REQUEST FOR PROPOSAL
SURGICAL AND EMERGENCY SERVICES PAVILION
CHILDREN'S SURGERY CENTER
INTEGRATED OPERATING ROOM

RFP # 15-SESP-CSC-OR Integration

RELEASE DATE: MARCH 18, 2015

MANDATORY PRE BID MEETING APRIL 1, 2015 1PM
At 4800 2nd Ave, Room 2030, Sacramento, CA 95817

FINAL DUE DATE: April 15, 2015

Return Response (In person, by mail or courier) to:

RFP # 15-SESP-CSC-OR Integration

Buyer Contact: William Corbett
Telephone #: (916) 734-5951 Fax #: (916) 734-7791
E-mail Address: william.corbett@ucdmc.ucdavis.edu

UC Davis Health System
Purchasing Department
4800 2nd Avenue, Suite 3010
Sacramento, CA 95817

The University of California Davis, Medical Center Web address for downloading this document and any updates until the submittal due date is:
http://www.ucdmc.ucdavis.edu/matmgt/
RFP for Integrated Operating Room

Table of Contents

Part 1: Introduction
   I. Introduction
   II. Background
   III. Purpose
   IV. Design Concepts
   V. Scope of Work
   VI. Proposal Submittal Instructions
   VII. Basis of Award
   VIII. Evaluation and Qualification Points
   IX. UC Terms and Conditions Reference
   X. Pricing Agreement

Part 2: Technical Requirements
   1. Requirements definitions
   2. FDA requirements
   3. Bidder References
   4. Infrastructure requirements
   5. Integration within the OR
   6. Video (and audio) teleconferencing
   7. EMR Integration

Part 3: Support Requirements
   I. Acceptance
   II. Warranty
   III. Service Support
   IV. Service contract proposals
   V. Operational and Applications Training
   VI. IT/IS Requirements

Part 4: Attachments (Exhibits)
   1. Exhibit 1 – Terms and Conditions of Purchase
   2. Exhibit 2 – 2nd floor plans
   3. Exhibit 3 – 3rd floor plans
   4. Exhibit 4 – Request for Bid Clarification
   5. Exhibit 5 – Steris lights and booms
   6. Exhibit 6 – Integrated OR Reference Diagram
   7. Exhibit 7 – Use Cases
   8. Exhibit 8 – IDF/Data closet and enclosure requirements
   9. Exhibit 9 – NetV2 description
   10. Exhibit 10 – Existing and anticipated integrated equipment
   11. Exhibit 11 – removed
   12. Exhibit 12 – removed
Deviations from specifications:
Any deviation from the specifications shall be identified and fully described. The right is reserved to accept or reject quotations on each item separately, or as a whole, and to waive any irregularities in the quotation; irregularities may, however, render the quotation non-responsive.

Public disclosure:
Responses to Become Public Records:
All materials submitted in response to this solicitation become a matter of public record and shall be regarded as public record.

Designation of Confidential Information:
The Regents will recognize as confidential only those elements in each response, which are trade secrets as that term is defined in the law of California and which are clearly marked as 'TRADE SECRET, 'CONFIDENTIAL,' or 'PROPRIETARY.' Vague designations and blanket statements regarding entire pages or documents are insufficient and shall not bind The Regents to protect the designated matter from disclosure.

The California Public Records Act limits The Regents' ability to withhold prequalification and bid data to trade secrets or records, the disclosure of which is exempt or prohibited pursuant to federal or state law. If a submittal contains any trade secrets that a Contractor does not want disclosed to the public or used by The Regents for any purpose other than evaluation of the Contractor's eligibility, each sheet of such information must be marked with the designation "Confidential." The Regents will notify the submitter of data so classified of any request to inspect such data so that the submitter will have an opportunity to establish that such information is exempt from inspection in any proceeding to compel inspection.

The Regents Not Liable for Required Disclosure:
The Regents shall not in any way be liable or responsible for the disclosure of any records if they are not plainly marked 'TRADE SECRET,' CONFIDENTIAL,' or 'PROPRIETARY,' or if disclosure is required by law or by an order of the court.

14. Exhibit 14 – Pricing Matrix
15. Exhibit 15 – removed
16. Exhibit 16 – Bidder checklist
17. Exhibit 17 – Supplier Information Form
18. Exhibit 18 – Clinical Engineering Service and Documentation Clauses
19. Exhibit 19 – University of California Terms and Conditions
20. Exhibit 20 – IT Tech Eval questionnaire
21. Exhibit 21 – IT Tech Eval Security questionnaire
22. Exhibit 22 – Surgical Pathology Concept Diagram
Part 1: Introduction and Scope of Project

I. INTRODUCTION

UC Davis Health System is an academic medical center that includes a top-ranked school of medicine, a 619-bed acute care hospital, the Betty Irene Moore School of Nursing, a National Cancer Institute-designated cancer center, the unique M.I.N.D. Institute for the study of neuron-developmental disorders, a comprehensive children's hospital, a level 1 trauma center and outpatient clinics in communities throughout the Sacramento region. Consistently ranked among the nation's top medical schools and best hospitals, UC Davis has established itself as a national leader in telehealth, rural medicine, cancer research, neuron-developmental disorders, vascular medicine, and trauma and emergency medicine. Other areas of research strength include clinical and translational science, regenerative medicine, infectious disease, neuroscience, functional genomics and mouse biology, comparative medicine and nutrition, among many others. The UC Davis Medical Group, the health system’s physician network, includes over 500 physicians and 150 areas of medical specialty geographically dispersed in 25 locations.

II. BACKGROUND

UC Davis Health System (UCDHS) hospital acute care facilities are subject to SB 1953, legislation that was passed following the 1994 Northridge earthquake. SB 1953 requires hospitals to comply with seismic safety deadlines. While several extensions have been passed, compliance is now required by 2020.

The current Children’s Surgery Center (CSC) is connected to the seismically-deficient North/South Wing of the Main Hospital; and all utilities that service the CSC are routed from the North/South Wing. Since the North/South Wing must be demolished by the end of 2019 (in order to meet compliance standards set forth in SB 1953), the relocation of the CSC needs to be completed in the summer of 2017. Moreover, relocating the CSC to the Pavilion will also allow for better efficiencies, foster the highest and best use of (OSHPD) space, and facilitate an environment that promotes better patient care.

The Children's Surgery Center (CSC) is being relocated from its existing location to the Surgery and Emergency Services Pavilion (SESP). The project will be divided between the second and third floors. The second floor scope infills approximately 15,000 gross square feet of shell space and will include the waiting room, administration support offices, staff break room, a collaboration space and other support spaces for the CSC. The third floor scope infills approximately 15,350 gross square feet of shell space and 2,590 gross square feet of adjacent occupied space planned to be vacated. The third floor scope will include six (6) operating rooms, one (1) special procedure room, twenty-four (24) prep & recovery bays and necessary support spaces.
Upon completion of this project, cardiac, orthopedic, fetal, and other complex pediatric surgeries will be consolidated into one location. As part of this project the operating rooms and special procedure rooms will include ceiling mounted equipment booms and integrated surgical information systems. Workflow will be enhanced through electronic bulletin boards and in-room cameras. Lighting control will enable viable dimming to support video based procedures.

III. PURPOSE

This Request for Proposal (RFP) is seeking operating room systems integration with the intent to improve efficiency of the CSC OR suites, maximize flexibility of each operating room to conduct a variety of surgical procedures, to have the ability to accommodate multiple vendors’ products by the integrated system, and to be able to expand in the future with a minimum impact on operations.

It is UCDHS’s intent to contract this project to one vendor. It is the vendor’s responsibility to determine if subcontractors are needed in order to meet the requirements stated herein.

Note: Upon successful completion of this project, bidder will become the OR integration standard for UCDHS for the next several years with future OR integration operating rooms to use similar, updated, equipment and to be added to this system.

IV. DESIGN CONCEPTS

Integrated OR (I-OR) design concepts:

1. Increase communication concerning the perioperative patient journey among the surgeons, physicians, nurses, support staff and ancillary participants in remote areas such as the hospital campus, laboratory, consultation offices, and educational conferencing areas.
2. Conform to an open systems approach increasing interoperability of these systems and related equipment. Open system solutions will be given higher regard.
3. To incorporate Audio and Video (A/V) routing. The A/V will be accessed or controlled at an in-room station and/or through remote control to visualize the clinical images, live video, hemodynamic activity, radiographic images, and other computer generated display of patient or electronic medical record (EMR) on multiple user selected displays.
4. Provide Medical Equipment control which is accessed through an in-room control station and/or through remote control.
5. Provide interactive video teleconferencing with Pathology, conference rooms and with media production and documentation centers.
6. Maximize “ease of use”, and flexibility for future technology, while minimizing complexity including minimizing “in-operating room” equipment.
7. Maximize use of IP routing, while maintaining optimal video signal quality and reducing cabling and cable routing issues.
8. Provide the minimum requirements as outlined in this RFP and its exhibits.

V. SCOPE OF WORK

The successful vendor shall provide a complete, turnkey OR Integration System performing all of the services and functions as described herein.

Specifically, the work shall include, but is not limited to:

1. Furnish all engineering, shop drawings, equipment, delivery, project management, coordination, assembly, and installation, testing, training, and other miscellaneous materials and labor as necessary for a complete turn-key installation of the Integrated Operating Room System. Any materials or labor not specified here that are necessary for a complete certified turn-key installation of the systems shall be deemed as part of this RFP.

2. Responsible for participating with UCDHS and/or owner’s representative(s), the architect, other third party Vendors, and UCDHS contractor in coordinating completion of the construction documents, and in planning and coordinating the installation of the Integrated Operating Room.

3. The work includes providing all materials, coordinating material deliveries, equipment assembly and installation, terminations, work crew schedules, work completion, testing, labeling, certification, documentation, training, acceptance testing, and warranty maintenance of the systems specified.

4. The successful vendor shall assign a Project Manager who is responsible for the following:
   a. Attend joint planning meetings with the owner, the owner’s representatives and other vendors and contractors for the purpose of planning the installation of the systems and associated equipment
   b. Day to day project management
   c. Supervision of work crews
   d. Coordinating work with other Vendors and trade contractors
   e. Coordinating work with owner
   f. Quality audit of work performed
   g. Assurance of code compliance
   h. Attending regular owner/Vendor/Contractor meetings during active phases of the installation
   i. Compliance with job-site work rules and safety requirements
   j. Reconciling all materials or labor shortages or over-runs
   k. Reconciling and coordinating replacement and re-installation of defective materials
   l. Reconciling differences in the bill of materials
   m. Coordinating testing, inspection, certification and documentation
   n. Completion of work in accordance with the project schedule
This section provides the RFP administrative information and bidder guidelines.

VI. PROPOSAL SUBMITTAL INSTRUCTIONS

1. Schedule of Events

Key activities and estimated completion dates are set forth below. UCDHS may change these dates at its sole discretion and convenience, without liability.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Release of RFP to vendors</td>
<td>March 18, 2015</td>
</tr>
<tr>
<td>Deadline for vendor questions</td>
<td>March 25, 2015</td>
</tr>
<tr>
<td><strong>Mandatory pre-bid vendor meeting at UCDMC 4800 2ND Ave, Room 2030</strong></td>
<td><strong>April 1, 2015 1pm</strong></td>
</tr>
<tr>
<td>Final addendum, or pre-bid meeting minutes issued</td>
<td>April 7, 2015</td>
</tr>
<tr>
<td><strong>Bidder RFP responses due</strong></td>
<td><strong>April 15, 2015</strong></td>
</tr>
<tr>
<td>Initial RFP reviews</td>
<td>Complete by April 24</td>
</tr>
<tr>
<td>Vendor technical review/presentations</td>
<td>April 20, 21</td>
</tr>
<tr>
<td>Vendor demo/lab testing (top 3 only)</td>
<td>Week of May 11, 2015</td>
</tr>
<tr>
<td>Notification of award &amp; vendor negotiation</td>
<td>June 2015</td>
</tr>
<tr>
<td>Preliminary shop drawings due</td>
<td>Fall 2015</td>
</tr>
<tr>
<td>Commence installation</td>
<td>Summer 2017*</td>
</tr>
<tr>
<td>System acceptance</td>
<td>Fall 2017*</td>
</tr>
<tr>
<td>User training</td>
<td>Fall 2017*</td>
</tr>
<tr>
<td>Hospital move-in</td>
<td>Fall 2017*</td>
</tr>
</tbody>
</table>

* = approximate dates

2. RFP for Bid Clarification

All requests for clarification shall be communicated by way of a Request for Bid Clarification (RBC) form (see Exhibit 4). RBC forms shall be sent preferably via electronic mail (email) to William Corbett, UCDMC Purchasing at: william.corbett@ucdmc.ucdavis.edu, or fax to (916) 734-7791, referencing the subject: RFP#15-SESP-CSC-OR Integration. Verbal requests for information shall not be permitted at any time. All Bidder questions and responses to Bidder questions shall be in the form of Addenda to the Bid and made public to all Bidders. All Requests for Bid Clarification must be received no later than 4:00 p.m. on April 1, 2015. Requests for Bid Clarification after this date shall not be honored. Questions submitted without using the form or questions in any other format will not be answered.

3. Addendum or Supplement to RFP
UCDHS may modify the RFP prior to the RFP due date by issuance of amendments sent by email, facsimile, overnight courier, and certified mail and posted on the UCDHS web site. Amendments will be clearly marked as such. Each amendment will be numbered consecutively and will become part of this RFP. Any vendor who fails to receive such amendments shall not be relieved of any obligation under this quotation as submitted. SPECIFICATIONS OR RFP REQUIREMENTS MAY BE REVISED ONLY THROUGH WRITTEN NOTICE OF AN ADDENDUM ISSUED BY WILLIAM CORBETT, UNIVERSITY OF CALIFORNIA, DAVIS, HEALTH SYSTEM, PURCHASING DEPARTMENT. CHANGES BY ANY OTHER INDIVIDUAL ARE NOT AUTHORIZED.

4. Distribution of RFP

The University of California, Davis, Health System Purchasing Department is the agency authorized to distribute this RFP. Distribution of this RFP to parties other than those specifically designated by the UCDHS Purchasing Department is not authorized. Failure to observe this guideline may result in disqualification.

5. Submission of Proposals

a. Proposals are due Wednesday April 15, 2015, at 4:00 p.m. Pacific Time. Proposals submitted after the closing date and time will not be accepted. UCDHS is not responsible for late delivery or proposals lost in delivery.

b. Prospective bidders are required to submit one (1) hardcopy original and seven (7) additional hardcopies on double-sided, recycled paper to the address indicated below:

UCDHS Purchasing Department
4800 2nd Avenue, Suite 3010
Sacramento, CA 95817
Attn: William Corbett
REF: RFP # 15-SESP-CSC-OR Integration

c. Responses received by the UCDHS Purchasing Department later than April 15, 2015, at 4:00 pm PST will be rejected.

d. Proposals must include a complete response addressing all evaluation criteria and other information requested in this RFP. Proposal responses shall include a listing of all exceptions taken to this RFP and attached specifications. Where exceptions are taken, the bidder must provide an explanation for the exceptions and their proposed solution for the capability or service not provided. Unless stated otherwise in the Bidder’s response, the Owner will assume that all products and services will be provided in complete compliance with this RFP and attachments. All responses should be concise and to the point.
e. Proposals shall include a title page identifying the Bidder, systems proposed, and name, address, telephone, fax and e-mail address of the representative responsible for negotiation of the final agreement.

f. This RFP requests complete installed turnkey system pricing for the work: no additional charges will be paid unless specifically requested in writing by UCDHS.

g. The proposal shall include all costs deemed necessary to cover all contingencies essential to the installation of the specific system.

h. A complete materials list including description, manufacturer, part number, serial number, quantity, unit price, and total price must also be included for each identifiable hardware (e.g. serial numbered) and software product.

i. A statement of estimated labor hours and prevailing hourly labor rate must be included.

j. The Bidder must identify, as part of their response, any local dealers and/or sub-contractors it intends to utilize to fulfill the requirements of this RFP and the roles each will play.

k. If the Bidder uses local dealers and/or sub-contractors for any portion of the work, they shall interface with UCDHS as a single entity with a single point of contact for coordination and project management. Reconciliation of any and all discrepancies between the bidder, local dealers and/or subcontractors shall be the responsibility of the Bidder.

l. Proposals submitted in response to this RFP shall be based on currently available equipment, software, materials, capabilities, and technologies. System shall be installed with the most current software including all revisions and updates as of the date of system acceptance.

m. All equipment and material provided in response to this RFP shall be new, of a current manufacturing run provided in the manufacturing original packaging.

n. Manufacturer names and model numbers that may be shown in this RFP are listed for reference to establish a standard of quality or design and shall not be construed as limiting competition.

o. Where required, all medical products bid shall meet FDA requirements for sale in the US.
VII. BASIS OF AWARD

Bidders will be evaluated on the basis of cost per quality points. A selection committee will oversee the evaluation and selection process. Participants will review, evaluate and score each responsive proposal received in accordance with predetermined scoring criteria. The Selection Committee may require additional information through interviews, presentation, system demonstration and correspondence. The selection process will be broken down as follows:

To be considered responsive and to continue in the evaluation process, the Bidder must:
- provide all documentation as requested by the due date
- provide a proposal that is complete and complies with the instructions and requirements as stated herein
- establish satisfactory financial solvency

Responsive vendor’s bid proposals will be further evaluated as follows:
- demonstrate that bidder can meet all mandatory requirements as stated herein
- demonstrate quality of design/technical compliance
- demonstrate ability to meet schedule, and
- demonstrate recent successes in installation of an Integrated OR System in a similar organization

Only responsive proposals will be considered in the selection process, and will undergo intensive evaluation. The following criteria (not in priority order) will be used to determine the bidder’s total quality score:
- application features and functions including bid response, specification documents, vendor demos, UCDHS lab testing
- reliability/support/maintenance/training proposals
- overall Bidder qualifications, including years in business, financial status and background information
- Bidder’s proven ability to implement product(s) in a timely and effective manner
- proposed approach to the project, including a project schedule and specific work plan for implementation and completion of all tasks
- Bidder’s expertise in this market
- ability to meet project’s scope of work
- quality/relevance of reference sites
- sufficiency of staff
- qualification of staff
- service and support
- additional services
- compliance with UCDHS’ specified terms and conditions

VIII. EVALUATION and QUALIFICATION POINTS

Each Bidder will receive a total point score known as quality points. Quality points for scoring shall be as follows:
- Technical Proposal: 700 points
• Warranty, Training and Support Service 100 points
• Vendor presentation, site visits (if needed) and References 50 points
• Lab Testing (top candidates only, as determined by initial RFP response review) 150 points

Total Maximum Points 1,000 points

1. **Technical Evaluation**

**Products:** Quality and capability of products to meet the current and future needs of UCDHS. Vendor availability of additional add-ons and/or optional capabilities for current and future use. Value engineering suggestions offered.

**Work Approach:** The completeness of the products and services proposed, the willingness to satisfy or exceed the requirements, the quality of management and the technical approach to be used to assure consistently high quality service, and Vendor willingness to advance concrete proposals in their RFP response, not deferring matters to later stages, and complete installation on a timely basis in accordance with UCDHS schedule.

**Equipment Performance and Vendor Viability:** The Vendor's size, financial stability, industry track record, and capacity to provide the managerial, technical and physical resources to deliver the required products and services at the required location(s) over the required time period. UCDHS prefers that Vendors utilize internal managerial, technical and physical resources and do not subcontract those resources.

**Experience in Providing Comparable Services:** The Vendor’s specific experience and demonstrated ability in providing the similar products and services to other facilities on a scale and or complexity comparable to that described in this RFP.

2. **Warranty, Training and Service Support**

Additionally, Vendors will be evaluated on demonstrated ability to provide adequate and timely support of daily operation, maintenance, and troubleshooting of the equipment offered. Ability to support a large multi-site client base with in-house, product certified technicians, as well as, on site in service staff. The Vendor’s ability to attract and retain key skilled personnel to support UCDHS technical environment.

3. **Vendor Presentations and Equipment/System Demonstrations**

If deemed necessary to assist UCDHS in the final selection process, vendors may be invited to participate in interviews with the owner. Vendor interviews will include a presentation of company background, project team and approach. In addition, UCDHS may request that a multi-day demonstration of a full working system be provided by the
vendor in order for UCDHS to conduct technical testing of the proposed video system and full demonstration and evaluation of a working system by UCDHS’s technical and clinical staff.

4. **Cost**

UCDHS will evaluate proposals based on cost (including freight charges) of the base bid and selected options.

**The total cost for each proposal will be divided by the proposal’s total quality points to determine the cost per quality point ratio.** The cost per quality point ratio for each Bidder will be ranked in order of magnitude.

**The Bidder receiving the lowest cost per quality point scores will be selected for the contract.**

UCDHS’s decision as to how the resulting Agreement will be awarded will be based on the following:

1. Calculate total evaluation quality points earned by each qualified Bidder (note: bidders that do not meet mandatory requirements will be disqualified and not scored)

2. Divide total cost by the number of total quality points earned to determine cost per quality point

3. Rank each Bidder’s cost per quality point rating from lowest to highest

4. Determine the winning Bidder on a lowest cost per quality point rating basis

Upon acceptance of the bid, the Bidder assumes responsibility for supplying such materials and taking such actions, whether specifically mentioned herein or not, to satisfy all intentions of the Specification without claim for additional compensation.

Following the evaluation of the RFP and Bidder selection, UCDHS expects to negotiate a contract with the selected Bidder and, at UCDHS discretion, contractual terms and conditions, cost and value/added features.

All Bidders will be notified of our decision. We anticipate that this will occur within three months after submission; however, this date is subject to delay if additional proposal clarification or analytical effort is required.

**IX. UC Terms and Conditions Reference:**

a. See Exhibit 1 for additional University of California Terms and Conditions
X. PRICING AGREEMENT

VENDOR TO PROVIDE PRICING PER "EXHIBIT 14" AS INDICATED.

The undersigned has fully examined all specifications and RFP documents (including all exhibits) relating to OR Integration and has familiarized him/herself with all conditions pertaining thereto.

The undersigned agrees to provide and comply with all requirements as stated or amended in writing in this Request for Proposal.

The undersigned guarantees that the devices to be provided conform to all federal, state and local ordinances.

Company:____________________________________________
Address:_____________________________________________
City/State/Zip Code:___________________________________
Phone Number:_______________________________________
Fax Number:_________________________________________
Signature:___________________________________________
Type Name:_________________________________________
Title:______________________________________________

NOTE: If signed by other than the sole proprietor, a general partner, or corporate officer, attach original notarized power of attorney or corporate resolution.
Part 2: Technical Requirements

1. Requirements definitions
   a. Mandatory: Mandatory prequalification requirements (Pass/Fail): Bidder shall describe how they will meet each of these requirements. If any one mandatory requirement is not met, bidder will be disqualified from this RFP at the discretion of UCDHS.
   b. Required Specifications (80%): Bidder shall describe how they will meet each of these requirements and the response will be scored by the UCDHS OR Integration RFP selection team.
   c. Options (20%): Bidder shall describe how they will meet any of the options listed in this RFP that they choose to bid on. The options will be scored by the UCDHS OR Integration RFP selection team. Options may then be selected by UCDHS based on technical scoring and pricing considerations.
   d. [mandatory] One primary vendor
      i. Responses to this RFP will only be considered for ONE vendor contract. If multiple vendors are involved, they will be subcontracted to the primary vendor and the primary vendor will take responsibility for the ENTIRE integration project.

2. [mandatory] FDA requirements
   a. Bidder shall provide FDA 510K, or other appropriate FDA documentation, for each device or application (e.g. medical device control) that requires FDA clearance.

3. [mandatory] References:
   a. Bidder shall supply UCDHS with a list of at least 3 references in the US of recent installations of similar equipment of similar system complexity. References shall include: hospital name, contact name, contact position, e-mail address and phone number

4. [mandatory] Infrastructure requirements (Mandatory unless otherwise indicated)
   a. Video routers to be located in data closets (IDFs):
      i. Video routers shall be installed into racks inside the IDF(s) (data closet(s)). (See exhibits 2, 3, 8, 20, 21)
      ii. Video routers shall use standard UCDHS-provided data racks, or bidder shall provide, at bidder expense and in consultation with UCDHS FD&C and IT, an OSHPD-approved rack alternative that fits in the room spaces allocated. (See Exhibits 2, 3, 8)
   b. Cabling:
      i. Vendor shall identify type of cabling required (e.g. CAT6A, fiber (specify type of fiber)) for each cable run
         1. Cabling shall be OSHPD and California State Fire Marshal approved for use without conduit (e.g. plenum rated for use on cable trays)
         2. Cabling shall fit within 1.5 inch diameter conduit
3. Cable lengths between OR inputs/outputs and the video routers located in the data closets are designed to be no more than 300 feet. Bidder shall meet this requirement with no video or audio signal degradation.

c. Universal wall plate and input and output connector boxes (see Exhibit 10):
   i. Single Connector (Universal wall plate) for all video router inputs: Describe the single connector used throughout for all medical device video input and output connections
   ii. Power for universal wall plate: Describe how power to the universal wall plate is managed and specify/recommend locations for any power supplies required
   iii. Auto-sensing of signal type: Describe how auto-sensing of the signal type is performed and how this impacts the user interface
   iv. Wall boxes: The wall boxes for the universal wall plate shall be standard, single or dual gang (specify), or bidder is responsible for all construction adjustments. Identify as single or dual gang and give dimensions including depth required for cable access, power management and fiber maximum radii, as applicable.

d. [required] Touch panel control menu shall only display connected inputs and outputs

e. [required] Equipment to be located inside the OR: Bidder shall identify all equipment (audio and video) to be located inside each operating room. Equipment located inside the operating room shall only be those devices that require end-user interaction. Bidder will maximize the use of data closet(s) to minimize equipment inside the OR.

f. [required] Wherever practical, data, audio and video communication shall be TCP-IP based with no human-perceivable degradation of video or audio quality.

5. [required] Integration within OR (Required unless indicated as [option])
   a. Monitors
      i. Numbers of monitors per room (refer to Exhibits 3, 5)
         1. Boom-Mounted: 2 boom-mounted monitors in the procedure room, 2 boom-mounted monitors in each of the 4 general ORs, 3 boom-mounted monitors in the complex OR and 3 in the CVOR
         2. Wall-Mounted: 2 in procedure room, 2 in 4-general ORs, 3 each in complex OR and CVOR
      ii. Display Monitor Specs
         1. General – HD capabilities defined as:
            a. Supporting resolutions of:
               i. common computer resolutions, 640, 720, 1080p, 1080i,
               ii. [option] 4K (or similar “future” HD systems (cameras, displays, routers and infrastructure))
            b. Supporting 60 frames per sec
            c. Supporting aspect ratios of:
               i. 4x3, 16x9
ii. [option] 16x10

2. General – specific characteristics:
   a. Signal types: Supporting all output types from router, including one extra for fail-safe operation (see Fail-safe provision in 5f below)
   b. Anti-glare screen
      i. Screen, anti-glare material and display housing compatible with UCD’s disinfecting agents: Super Sani-Cloth® Germicidal Disposable Wipes and ChemSpec Oxidizing Cleaner 14000
   c. Factory calibrated video: storable and retrievable as baseline values
   d. Manual calibrated video:
      i. [option] RGB gain and offsets for color balance
   e. User preference presets:
      i. [option] color corrections that can be “built on top” of manual calibrated baseline
   f. Medical Grade LCD, including:
      i. Electrical power supply specified for OR environment
      ii. Sealed case (i.e. no fan and meets IPX2 standard for minimum dust and fluid intrusion)
      iii. Impact-resistant screen

3. Boom-Mounted LCDs:
   a. 26"
   b. [option] Microphone mounted on LCD

4. Wall-Mounted: 55”-60”
   a. [option] medical grade

5. Picture in Picture and split screen (2 or more views (describe))
   b. Routing/Router Requirements (describe product features)
      i. Route all input source signals anticipated from devices, per Exhibit 6, 7, 10
      ii. User interface that is simple and intuitive: clear buttons for source, and destination, on a touch control panel
      iii. Support number of device ports per Exhibit 6, 7, 10
      iv. Support privacy mode:
         1. Muting of outbound A/V, initiated from the touch control panel
         2. Clear and obvious in-room notification of incoming calls while in this mode, so as to accept calls
      v. Support viewing of PACS images on a PC, routable as a video source
      vi. Support A/V routing presets: Easily recallable routing preferences, minimum 25
         1. [option] centrally managed presets
vii. [option] KVM switch or similar feature to allow control of PACS computer(s) from integration touch panel

viii. [option] Provide hardware and software to support telestration and annotation
1. A means to type annotations and draw a freehand sketch over a video image, still or moving, and route, inside or outside the OR, the resulting annotated image as a source image.

ix. Allow maximum flexibility to accommodate the latest high definition technologies as well as supporting legacy medical video sources

x. Requires vendor/manufacturer agnostic (open vendor) capabilities for all inputs and outputs including (DVI, [HD]SDI, RGB/VGA, HDMI, S-video, composite)

xi. UPS backup:
1. In-room integration equipment: Provide UPS that is power-matched to the specs the equipment bidder proposes, with an overhead surplus of at least 25%. Example devices on UPS: Control panel, at least one boom LCD.
2. Provide electrical specifications for data closet integration equipment that will be supported by UCDHS-provided UPS.

c. Audio
i. Basic control: volume, balance, treble, bass

ii. Microphone pickup
1. Surgical field (e.g. LCD-mounted, see 5a above)
2. [option] Wireless on-surgeon microphone

iii. Ceiling-mounted stereo speakers (quantity 4 per OR)

iv. Music interface: from UCDHS-provided MP3 devices, and PC

v. [option] Echo Cancellation / noise suppression: Clear bidirectional voice communication with minimal disruption from background noises. DSP (Digital Signal Processing) or equivalent for quality audio processing

vi. [option] Support hands-free telephone interfaced to Cisco VoIP (Voice over IP) phones

d. Video (and Audio) Capture (describe)

i. Hardware and software to record any video source from within the OR, along with audio when desired
1. Support of still images and video clips, including dual streams
2. Media-based storage: DVD
3. Server-based storage: MP4
4. Intuitive user-interface on control panel

ii. View and edit captured video & image
2. Advanced mode: Captured content shall be easily transferred to Adobe Premier and/or Apple FinalCut Pro for further editing on UCDHS-provided editing system.
   a. [option] Describe other recommended, compatible editing tools, including cloud-based tools
iii. [option] Ability to archive server-stored content to UCDHS-provided long-term storage on Imagestream VaultStream
iv. [option] Ability to archive server-stored content to UCDHS-provided long-term storage on Stryker Studio 3
v. [alternative option] Bidder to describe and quote bidder-provided application software and hardware (10 terabytes, expandable) to archive video content.
vi. Manage security/HIPAA requirements:
   1. Active Directory integrated for user authentication
   2. Ability to include or remove (anonymization of) HIPAA-regulated patient information in output content
e. Medical Device control (describe)
i. Required devices for control
   1. Endoscopes (Stryker 1288/1488): initiate/stop capture of still-image and video from camera head (first stream).
   2. [option] second stream control of the above
ii. Devices for voice control
   1. [option]: Voice commands: relay audio commands to Stryker SIDNE, and relay Stryker’s command acknowledge text from SIDNE to the boom LCDs
iii. [option] Optional devices for control (on touch panel)
   1. Insufflator: Stryker SDC3
   2. Endo Light Source: Stryker L9000
   3. Video Capture: Stryker SDC3, SDC-ULTRA
   4. Bidder to provide a list by manufacturer and model of other devices that it can control from voice or touch panel (e.g. ESU, surgical lights, etc.)
f. Special / Miscellaneous Functionalities
i. In-Room PTZ camera in each OR
   1. HD (1080)
   2. Local and Remote pan, tilt and zoom controls
   3. [option] PTZ in procedure room
ii. Compatibility with Steris In-Light camera: (model LHD0002, LB0010/LB0020)
   1. Local pan, tilt and zoom controls from touch panel
   2. [option] Remote zoom and rotate controls
iii. Steris Boom camera [option]
1. Compatibility with Steris model Free5 boom-mounted camera system in CVOR and Complex OR
   a. Local zoom and rotate controls
   b. [option] Remote zoom and rotate controls

iv. Head-worn camera [option]
1. Bidder to recommend an OR integration-compatible head camera (e.g. Luxtec MicroLux DLX Headlight Camera (wired) or Contour 2+ (with wireless HDMI transmitter/receiver)) or other OR integration-compatible, live-streaming, high-quality, wireless head-worn camera systems

v. Fail-safe provision:
1. Video display compatibility and fail-over mechanism should the switching device/video router or any of its associated components fail
2. Such failover shall be as automatic as possible and not require any end-user re-cabling
3. An example failover system would be a separate cable path from one of the endoscopic camera outputs to at least one boom LCD without going through the router or equivalent. Then if a switch failure occurred, a different (non-router switched) input shall allow the surgical case to be completed with minimal intervention.
4. Failover shall include a minimum of one endoscopic camera to one “in-field” display.

vi. [option] Disabling of remote control: remote user control of video source routing and PTZ camera can be suppressed and overridden by in-room user when desired.

6. [required] Video (and audio) Teleconferencing [Required unless indicated otherwise]
a. Vendor shall describe system video teleconferencing (VTC) capabilities and include all technical standards (e.g. H.264) and infrastructure requirements for VTC. UCDHS has organized VTC for purposes of this spec into four levels of “use cases” as follows:
   i. Status camera: Viewing status camera images on desktop PC (we can already do this and will be expanding our current status camera system (HAI-Vision) for the new CSC. (Note: This item is for information only; the status camera system is outside the scope of this RFP)
   ii. Viewing PTZ camera, endoscopic and laparoscopic video and other routed video sources on a "standard" desktop PC. Bidder to provide specs on browsers and browser add-ons if required (e.g. Java versions) and any other desktop hardware or software requirements for this feature to work with their system
iii. [Optional]: Limited control of above integrated OR video from desktop (e.g. PTZ camera control)

iv. Handheld devices
   1. Viewing PTZ camera, endoscopic and laparoscopic video and other routed video sources on a standard mobile device (e.g. iOS-based or Android-based). Bidder to provide specs on browsers and browser add-ons if required (e.g. Java versions) and any other hardware or software requirements for this feature to work with their system
   2. Hardware: Bidder shall provide a list of handheld devices available for handheld device use (e.g. smart phones, tablets)
   3. Software: Bidder shall describe and quote any application software required for handheld device use (e.g. smart phones, tablets) including multi-user licenses

c. Level 2 use case: Any UCDHS conference room with Video Teleconferencing (VTC) capability (assumes referenced VTC equipment is connected to NetV2 refer to Exhibit 9)
   i. Level 1 capability plus
      1. Conferencing between any camera in any VC-equipped conference room and two-way video-conferencing capability with the new CSC ORs. UCDHS will provide Cisco teleconferencing endpoints outside of the ORs.
      2. Equipment bid shall be 100% compatible with UCDHS Cisco video conferencing infrastructure including but not limited to the Cisco TMS, VCS, VCSE MSE and the Cisco Call Manager and associated endpoints (e.g. C20, C40, C60).
      3. Compatibility with CISCO WebEx Enabled Telepresence
      4. Single integration control panel shall also control all VC functions.
      5. Conferencing speed-dials: Easily selectable conferencing destinations, minimum of 5 locations

d. Level 3: Collaboration space (rooms 2P111, 2P111A)
   i. The collaboration spaces will be used by clinicians for formal and informal collaborations, conferences and meetings, OR integration will be one of the technologies used to enhance communication for consultations and video conferencing. Bidder is to provide their own design showing how their systems can best meet this concept. Minimum requirements are:
   ii. Level 2 capability plus
      1. Remote video routing capability with the video router in the 2nd floor, SESP data closet (IDF room 2P108). Two integration control panels to be provided and installed in small conference room (2P111A) that is part of the Collaboration space and in the main collaboration space (2P111).
2. Ability to allow complete local control of selected integrated video signal(s) routed to the Collaboration space (required: 2 real time video streams from each of 2 ORs) independent of which video is routed inside the OR.
   a. Control from 2 locations (both 2P111 and 2P111A)

3. Collaboration rooms video, 2P111 and 2P111A: Specify recommended video displays for collaboration rooms to include both large room, 2P111 (minimum 2 displays) and small collaboration room, 2P111A (1 display).

4. Collaboration room speakers: Specify recommended speakers for collaboration space, 2P111 (minimum 2 ceiling mounted speakers) and small collaboration room, 2P111A (one speaker).

e. Level 4: Teleconferencing outside of UCDHS (note: UCDHS has a Cisco/Codian MSE 8510 MCU (MultiPoint Control Unit) already installed)
   i. Level 3 capability plus
      1. Capability to bidirectional video conference to any place within UCDMC, UCD, US (or anywhere in the world) with existing compatible endpoints.
      2. VC equipment shall be compatible with existing UCDHS video conferencing infrastructure and comply with common video conferencing standards including ITU H.323 and SIP.

f. Special cases [required unless indicated otherwise]
   i. Surgical Pathology:
      1. Surgical Pathology has 2 cameras and 2 speakers currently connected to a Stryker router which is capable of conferencing with each of 24 Stryker-integration-based operating rooms (SPI-3).
      2. Bidder is to describe how they will connect to the 2 cameras and 2 speakers while retaining current capability and current display monitors. A concept diagram (Exhibit 22) is attached.
      3. [option] Use a single control panel to control BOTH systems (i.e. CSC and SESP main OR) routers

7. [option] EMR integration
   a. Bidder is to describe and quote equipment and applications for an interface between the bid OR integration system and UCDHS’s EPIC 2014 Electronic Medical Record (EMR) system. The application shall include all of the following:
      i. Workflow for storage, linking to EMR, editing and retrieval of static images and video.
      ii. Features for easily editing selected, clinically important video and storing edited video with linkage to EMR
      iii. ADT interface for patient demographic information
      iv. Active Directory interface for employee access credentials
v. Image acquisition (static and video) suitable for diagnosis.

vi. Images shall be transferrable to one of the UCDHS image repositories (Imagestream Vaultstream or Stryker Studio 3) for subsequent softcopy display, print, store and integration (via a link) into the Epic EMR. This transfer can be operator initiated on an image by image basis or study basis. In addition, this transfer can be performed automatically, (i.e. as soon as an image is generated, it shall be sent to its destination(s)).

vii. The integration bid shall include all appropriate hardware and software to interface and integrate DICOM compliant devices to the integration image repository on Imagestream Vaultstream or Stryker Studio 3 allowing for EMR patient chart integration to at least the minimum DICOM functionality specified in the DICOM 3.0 standard.

viii. The integration bid shall include all appropriate hardware and software to interface and integrate still pictures (JPEG) and Video (MPEG2 or MPEG4 (specify) images and audio to the UCDHS image integration repository (Imagestream Vaultstream or Stryker Studio 3) allowing for EMR patient chart integration.

ix. The integration bidder shall be responsible for receiving all necessary patient demographics and exam order type information via interface from the Epic EMR providing worklist functionality.

x. The integration bidder shall be responsible for providing all necessary image data, patient demographics and exam information via interface back into the Epic EMR providing patient chart integration with those images, demographics and exam information acquired.

xi. [alternative option] Bidder shall quote all hardware (with a minimum of 10 terabytes of storage, and expandable) and application software required to support a NEW image archive to meet above specs in lieu of using UCDHS’s existing image archives listed in vi-viii above.

8. Other
   a. Status camera: Not included (it is the intention of UCDHS to expand its current HAI-Vision status camera system which is outside the scope of this RFP)
Part 3: Support Requirements

I. Acceptance
   A. Complete acceptance and complete payment shall be made only upon 100% completion of all requirements and after all systems are in acceptable clinical use (greater than 98% uptime) for at least 90 consecutive days.
   B. See Exhibits 1 and 18 for additional acceptance requirements.
   C. Complete payment will not be made until the system has been accepted and all items listed (including service manuals) have been delivered and accepted (i.e., tested for satisfactory performance and electrical safety).
   D. Acceptance (installation coordination, equipment testing, new equipment documentation and payment recommendation) will be coordinated by Clinical Engineering.

II. Warranty
   A. Warranty starts after 100% acceptance.
   B. All products and pieces and installation shall be warrantied for a minimum of one year after acceptance.
   C. List standard warranty on-site hours.
   D. Describe any warranty exclusions.
   E. During the warranty period, UCDHS may request full replacement of any component or subsystem that does not meet 90% uptime (functional availability from 0500 to midnight) for 7 days per week for 90 consecutive days.
   F. Vendor to provide all software updates, patches and revisions during the warranty period.
   G. After acceptance, and during the warranty period, bidder agrees to extend the warranty period for one week for every 48 hour (2 day) period of downtime.

III. Service Support
   A. See Exhibit 18 for basic support requirements.
      i. In addition, bidder to provide the following:
         1. As-built drawings for all systems, subsystems and installation.
         2. Service manuals with repair and PM procedures and intervals for each identifiable (serial numbered) piece of hardware.
         3. Service manual with repair and PM procedures and interval for the system “as-a-whole” (include a sample system-level PM checklist in your response).
         4. Telephone and e-mail technical support for the life of the system at no additional charge.
         5. Software updates for the life of the system at no additional charge.
         6. On-site technical training for four Clinical Engineering and four IT staff for each subsystem.
         7. Factory technical service training for two Clinical Engineering staff with NO tuition cost. UCDHS will pay travel and hotel expenses for its staff.
         8. Phone response time within 4 hours.
         9. On-site response time upon request within 24 hours.
         10. Spare parts kit parts list and pricing.
   ii. Assessment of vendor support capabilities.
1. Location of repair facility
2. Location, and number of field service support for the Western US
3. Post warranty, on-site repair hourly rate
4. Post warranty, replaceable parts list and parts price list
5. Normal hours of operation
6. Emergency service hours of operation for holidays, weekends, nights etc.
7. Escalation process for “hard down” systems and difficult to repair problems
   iii. Video calibration
1. All video presented to end users must exhibit acceptable image quality, consistency, and stability across various video sources. Describe how video will be calibrated in an objective and quantifiable manner to achieve consistency in parameters including color, brightness, contrast, resolution, etc., both at installation time and over time.
2. Describe the calibration tools (SW/HW) that are to be utilized to meet above including initial calibration, and technician re-calibration, and end-user calibration (e.g. when an endoscopic video source with differing video characteristics is changed).
3. Describe the software calibration tools that are to be utilized to allow end-user calibration (e.g. when an endoscopic video source with differing video characteristics is swapped out).

IV. Service contract proposals
A. Bidder to provide the following service contract proposals for post-warranty service
   i. Full service contract
   ii. Shared support/shared risk agreement options
   iii. Parts only option

V. Operational and Applications Training
A. Provide initial user training for a variety of user groups (surgeons, nurses, equipment specialists, clinical engineering staff, IT) until such time as the majority of staff are comfortable using the basics of the system.
B. Provide super-user training on all aspects of the system to a select group of surgeons, nurses, equipment specialists, clinical engineering staff, and IT for the more complex aspects of the system
C. During the warranty period, provide additional on-site user training as needed.

VI. IT Requirements (see Exhibits 8, 9, 20, 21) and complete questions on Exhibits 20, 21

VII. Other: See Exhibit 18