detected problems.

PRM #9	The NMCS bid shall have provisions for redundancy, for both hardware and software systems.	Comply		

Bidder Response:

CodeMettle is not proposing any hardware and will not be responsible for any hardware redundancy. The software application will be installed on a high-availability cluster solution on client provided COTS hardware that meets CodeMettle's provided specifications. This cluster will be for the main NOC node which runs and collects all information for each of the distributed systems. The distributed systems at each site provide another layer of redundancy.

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.	Comply		

Bidder Response:

CodeMettle prefers Linux Red Hat (cost) or CENTOS (similar but free) but is installable on Windows machines as well. There are no workstations or terminals that are required. Any user connects with their own system and browser.

PRM #11	The NMCS bid should state any special "value added" features such as self-diagnostics, virtualization, accessibility, etc....	Comply		

Bidder Response:

Please see technical response for a broad understanding of value add.

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...	Comply		

Bidder Response:

ConOptic is designed to be interoperable with all systems that have a non-proprietary interface. It is capable of ingesting documents, excel sheets, databases, and more in order to provide a digital composition of the file. CodeMettle has achieved high marks of interoperability with certifications from the US Department of Defense.

PRM #13	The levels of technical and operational support shall be specified for the NMCS bid.	Comply		

Bidder Response:

CodeMettle provides direct to engineering support for its client base. The SMP and SLA's are defined in the technical proposal.

PRM #14	The NMCS bid shall have all system single-points-of-failure clearly indicated in the bid response.	Comply		

Bidder Response:

Single-points-of-failure are typically hardware but each will be identified as appropriate in the bid 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.	Comply		

Bidder Response:

SW: CodeMettle ConOptic framework and associated licensed modules (self-contained proprietary COTS application with an open architecture and system)

HW: N/A – CodeMettle is agnostic to the hardware to allow the client the freedom of choice with hardware. As a software company only, CodeMettle will not be proposing any commoditized hardware.

List of commoditized hardware that may be applicable:
Servers – COTS servers – CodeMettle will provide specifications in technical proposal.
GPIB – national instruments or commodity equivalent
Serial converter – Device Master or commodity equivalent that client likes.
GPIO – any commodity COTS product.

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.	Comply		

Bidder Response:

CodeMettle administration security and tools are verified through independent certification. All rights and permissions are customizable for roles or individual users. Single-sign on through a 3rd party system such as LDAP can also be quoted separately by request.

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	Comply		

Bidder Response:

ConOptic is scalable and reliable. It has been installed with similar customers with much larger infrastructure. The distributable nature of the components allow it to scale for small independent sized nodes (laptops, desktops, etc.) as well as large sets of virtual and physical infrastructure management which may be installed on scalable clusters of servers.

PRM #18	The NMCS bid shall be capable of executing automated workflows related to equipment failovers, conditional variables, and backup solutions.	Comply		

Bidder Response:

CodeMettle provides a solver engine that executes workflows. These workflows may be used to execute any type of automation. The automation is really only limited by the engineers' imagination and direction. Commonly used scripts include but are not limited to: failovers, backups, AUPC, remote jogging, remediation, diversity site switching, rain fade compensation, configuration loading, complex setup of equipment to suit specific saved needs, and more.

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.			Comply

Bidder Response:

ConOptic allows users to decide the relative severity of any and all alarms which are viewable by any user that has the permissions to know about the alarm. The system typically uses the manufactures specifications to decide the initial alarm severity. Alarms may be masked or snoozed. Through its experience, CodeMettle tries to eliminate alarm propagation. It is not in and of itself valuable and tends to cause more confusion than it provides context or help. The functionality is present and capable but CodeMettle suggests that it shouldn't be implemented or if it is that only alarms that impact a service should be propagated.

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).			Comply

Bidder Response:

ConOptic can manage tally systems and UMD that have an API. The HTML5 GUI utilizes customizable SVG files which can mimic the displays as the customer desires to see them in the GUI. The SVG file then updates based on the responses from the equipment.

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.	Comply		

Bidder Response:

CodeMettle manages various IP systems and infrastructure. It is capable of doing common protocols out of the box.

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.	Comply		
Bidder Response: CodeMettle independent nodes utilize monitoring by exception to reduce the amount of bandwidth necessary to manage remote sites. The customer may also input various thresholds for which it would want alerts. Alerts may be on user defined dashboards or in the form of event pop-ups overlayed on top of the system no matter what the user is currently viewing.				
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.			Comply
Bidder Response: CodeMettle does not provide the email server or messaging service. It is a simple procedure to setup external notifications for groups/roles in the administration window of the system. The user can also customize the filters or conditions upon which external alerts are sent. Internally, the system is capable of audio and visual indication of alarms that are flexible to allow user configuration.				
PRM #24	All device drivers that are **not** fully pointed drivers, allowing for all parameters as designed by the manufacturer, shall be indicated.	Comply		
Bidder Response: CodeMettle is not asserting that any of its device translators are fully pointed. Fully-pointed drivers is a marketing term that was made up by the incumbent vendor and is not an industry term. CodeMettle creates translators (same as drivers) to solve the problems and issues that are necessary for each individual customer. With the proliferation of SNMP, too many manufacturers provide useless datapoints as well as commonly updating firmware and changing what is available. The specific makes and models also influence what sub-categories and such are available. It would difficult at best to assert anything is "fully pointed". Creating a "fully-pointed" translator is additional work without value and CodeMettle doesn't ask its customers to do this. A CodeMettle translator provides all alarms, events, and traps and the configurations and commands that are essential to the device and network operation. CodeMettle also stands by the quality of its translators and the work completed.				
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.	Comply		
Bidder Response: CodeMettle's advanced HTML5 GUI is incredibly flexible for the end user to create custom dashboards and topology views. The customer can easily edit and create their own dynamic SVG images that are updated based on the characteristics and attributes assigned to them from any element in the system.				
PRM #26	All cabling shall conform to NETC cable specifications* and industry standard best practices. (See Exhibit A)			Comply
Bidder Response: CodeMettle asserts compliance through exclusion. CodeMettle is a software only firm and will not do any cabling. NETC is free to select the best local vendor they would like to utilize while CodeMettle provides input with the customer to the cabling needs and pinouts. Minor on-site troubleshooting is expected and performed.				

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.	Comply		

Bidder Response:

CodeMettle is approved to be installed on all security echelons of the US Department of Defense and has undergone extensive cyber security audits. If selected, this information will be implemented and shared with the customer.

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.	Comply		

Bidder Response:

ConOptic allows users to save baseline configurations of all devices. It also allows for configurations and presets to be implemented and recalled through automation and one-touch deploy.

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.			Comply

Bidder Response:

CodeMettle's technical proposal provides the hardware specifications for each site and each instance of CodeMettle that is proposed to be installed. All CodeMettle licenses and translators are included in the bid.

Any other hardware or network equipment such as GPIB, GPIO, Serial Aggregator, cabling, terminators, etc is shown in its single unit quantity without cost as the market price of these commodities will change from the submission date to the time it is purchased.

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.	Comply		

Bidder Response:

CodeMettle shall provide the cost component to expand licensing. Other ancillary services such as the creation of future translators are not able to be anticipated as they are quoted individually based on their potential complexity.

Hardware is agnostic and not under CodeMettle control.

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.	Comply		

Bidder Response:

CodeMettle provides a standard Software Maintenance Plan which is renewed annually. If the client prefers a different arrangement that can be negotiated after intent to contract award notification.

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:

The type of role that the user will be doing determines the amount of training that is necessary. Training can be done on-site or at CodeMettle HQ. These options and rates are detailed in the cost proposal.

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.	Comply		

Bidder Response:

CodeMettle is not proposing any hardware. Therefore it is not offering any warranty coverage of hardware. It utilizes COTS and commoditized hardware and any warranty coverage would be provided by the vendor and unrelated to CodeMettle.

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.	Partial Comply		

Bidder Response:

CodeMettle will integrate all items into the complete NMCS. As previously stated, it will not provide all the items requested, such as hardware or wiring.

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.	Comply		

Bidder Response:

Comply. CodeMettle utilizes agile development practices to best achieve project goals and will allow NETC PM access for input and output of plans and sprints.

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.	Comply		

Bidder Response:

CodeMettle is a company from the same founders as the technology in place. Many of the philosophies were carried forward such as being technology agnostic and able to manage data and equipment from any technical functional area successfully.

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.	Comply		
Bidder Response: CodeMettle will implement through NETC IS policies and is flexible to utilize the specific ports and protocols required by policy.				
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.	Comply		
Bidder Response: ConOptic is installed in the most critical networks in the world and all of its customers require high-availability and easy restoral capabilities.				
BRM #11	The NMCS bid shall be media and hardware agnostic.	Comply		
Bidder Response: Comply.				

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).	Comply		
Bidder Response: The ConOptic software framework has the capability to monitor and control the exhibit B and C sites. The data translators will be configured during the project to suit the needs of NETC. Each site shall have an instance of the CodeMettle software for reliable independent control in a distributed open architecture.				
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).	Comply		
Bidder Response:				

CodeMettle's object-oriented data translators are capable of managing both legacy equipment and future equipment. CodeMettle will configure all data translators for the 33 pieces of equipment listed in the Exhibit D.

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).	Comply		

Bidder Response:

CodeMettle's object-oriented data translators are capable of managing both legacy equipment and future equipment. CodeMettle will configure all data translators for the 55 pieces of equipment listed in the Exhibit E.

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).	Comply		

Bidder Response:

CodeMettle's object-oriented data translators are capable of managing both legacy equipment and future equipment. CodeMettle will configure all data translators for the 56 pieces of equipment listed in the Exhibit F.

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)	Comply		

Bidder Response:

CodeMettle's object-oriented data translators are capable of managing both legacy equipment and future equipment. CodeMettle will configure all data translators for the 51 pieces of equipment listed in the Exhibit G.

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).	Comply		

Bidder Response:

CodeMettle's object-oriented data translators are capable of managing both legacy equipment and future equipment. CodeMettle will configure all data translators for the 53 pieces of equipment listed in the Exhibit H.

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).	Comply		

Bidder Response:

CodeMettle's object-oriented data translators are capable of managing both legacy equipment and future equipment. CodeMettle will configure all data translators for the 52 pieces of equipment listed in the Exhibit J.

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).	Comply		

Bidder Response:

CodeMettle's object-oriented data translators are capable of managing both legacy equipment and future equipment. CodeMettle will configure all data translators for the 53 pieces of equipment listed in the Exhibit K.

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).	Comply		

Bidder Response:

CodeMettle's object-oriented data translators are capable of managing both legacy equipment and future equipment. CodeMettle will configure all data translators for the 52 pieces of equipment listed in the Exhibit E.

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).	Comply		

Bidder Response:

CodeMettle's object-oriented data translators are capable of managing both legacy equipment and future equipment. CodeMettle will configure all data translators for the 37 pieces of equipment listed in the Exhibit M.

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).	Comply		

Bidder Response:

CodeMettle's object-oriented data translators are capable of managing both legacy equipment and future equipment. CodeMettle will configure all data translators for the 12 pieces of equipment listed in the Exhibit N.

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.	Comply		

Bidder Response:

CodeMettle routinely communicates with equipment using serial connection protocols for the transport. This is a basic function and capability of the system.

The equipment must be put into the proper mode, the addresses known, and the wiring tested. The equipment is wired directly to a Device Master or equivalent Commercial Off The Shelf device which then turns those sockets into TCP/IP connections from there. Then the ConOptic translators used are selected and administered through the ConOptic interface very intuitively. Debugging of a translator is easy and can be done directly from the administration interface in the GUI eliminating using multiple tools or windows and applications. If the customer decides to develop their own translators using the Translator Development Kit, it includes the capability to do full-scale testing within the TDK. This eliminates the need to have a system in place to do any testing or having to do testing from a live system.

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.	Comply		

Bidder Response:

ConOptic routinely communicates using its object-oriented data translators and is capable out of the box using any of the protocols listed. This is a basic function and capability of the system.

Each type is administered in the ConOptic administration tool and each type will require slightly different responses and answers as dictated by the transport type used. The transport is abstracted from the data translator but a data translator that is configured to use those protocols would be selected as the proper one for the device management.

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.	Comply		

Bidder Response:

CodeMettle routinely communicates with equipment using GPI/O protocols. This is a basic function and capability of the system.

For this type of interface the wiring is the most important piece. The equipment is wired directly to a GPIO Commercial Off The Shelf (Koyo or other equivalent) device supports the relevant discrete types of interfaces necessary. This can include voltage sensing and other common features.

Then the ConOptic translators used are selected and administered through the ConOptic interface very intuitively. The translators are object oriented and already written to communicate with the various GPI/O interface types such as single or multiple bits. Each data translator is then configured to report what the resource/device is telling the system into human language. The nature of object oriented translators makes it simpler to deal with GPI/O at class levels and then simply each resource is characterized in its specific manner. Commands are actually sent to the hardware in-between to direct a change in the bit being open, closed, or level of voltage.

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.	Comply		

Bidder Response:

Analog measurements and contacts require COTS hardware in-between the device and the system. ConOptic makes no functional distinction between the types of measurements that are provided and supports all of the ones listed. The client is able to determine and administer during run-time at a system or individual level how often the analog values should be queried, and the data captured.

The client can also leverage the systems that are already in place or purchase new hardware. The client should make the assessment of the current performance against the cost for new. CodeMettle routinely extends the life of these antiquated hardware technologies that are in place with software solutions on the other end. The data collected doesn't change but the software environment creates a whole new set of options of how to treat the data, what to do with what it tells you, and how to catalog and characterize the events that are being reported.

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.	Comply		

Bidder Response:

CodeMettle provides the out of the box capability to monitor a single resource through multiple protocols seamlessly. It is also simple to embed an external link on a customizable dashboard. The data translator would be configured during the project to meet requirements.

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.	Comply		

Bidder Response:

CodeMettle provides the out of the box capability to monitor a resource through GPI/O and analog interfaces utilizing a COTS hardware in-between. The data translator would be confugred to meet NETC requirements.

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.	Comply		

Bidder Response:

CodeMettle provides the out of the box capability to monitor a single resource through multiple protocols or connections. The data translator would be configured during the project to meet requirements.

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.	Comply		

Bidder Response:

The data translator would be configured during the project to meet requirements.

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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements.				
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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements.				
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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements.				
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	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements.				
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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements.				
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.			Comply
Bidder Response: The data translator would be configured during the project to meet requirements. There is no guarantee that undocumented proprietary interfaces will be completed. CodeMettle would suggest that the client who would be trained and skilled at translator development could later test and expand capabilities as time allows. CodeMettle is able to scrape data from GUI's as a potential alternative.				

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.			Comply
Bidder Response: The data translator would be configured during the project to meet requirements. There is no guarantee that undocumented proprietary interfaces will be completed. CodeMettle would suggest that the client who would be trained and skilled at translator development could later test and expand capabilities as time allows. CodeMettle is able to scrape data from GUI's as a potential alternative.				
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.	Comply		
Bidder Response: CodeMettle can interface with Evertz VistaLink for the data, direct to the device, or a combination of the two.				
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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements.				
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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements and the dashboard would be configured to provide the integrated browser functionality.				
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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements and the dashboard would be configured to provide the integrated browser functionality.				
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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements and the dashboard would be configured to provide the integrated browser functionality.				
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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements.				

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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements.				
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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements and the dashboard would be configured to provide the integrated browser functionality.				
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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements and the dashboard would be configured to provide the integrated browser functionality.				
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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements and the dashboard would be configured to provide the integrated browser functionality.				
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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements and the dashboard would be configured to provide the integrated browser functionality.				
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.	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements and the dashboard would be configured to provide the integrated browser functionality.				
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	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements.				

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	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements based on availability of HVAC system API.				
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	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements based on API ,proper wiring, and utilizing existing hardware.				
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	Comply		
Bidder Response: The data translator would be configured during the project to meet requirements based on API, proper wiring, and utilizing existing hardware.				

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.	Comply		
Bidder Response: Comply. Specific data translators would be configured during the project for NETC purposes.				
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.	Comply		
Bidder Response: The type of equipment is irrelevant. Please see TRM #1.2.0				
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.	Comply		
Bidder Response: The type of equipment doesn't matter beyond the protocol is relevant. Please see TRM #1.3.0				

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.	Comply		
Bidder Response: The type of equipment doesn't matter beyond the protocol is relevant. Please see TRM #1.4.0				
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.	Comply		
Bidder Response: The type of equipment doesn't matter beyond the protocol is relevant. Please see TRM #1.4.0				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				

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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. It would include redundancy capabilities and the GUI would reflect the topology of the signal path.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. Switches include topology signal flows.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				

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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. Switches include the signal flow in the GUI.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. The dashboard may be customized with http link launch.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. The dashboard may be customized with http link launch.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. Switches include signal flow topology.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. Switches include signal flow topology in the GUI.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project via the API that the manufacturer allows.				

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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project but it does require utilizing GPIB hardware (preferably National Instruments). CodeMettle assumes the customer already has the necessary components which would be repurposed for this project. Trace data is shown in the GUI directly along with some few commands and presets to allow easy use of the Spec An.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. Trace data is shown in the GUI directly along with some few commands and presets to allow easy use of the Spec An.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. Trace data is shown in the GUI directly along with some few commands and presets to allow easy use of the Spec An.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. Matrix switchers and 16x1 have their own unique view and controls within the GUI to make it simple for operator to understand and use.				

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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. Dashboard may be customized to provide http link.				
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	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. Dashboards may be customized to provide http link.				

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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. Dashboards may be customized to provide http link.				
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.	Comply		
Bidder Response: See details of TRM #1.27.0				

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.	Comply		
Bidder Response: ConOptic provides monitor and control of NETC TV and Radio facilities and the infrastructure that comprise the sites.				
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.	Comply		
Bidder Response: The type of equipment is irrelevant. Please see TRM #1.2.0				
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.	Comply		
Bidder Response: The type of equipment is irrelevant. Please see TRM #1.3.0				
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.	Comply		
Bidder Response:				

The type of equipment is irrelevant. Please see TRM #1.4.0				
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.	Comply		
Bidder Response: The type of equipment is irrelevant. Please see TRM #1.5.0				
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.	Comply		
Bidder Response: The data translator will be configured to meet NETC specific requirements.				
TRM #3.7.0	The NMCS bid should be able to communicate with the Cummins/Onan generators, providing direct monitoring.	Comply		
Bidder Response: The data translator will be configured to meet NETC specific requirements. The GUI provides easy to understand fuel gauge iconography.				
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.	Comply		
Bidder Response: The data translator will be configured to meet NETC specific requirements. The GUI provides easy to understand battery iconography levels.				
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.	Comply		
Bidder Response: The data translator will be configured to meet NETC specific requirements. The GUI provides easy to understand battery iconography levels.				
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.	Comply		
Bidder Response: The data translator will be configured to meet NETC specific requirements. The GUI provides easy to understand batter iconography and the dashboards can be configured to provide http link.				

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.			Comply

Bidder Response:

ConOptic supports any camera system that has an API for the video feed and part of CodeMettle's philosophy of being technology agnostic is to free the customer to make the best decision on hardware and systems without worrying about the software compatibility. The feed should be connected and streamed in a suitable container format if it desired to be displayed directly in the NETC NMCS. The GUI is designed to show one video feed per dashboard. Most agree this seems like a good idea and CodeMettle has supported it with other customers. However, the reality of the project is that it typically isn't used often within the dashboards and the video requires more bandwidth than necessary. The best application scenarios are a video feed that watches an antenna move for visual confirmation.

In a security system or perimeter security type application, a camera is best utilized for its motion sensing capabilities. The NMCS can pick up alerts and events that are detected, alert the user, and then the video feed is used for visual confirmation of the alerts.

The cheap and easiest solution is a Wi-Fi camera such as something by D-Link.

http://us.dlink.com/home-solutions/wifi-camera/

TRM #3.12.0	The NMCS bid should be able to communicate with the HID security door system, providing direct monitor and control.	Comply		

Bidder Response:

The data translator will be configured to meet NETC specific requirements. The GUI comes with security icons to alert when doors are opened.

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

Bidder Response:

The data translator will be configured to meet NETC specific requirements. The GUI comes with visual fire indicator icons which are intuitively understood.

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.	Comply		

Bidder Response:

Comply. CodeMettle is future proof for matrix switching and radio terminal equipment.

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.	Comply		
Bidder Response: The type of equipment is irrelevant. Please see TRM #1.2.0				
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.	Comply		
Bidder Response: The type of equipment is irrelevant. Please see TRM #1.3.0				
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.	Comply		
Bidder Response: The type of equipment is irrelevant. Please see TRM #1.4.0				

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.	Comply		
Bidder Response: The type of equipment is irrelevant. Please see TRM #1.5.0				
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.	Comply		
Bidder Response: The specific data translator will be configured to meet NETC requirements.				
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.	Comply		

Bidder Response: The specific data translator will be configured to meet NETC requirements. The device may only be directly managed by one system at a time. CodeMettle will either go direct to the device or through the Evertz Element Management System per direction of the customer.				
TRM #4.8.0	The NMCS bid should be able to communicate with the Utah Scientific UTAH-300 analog matrix routing switcher.	Comply		
Bidder Response: The specific data translator will be configured to meet NETC requirements. The GUI will provide intuitive switching capabilities.				
TRM #4.9.0	The NMCS bid should be able to communicate with the Grass Valley Venus Wideband digital matrix routing switcher.	Comply		
Bidder Response: The specific data translator will be configured to meet NETC requirements so long as the API is non-proprietary. The GUI will provide intuitive switching capabilities.				

TRM #4.10.0	The NMCS bid should be able to communicate with the Imagine Communications Platinum VX 3G Digital matrix routing switcher.	Comply		
Bidder Response: The specific data translator will be configured to meet NETC requirements.				
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.	Comply		
Bidder Response: The specific data translator will be configured to meet NETC requirements.				
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.	Comply		
Bidder Response ConOptic can create virtual representations of data that abstract out the routes inbetween. These would be services that are configured through a source and destination and a corresponding topology view would show the data flow. Any event in a service is automatically correlated to the service. The client may select events and alarms that correspond to service level alarms which degrade or drop a service.				
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.			Comply
Bidder Response;				

ConOptic provides a system capable of managing the routing switchers through the software API's. Anything done in the hardware panels would be reported through the API to the ConOptic system and update the changes that were applied manually.

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.			Comply

Bidder Response:
ConOptic can provide monitoring and control of the existing hardware panels assuming there is a suitable non-proprietary API that is available.

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.	Comply		

Bidder Response:

ConOptic provides the ability to manage any device with an API efficiently and while adding suitable modern software automation and scripting abilities to the function of the API.

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.	Comply		

Bidder Response:
The type of equipment is irrelevant. Please see TRM #1.2.0

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.	Comply		

Bidder Response:
The type of equipment is irrelevant. Please see TRM #1.3.0

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.	Comply		

Bidder Response:
The type of equipment is irrelevant. Please see TRM #1.4.0

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.	Comply		
Bidder Response: The type of equipment is irrelevant. Please see TRM #1.5.0				
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).	Comply		
Bidder Response: CodeMettle will automate a number of remediation responses per NETC vision to respond to event traps sent from the Channel-in-a-box.				
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.	Comply		
Bidder response: The data translator would be configured as necessary to meet NETC specific requirements during the project. Dashboards may be customized to provide http link.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project assuming Grass Valley provides a non-proprietary API.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
TRM #5.11.0	The NMCS bid should be able to communicate with the AVID Thunder Video Server System, providing monitor and control.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				

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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project assuming Grass Valley provides a non-proprietary API.				
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.			Partial
Bidder Response: There are no guarantees that a proprietary API is manageable.				
TRM #5.14.0	The NMCS bid should I be able to communicate with the Harris Predator Multiviewer System via SNMP protocol, providing monitor and control.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
TRM #5.15.0	The NMCS bid should be able to communicate with the Grass Valley Trinix NXT Multiviewer, providing monitor and control.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project assuming Grass Valley provides an non-proprietary API.				
TRM #5.16.0	The NMCS bid should be able to communicate with the Bosch (RTS / Telex) Intercom System, providing monitor and control.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
TRM #5.17.0	The NMCS bid should be able to communicate with the Grass Valley LDK3000 Camera System, providing monitor and control.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project assuming Grass Valley provides an non-proprietary API.				
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.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project assuming Grass Valley provides an non-proprietary API.				

TRM #5.19.0	The NMCS bid should be able to communicate with the AJA FS2 Frame Synchronizer System, providing monitor and control.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the.				

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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
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.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. There is an easy protocol converter available for Phython.				
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.			Comply
Bidder Response: CodeMettle would create a translator but assumes that the Lighting board would be configured and wired properly.				
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.	comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				

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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project assuming the details of the VDCP are publicly available.				

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.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project via MIDI protocol.				
TRM #5.27.0	The NMCS bid should be able to communicate with the Image Video TSI3000 Tally System, providing monitor and control.			Comply
Bidder Response; The data translator would be configured as necessary to meet NETC specific requirements during the project.				
TRM #5.28.0	The NMCS bid should be able to communicate with the Tektronix SPG8000 Master Clock/Sync System, providing monitor and control.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project.				
TRM #5.29.0	The NMCS bid should be able to communicate with the Grass Valley Trinix Wideband digital matrix routing switcher.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project assuming Grass Valley provides a non-proprietary API.				
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.			Comply
Bidder Response: ConOptic can create virtual representations of data that abstract out the routes inbetween. These would be services that are configured through a source and destination and a corresponding topology view would show the data flow. Any event in a service is automatically correlated to the service. The client may select events and alarms that correspond to service level alarms which degrade or drop a service.				

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.			Comply
Bidder Response; ConOptic provides a system capable of managing the routing switchers through the software API's. Anything done in the hardware panels would be reported through the API to the ConOptic system and update the changes that were applied manually.				
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.			Comply
Bidder Response: ConOptic can provide monitoring and control of the existing hardware panels assuming there is a suitable non-proprietary API that is available.				
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.			Comply
Bidder Response; The data translator would be configured as necessary to meet NETC specific requirements during the project. It would follow the means allowed by the manufacturer. Communications would be established, administered, maintained, and operated per the manufacturers specifications. ConOptic allows multiple paths to be aggregated into a single resource such that the communication path is abstracted from the way the user interacts with the device.				
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.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. It would follow the means allowed by the manufacturer. Communications would be established, administered, maintained, and operated per the manufacturers specifications. ConOptic allows multiple paths to be aggregated into a single resource such that the communication path is abstracted from the way the user interacts with the device.				
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.			Comply
Bidder Response; The data translator would be configured as necessary to meet NETC specific requirements during the project. It would follow the means allowed by the manufacturer. Communications would be established, administered, maintained, and operated per the manufacturers specifications. ConOptic allows multiple paths to be aggregated into a single resource such that the communication path is abstracted from the way the user interacts with the device.				

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.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. It would follow the means allowed by the manufacturer. Communications would be established, administered, maintained, and operated per the manufacturers specifications. ConOptic allows multiple paths to be aggregated into a single resource such that the communication path is abstracted from the way the user interacts with the device.				

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.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. It would follow the means allowed by the manufacturer. Communications would be established, administered, maintained, and operated per the manufacturers specifications. ConOptic allows multiple paths to be aggregated into a single resource such that the communication path is abstracted from the way the user interacts with the device.				
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.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. It would follow the means allowed by the manufacturer. Communications would be established, administered, maintained, and operated per the manufacturers specifications. ConOptic allows multiple paths to be aggregated into a single resource such that the communication path is abstracted from the way the user interacts with the device.				
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.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. It would follow the means allowed by the manufacturer. Communications would be established, administered, maintained, and operated per the manufacturers specifications. ConOptic allows multiple paths to be aggregated into a single resource such that the communication path is abstracted from the way the user interacts with the device.				
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.			Comply
Bidder Response:				

The data translator would be configured as necessary to meet NETC specific requirements during the project. It would follow the means allowed by the manufacturer. Communications would be established, administered, maintained, and operated per the manufacturers specifications. ConOptic allows multiple paths to be aggregated into a single resource such that the communication path is abstracted from the way the user interacts with the device.				
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.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. The dashboards can be customized to provide the link.				

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.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. It would follow the means allowed by the manufacturer. Communications would be established, administered, maintained, and operated per the manufacturers specifications. ConOptic allows multiple paths to be aggregated into a single resource such that the communication path is abstracted from the way the user interacts with the device.				
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.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. It would follow the means allowed by the manufacturer. Communications would be established, administered, maintained, and operated per the manufacturers specifications. ConOptic allows multiple paths to be aggregated into a single resource such that the communication path is abstracted from the way the user interacts with the device.				
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.			Comply
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. It would follow the means allowed by the manufacturer. Communications would be established, administered, maintained, and operated per the manufacturers specifications. ConOptic allows multiple paths to be aggregated into a single resource such that the communication path is abstracted from the way the user interacts with the device.				

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.	Comply		
Bidder Response: ConOptic is scalable for more equipment management and technology agnostic to allow future system integrations.				
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.	Comply		
Bid Response: The type of equipment is irrelevant. Please see TRM #1.2.0				
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.	Comply		
Bidder Response; The type of equipment is irrelevant. Please see TRM #1.3.0				
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.	Comply		
Bidder Response; The type of equipment is irrelevant. Please see TRM #1.4.0				
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.	Comply		
Bidder Response: The type of equipment is irrelevant. Please see TRM #1.2.0				
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.	Comply		

Bidder Response; The data translator would be configured as necessary to meet NETC specific requirements during the project. The dashboards are customizable for http link.				
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.	Comply		
Bidder Response: The data translator would be configured as necessary to meet NETC specific requirements during the project. The dashboards are customizable for http link.				
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.	Comply		
Bidder Response: ConOptic provides a Nagios system-level translator out-of-the-box that would be configured to report the network infrastructure of NETC as independent resources. Each individual resource created out of the EMS may be correlated to services as NETC desires.				
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.	Comply		
Bidder Response: ConOptic provides a Solarwinds system-level translator out-of-the-box that would be configured to report the network infrastructure of the individual resource and its performance and health. The individual resources may be added to services as NETC desires.				
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.	Comply		
Bidder Response: CodeMettle has interfaced with multiple and various inventory and ticketing systems to synchronize the data provided by devices directly into ticketing systems. This provides the benefit that the alarms in CodeMettle are used to create the ticket and carry all of the meta-data, active alarms, service information, and ancillary data into the pre-populated ticketing form. The ticket is created in both systems. However for KACE the version will matter a lot as the API is very limited. It would seem that ConOptic will be able to use JDBC to track the database for tickets and inventory, but affecting changes directly may not be possible or preferred pending the version.				
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.	Comply		
Bidder Response: ConOptic manages IPS systems and would configure the data translator to meet NETC requirements.				

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.	Comply		
Bidder Response: ConOptic is scalable for more equipment management and technology agnostic to allow future system integrations.				
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.	Comply		
Bidder Response: The type of equipment is irrelevant. Please see TRM #1.2.0				
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.	Comply		
Bidder Response: The type of equipment is irrelevant. Please see TRM #1.3.0				
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.	Comply		
Bidder Response; The type of equipment is irrelevant. Please see TRM #1.4.0				
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.	Comply		
Bidder Response: The type of equipment is irrelevant. Please see TRM #1.5.0				
TRM #7.6.0	The NMCS bid should be able to communicate with the Crestron Pro2 Controller via SNMP, providing monitor and control.	Comply		

Bidder Response: ConOptic manages SNMP controller and would configure the specific data translator to meet NETC requirements during the project.

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.	Comply		
Bidder Response: ConOptic data translator would be configured to meet NETC requirements.				
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.	Comply		
Bidder Response: Data translator would be configured to meet NETC project requirements.				
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.	Comply		
Bidder Response: Data translators would be configured to meet NETC project requirements.				