Q. Is the intent to only capture the device’s ‘reports’, that being, the report that would typically go to a printer?
A. Yes.

Q. May we assume that the DICOM Gateway needs to support DICOM Modality Worklist?
A. Yes.

Q. Does the Canon CF-1 use a Canon EOS 60D?
A. Yes.

Q. Is there a requirement to convert the OIS studies to DICOM, which would then be forwarded to the iS-Server?
A. Yes.

Q. Please describe the workflow of patient with regards to these pieces of equipment, specifically, are these devices in the same room?

University of Texas Eye Consultants @ University Hospital ("UTEC") DICOM Gateway Devices
1. Zeiss Stratus OCT
2. Humphrey Field Analyzer 750
3. Ellex Eye Cubed A/B Scan

A. These devices are not in the same room currently; however, they will be once we renovate the clinical space.

Q. If two or more pieces of equipment will be in the same room, will two or more patients be in the same room at the same time?
A. There is a possibility we will test 2 patients at the same time once the clinical space is renovated.

Q. Will each device have its own network connection at the device, or will one or more devices need to be connected to the network via a wireless access point?
A. Each device will need to be connected via a wireless access point at UTEC due to the firewall at the University Hospital. The UTEC clinic will need to be able to access all images from all other clinical sites.
Q. Are all below devices DICOM Service Class Users of Storage?

Medical Arts and Research Center ("MARC") DICOM Devices
1. Humphrey Field Analyzer 750i
2. Ellex Eye Cubed A/B Scan
3. Pentacam HR
4. Eye Photo System (Slit Lamp)
5. Heidelberg HRA Spectralis
6. Heidelberg OCT Spectralis

A. Yes.

Q. Which devices provide DICOM Storage as a service and which devices simply drop DICOM files into a folder?
A. All equipment has a hard drive and minimal storage capacity that will need to have images stored/archived for long term storage.

Q. Are all devices DICOM Service Class Users of Modality Worklist?
A. Yes, except for the Humphrey Field Analyzer 750i.

Q. With regards to OCT, is the expectation that the IMS will provide storage and viewing of B-scans, or simply OCT reports (i.e.- Retinal Map Thickness)?
A. Storage, viewing, and manipulation of the images is expected; ability to utilize the Heidelberg software is essential.

Q. Please describe the workflow of patient with regards to these pieces of equipment, specifically, are these devices in the same room?

Medical Arts and Research Center ("MARC") DICOM Gateway Devices
1. Confoscan 4
2. Humphrey Field Analyzer 750
3. IOL Master 1322-734
4. Multifocal ERG
5. Full Field ERG
6. LipiView

A. All pieces of equipment listed above are in separate rooms.

Q. If two or more pieces of equipment will be in the same room, will two or more patients be in the same room at the same time?
A. Because they are located in separate rooms, more than one test could be performed at one time, but on a different patient.

Q. Will each device have its own network connection at the device, or will one or more devices need to be connected to the network via a wireless access point?
A. Combination of network and wireless access points.
Q: Are all below devices DICOM Service Class Users of Storage?

**Texas Diabetic Institute ("TDI") DICOM Devices**
1. Heidelberg OCT Spectralis
2. Optos Panoramic Camera (200Tx)
3. Atlas 9000
4. Ellex Eye Cubed A/B Scan
5. Heidelberg HRA Spectralis
6. Sonomed A/B Scan 5500
7. Eye Photo System (Slit Lamp Camera)
8. IOL Master 500
9. Pentacam HR

A: Yes.

Q: Which devices provide DICOM Storage as a service and which devices simply drop DICOM files into a folder?
A: All equipment has a hard drive and minimal storage capacity then will need to have images stored/archived for long term storage.

Q: With regards to OCT, is the expectation that the IMS will provide storage and viewing of B-scans or simply OCT reports (i.e.- Retinal Map Thickness)?
A: Storage, viewing, and manipulation of the images is expected; ability to utilize the Heidelberg software is essential.

Q: Please describe the workflow of patient with regards to these pieces of equipment, specifically, are these devices in the same room?

**DICOM Gateway Devices**
1. (2) Humphrey Field Analyzer 750

A: Yes.

Q: If two or more pieces of equipment will be in the same room, will two or more patients be in the same room at the same time?
A: Yes.

Q: Will each device have its own network connection at the device or will one or more devices need to be connected to the network via a wireless access point?
A: No, the Humphry Visual field output will need to be imported.
Note: The next few questions are regarding the implementation of clients including web-client integrated 'launch' via URL from EPIC Kaleidoscope:

Q: Is there an expectation/preference that the University will provide their servers and/or storage?
A: Yes, UT Medicine San Antonio (UTMSA) will provide storage and servers to support the application. RFP responses should include estimates for number of servers and storage requirements.

Q: If yes, is there an expectation/preference to provide the IMS server in a Virtual Environment?
A: Yes, all services should be compatible with VMWare virtualization.

Q: Is the expectation that once launched, the web-client will launch a specific study, or simply take the user to the patient level, requiring the user to select a specific study?
A: The launch should happen within the context of what is happening in Epic at the point of launch. If that is a study the web-client should load the specific study.

Q: What level of functionality is expected from the web-client (i.e.- simple viewer with basic tools (i.e.-zoom) or an advanced viewer with advanced tools (i.e.- Cup to Disc, RGB separation, etc.)?
A: Advanced viewer with advanced tools allowing for measuring, rotating, marking images; incorporation of Heidelberg software is essential.

Q: Beyond the web client, is there an expectation that a ‘fat client’ also be used in conjunction with the DICOM Storage Server?
A: Yes.

Q: If yes, does this ‘fat client’ need to support DICOM Query and Retrieve?
A: Yes.

Q: Please define ‘non-obsolescence’. Does this mean the software will maintain industry standards as these standards evolve, or software functionality will be enhanced from time to time?
A: Pricing includes software updates, including any and all new releases for the life of the contract.

Q: Although not stipulated, may we assume that the HL7 Orders are intended to populate the DICOM MWL Server with new orders?
A: Yes.

Q: What is the requirement with regards to aging stale order (how soon should stale orders be automatically removed from the list)?
A: This should be configurable subject to the input of our CMIO.

Q: Although not stipulated, may we assume that the HL7 Results are intended to be received after a DICOM Modality Performed Procedure Step has been generated?
A: Yes.
Q: Although not stipulated, is there a specific IHE Integration Profile required (i.e.- Eyecare C Integration Profile)?
A: UTMSA does not use IHE profiles for RFPs, or other purposes at this time.

Q: Is the intent that the vendor will provide and execute disaster recovery services or simply provide a ‘method’ or ‘solution’ for University IT personnel to execute?
A: The vendor should provide a solution for Disaster Recovery that is compatible with existing capabilities at UTMSA such as VMWare SRM. Outside of that, the RFP will be evaluated on the complexity of the DR method proposed.

Q: What criteria or metric shall be used to verify that a successful ‘disaster recovery’ has taken place (i.e.- database and access to ALL patient studies are accessible or simply restore system to its last ‘backup’? 
A: The system should be completely available with no diminished or missing service with a data set within 5 minutes of the disaster event. Backups are not a reasonable method of disaster recovery.

Q: If a ‘disaster recovery’ event took place between ‘backups’, is it acceptable to lose studies that may have been created but not backed up?
A: No, data loss should be limited to within 5 minutes of the disaster event.

Q: Will the new image management system be responsible for long term storage of all studies? If so, for how long?
A: Yes. Up to 21 years.

Q: Who (vendor or University IT) will be responsible for maintaining the long term archive?
A: UTMSA IT will be responsible for maintaining the storage and availability. The vendor will be responsible for ensuring that the storage is actually readable in a reasonable way for provider use.

Q: Is there one (same) EMR database for all facilities?
A: The Epic EMR database hosted by UTMSA should be the source for patient MRN and identifying information.

Q: Is there a requirement for a ‘Master Patient Index’ between all facilities?
A: There is no MPI in place within UTMSA and its’ partners.

Q: Do doctors need to access patients from ‘other’ facilities (MARC-> TDI likewise TDI -> MARC)?
A: Yes.

Q: Is the ‘EIR’ synonymous with Image Management System, or does this refer to the ‘platform’ that the IMS operates on (see definition for ‘information resources’ in Appendix Six)?
A: It is synonymous with the Image Management System.

Q: In the event that a patient is assigned incorrect patient demographics (user selects wrong patient name form worklist), what is the requirement to repair this type of error?
A: Patient reconciliation is required and must be repaired as soon as detected.
Q: Is there a requirement to ‘detect’ a potential misuse of patient demographics?
A: Yes.

Q: The assumption is that the IMS will reside and operate behind the University’s firewall, is this assumption correct?
A: Yes.

Q: If this assumption is correct, is the vendor expected to monitor potential security breaches at the application level and/or hardware level?
A: The vendor would be expected to help with discovery upon incident detection, or audit. However, there would be no vendor IDS/IPS, or such requirements.

Q: Aside from HL-7 messages which have PHI, is there an expectation that other types of University Records be managed within the IMS, if so, what other type of information potentially could be incorporated in the IMS?
A: Images from disks from previous providers not within our Department.

Q: Are there legacy images that must be converted from devices that are not shown in the equipment list provided later in this section? If so, please provide the names of those devices.
A: No.

Q: Can you estimate the amount of historical data which needs to be converted in whatever units you have available (E.g., # of exams, # of years of history, # of GB of data, etc.)?
A: There are 1400 DVDs of OIS data to be converted along with 782GB of data on hard drives.

Q: Can you confirm that for “Orders” you plan to use HL7 ORM messages and for “Results” you plan to use HL7 ORU messages?
A: Yes.

Q: For the “Results” messages, do you have a list of fields/content that you want to be transmitted back to EPIC?
A: A spec will be provided and should be consistent with what has been requested by other Epic customers.

Q: Could you please clarify what this requirement means and provide an example?
A: The imaging interface hanging protocols must load certain diagnostic studies in sequence and select studies. For instance, a glaucoma specialist may elect to view an optic nerve photo, an optic nerve OCT, and a visual field on the same screen; whereas, a retina specialist may elect to a macular OCT combined with a fluorescein angiogram and fundus photo.

Q: Throughout this section the phrase “DICOM Convert Gateway” is used. Could you please define what is meant by this phrase?
A: A DICOM converter box; a method/adaptor to convert a non-DICOM piece of equipment to DICOM for importation of images in to the IMS.
Q: In the list of equipment there are many non-DICOM devices. However some require the “DICOM Convert Gateway” while others do not. Can you explain why only certain non-DICOM devices require a “DICOM Convert Gateway”?
A: Certain pieces of equipment are older and therefore are non-DICOM, requiring DICOM conversion.

Q: Can you provide any information regarding the current amount of storage that is being consumed today, even if that storage is in multiple repositories?
A: Inventory of data stored in GB:

<table>
<thead>
<tr>
<th>MARC</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ELLEX Eye Cubed (A/Bscan)(V4)</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Pentacam HR</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Eye Photo System (Slit Lamp Camera)</td>
<td>16.8</td>
<td></td>
</tr>
<tr>
<td>Heidelberg Spectralis</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Canon CX-1 Fundus Camera</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Multifocal MF ERG</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>OIS Data on hard drives</td>
<td>652</td>
<td>949.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TDI</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Optos Panoramic Camera (200Tx)</td>
<td>592.3</td>
<td></td>
</tr>
<tr>
<td>Atlas 9000</td>
<td>5.29</td>
<td></td>
</tr>
<tr>
<td>ELLEX Eye Cubed (A/Bscan)(V4)</td>
<td>65.1</td>
<td></td>
</tr>
<tr>
<td>Heidelberg Spectralis</td>
<td>317</td>
<td></td>
</tr>
<tr>
<td>Eye Photo System (Slit Lamp Camera)</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Canon CX1 fundus camera</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>Pentacam HR</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>OIS Data on hard drives</td>
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<td>1141.59</td>
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<table>
<thead>
<tr>
<th>UTEC</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Canon CF-1 OIS Data on hard drive</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Zeiss Stratus OCT (Running Win 2000Pro)</td>
<td>20</td>
<td>120</td>
</tr>
<tr>
<td>OIS Data on 1400 DVDs</td>
<td>6580</td>
<td>6580</td>
</tr>
</tbody>
</table>
Q: Can you describe the amount of online history you wish to maintain in terms of time (E.g., 7 years of history, etc.)?
A: 7 years.

Q: Can you provide any guidance on whether you expect your storage need to accelerate, remain the same, or decelerate in the next five years? For example adding an additional site or closing an existing site may impact your overall storage needs.
A: Accelerate due to clinical expansion.

Q: Appendix Five, Integration, #4 (page 2 of Appendix Five) states “Does the EIR have an application programming interface ("API") that enables us to incorporate it with other applications run by the University? If so, is the API .Net based? Web Services-based? Other?” Can you provide an either an explicit list, or examples of, applications with which you would like to integrate

Q: Can you provide a network diagram or similar artifact that broadly describes your existing network infrastructure, including where your data center is located relative to the three locations that need to be serviced by this solution?
A: See attached diagram for high level overview of network infrastructure, which includes the Medical Arts and Research Center and the Texas Diabetes Institute.

Q: Do you have an existing SAN, NAS or PACS solution that you would like to use as part of this project?
A: We have existing SANs that will be a temporary holding location for the DICOM images until the PACS solution is stood up. Whether the existing SANs are part of the permanent PACS solution has not been determined at this point.