Object Management Group

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CORBAmed RFI 2

Clinical Observations

Submissions Due: September 1, 1997

OMG Document # corbamed/97-05-02

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1. Introduction

This Request for Information (RFI) solicits information about requirements that will provide guidance to the CORBAmed Domain Task Force (DTF) of the Object Management Group (OMG) in developing specifications for healthcare information systems dealing with patient observation data. The overall goal will be to adopt vendor-neutral common interfaces that may improve the quality of care and reduce costs by utilizing CORBA technologies for interoperability between systems, applications, and instruments that detect, transmit, store, and display medical information dealing with observations of a particular patient's medical condition. CORBAmed DTF will utilize the OMG's open technology adoption process to standardize interfaces for these healthcare objects.

The OMG encourages users, standards developers, consultants, systems integrators, and developers of healthcare related devices, instruments, applications, and systems to become involved with this process by responding to this RFI. OMG members and non-members may submit responses. Current compliance with OMG specifications is not a prerequisite for response to this RFI. The RFI response can consist of pre-existing product documentation.

CORBAmed will use responses to this RFI to determine the appropriate Request For Proposal (RFP)s to issue and to develop the requirements to those RFPs. These RFPs will solicit OMG IDL interfaces and corresponding semantic descriptions and sequencing constraints.

Context and Scope

OMG's central mission is to establish an architecture and set of specifications to enable distributed integrated applications. Primary goals are the reusability, portability and interoperability of object-oriented software components in distributed heterogeneous computing environments. Much of OMG's effort has been focused on establishing an enabling infrastructure based on open and standard interface definitions. The OMG is now standardizing common interfaces in vertical application domains.

CORBAmed DTF issued its first RFI in January 1996 (OMG document number corbamed/96-01-01) that had a wide scope (applicable to clinical, pharmacy, insurance, etc.), asking for general guidance in the process of developing standard specifications for healthcare objects. From the responses to that RFI and other considerations by the task force the top few priorities were determined that included Patient Identification (including Master Patient Index) issues, security/confidentiality issues, lexicon/vocabulary issues, and Computerized Patient Record (CPR) issues.

CORBAmed has issued a Patient Identification Service (PIDS) RFP (corbamed/96-11-08) to address some of the key interfaces needed by MPIs as well as patient identification by ancillary systems. A Lexicon Query Service (LQS) RFP (corbamed/97-01-04) was issued to standardize a common interface to vocabularies and lexicons with out standardizing the lexicon content. CORBAmed has a Security Work Group (WG) addressing the security and confidentiality issues for healthcare in various ways.

The CPR issues have been dealt with by a Clinical Data WG within the CORBAmed DTF. A white paper was developed (corbamed/97-01-01) that describes some perspectives on the integration of clinical data for the patient record. This RFI is being issued in order to get a wider perspective of the requirements on clinical information specific to observations of the patient medical state such that future RFP(s) may be issued in this area targeting the appropriate interfaces.

Terminology

Systems In general this term is used to indicate any hardware/software component in the healthcare domain that comes into contact with electronic information. These may be purely software applications, small embedded devices, large information systems, etc. At other times each of these may be spelled out where the term 'systems' refers to information systems. It should be obvious from the context which usage is meant.

Observations This term is used through out the RFI to indicate any information that has been captured about a single patient's medical/physical state and relevant context information. This may be derived by instruments such as in the case of images, vital signs and lab results or it may be derived by a health professional via direct examination of the patient. This term applies to information that has been captured whether or not it has been reviewed by an appropriate authority to confirm its applicability to the patient record. The term is used independent of any particular information representation format..Information Being Requested

This RFI is seeking information in the categories described below. Respondents are asked only to address those areas for which they have expertise and/or interest. Please consider the purpose of this RFI when responding so your time is spent on issues that will be helpful to reviewers. Respondents may consider areas not explicitly asked for if they feel the information provides useful guidance for CORBAmed in issuing and evaluating RFPs for observations.

Current Systems Handling Observations

There are many types of information systems, applications, and instruments today that come in contact with and handle information that has been derived from a patient or is a description of some physical condition of a patient. There is extreme variety in the way this information is used and what is done with it by each type of system.

It is extremely valuable to CORBAmed to understand the different perspectives of these systems from the point of view of the developer of the system as well as the integrator of systems. Special attention should be put on:

- Identification of the points of contact between the various systems, applications and instruments. These will likely be the interfaces where open, object based specifications are useful. These could include interfaces between: data repositories and electronic medical records instruments that take raw observation directly from a patient or tissue sample such as imaging, laboratory or vital signs instruments; systems that process the data; and applications that display the information to health professionals such as patient care management applications. Please include diagrams that indicate the points of contact which may help the reader understand the complexity of interactions between the various systems.

- Description of the services or roles at these points of contact. For example the modes of interaction could be query based, store and forward based, publish and subscribe based, batch processed, transactional, etc. This information can be important as it may be used as requirements in future RFPs issued by CORBAmed.

- Difference between the common characteristics and those special requirements and assumptions on the structure, performance, etc. at these points of contact between systems. For example if there are real time requirements these should be explicitly described. Or if the interface is data intensive the parameters of this needs to be specified. These special requirements will help CORBAmed determine where different specifications may be needed for different purposes even though the data content may be the same.

Healthcare Standards for Observations

Respondents should please mention standards that apply to this RFI. These standards may be directly referenced in future CORBAmed RFPs. Please include reference information so responders of future RFPs will know how to access the standard. It is important that the parts dealing with patient observation data fully referenced so it will be easy for responders of the future RFPs to find and consider this information in their response to an RFP.

Please provide data interchange standards information specific lexicons containing concepts relating to patient observation data. If only part of the lexicon is related to observations please indicate as clearly as possible which pieces do. This information may be referenced in future RFPs or possibly specified as mandatory or options requirements.

Data Formats for Observations

The systems deployed today and the current standards have been developed at different times in the past. Many of these had to define their own infrastructure and data formats as horizontal standards (such as Ethernet, TCP/IP, CORBA, HTTP, SSL, Java, HTML, SGML, MIME, etc.) and tools had not matured at the time of their development. While CORBAmed standards will use OMG IDL to describe the services provided by an application and use IIOP (or other ESIOP) for transferring information there are currently no OMG standards to leverage that describes the common data formats and structuring.

It would be useful for CORBAmed to receive recommendation from systems developers, standards developers and system integrators. These recommendations should focus on data formats for transferring patient observation data. These may include success stories of using particular data formats but we are also interested in problems encountered

Many (maybe all) of the data type used for patient observations are generic and used outside of the healthcare domain as well as for healthcare. Healthcare systems and applications also need to interact (interface) with non-healthcare systems. For these reasons it is important that cross domain data formats and organization be used as much as possible.

Since there are so many data types of patient observations (such as measurements, notes, images, audio recording, video, etc.) it is important that multimedia formats be understood. Current work on categorizing, describing, decoding, and specifying these is important. It is hoped that horizontal standards may be used for data formats so CORBAmed compliant applications will be able to interoperate as new data types (such as holography and 3D models) emerge without extending the CORBAmed specifications.

2. Instructions for Responding to this RFI

Companies responding to this RFI shall designate a single contact within that company for receipt of all subsequent information regarding this RFI. The name of this contact will be made available to all OMG members.

Documentation submitted in response to this RFI will be available to all OMG members.

Format of RFI Responses

Although the OMG does not limit the size of responses, you are asked to consider that the OMG will rely upon volunteer resources with limited time availability to review these responses. In order to assure that your response receives the attention it deserves, you are asked to consider limiting the size of your response (not counting any supporting documentation) to approximately 25 pages. Much smaller responses are welcome as well.

If you consider supporting documentation to be necessary, please indicate which portions of the supporting documentation are relevant to this RFI.

NOTE: According to the Policies and Procedures of the OMG Technical Committee, proprietary and confidential material may not be included in any response to the OMG. Responses become public documents of the OMG. If copyrighted, a statement waiving that copyright for use by the OMG is required and a limited waiver of copyright that allows OMG members to make up to at least twenty-five copies for review purposes is required.

How to Submit

OMG requests that 50 paper copies of the response, one copy in a common machine-readable format (typically ASCII, RTF, MIF, PDF), and any supporting documentation to be sent to the Technology Desk at the OMG. Responses to this RFI (and other communication regarding this RFI or related RFPs in the future) should be addressed to:

CORBAmed Technology Desk
Object Management Group Inc.
Framingham Corporate Center
492 Old Connecticut Path
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Phone: +1-508-820 4300
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Email: corbamed@omg.org
Web: http://www.omg.org

Responses to this RFI must be received at OMG no later than 5:00 PM US Eastern Time (22:00 GMT) September 1, 1997. The outside of packages/envelopes containing submissions or any other communication regarding this RFI should be clearly marked "

CORBAmed RFI 2 RESPONSE".

NOTE: Your organization should be prepared to handle requests for additional copies of your response and should be prepared to handle requests for additional copies of supporting documentation.

Reimbursements

The OMG will not reimburse submitters for any costs in conjunction with their responses to this RFI.

3. Response Review Process and Schedule

Responses to this RFI are to be reviewed for the following express intention: providing OMG with technical information and guidance in writing the forthcoming RFP(s).

Responders are asked to attend the RFI response review meeting(s) and to present their response to the CORBAmed DTF.

Schedule

The schedule for responding to this RFI is as follows. Please note that early responses are encouraged.

TF recommends issuing the RFI	8 May 1997
RFI issued	27 June 1997
RFI responses due	1 September 1997

The tentative schedule for the RFI evaluation process and subsequent RFPs is:

Review of RFI responses	22-26 September 1997
Issuing the initial observations RFP	1-5 December 1997

NOTE: This schedule is subject to change based on the number of RFI responses received and the information acquired from the responses.

RFP Process

The OMG membership, specifically the

CORBAmed DTF will review responses to this RFI. Based on those responses, they will prepare one or more RFPs. These RFPs will be presented to the entire OMG DTC for acceptance. The accepted RFPs will be issued to the public.

As a forewarning to organizations who intend to respond to any

CORBAmed RFPs that may be issued, please note that responding to an RFP requires:

• A Letter of Intent (LOI) signed by an officer of your organization signifying your intent to respond to the RFP and a statement of your organization's willingness to comply with the OMG's requirements (e.g., your willingness to license the proposed technology openly).

• The technology submission described in accordance to the RFP. Any technology adopted by the OMG must be commercially available from a submitting member.

See the Schedule section for a timetable listing the tentative dates for the first RFP. Please consult the OMA Guide for a complete description of the OMG's requirements, policies and procedures for technology submissions.

Clarification of Responses

To fully comprehend the information contained within a response to this RFI, the reviewing group may seek further clarification on that response. This clarification may come in the form of verbal communication over the telephone; written communication; electronic communication; or a request to make a presentation of the response. CORBAmed requests that submitters attend the meeting following the RFI deadline to present their responses.

4. Appendix A: Background on the Object Management Group and CORBAmed

OMG is dedicated to producing a framework and specifications for commercially available object-oriented environments. The Object Management Architecture (OMA) Guide, published in 1990 (revised 1995), provides an architecture with terms and definitions upon which all supporting interface specifications are to be based. Part of this architecture is the Reference Model which identifies and characterizes the components, interfaces, and protocols that compose the OMA.

For More Information:

More information on the Object Management Group can be obtained via the Internet at:

WWW Homepage http://www.omg.org/

OMG provides a document server. Send e-mail to **`server@omg.org`** with a message body:

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help

get docs/doclist.txt
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References:

Object Management Architecture Guide (OMA Guide), Object Management Group, September 1995.

Common Object Request Broker Architecture and Specification (CORBA), Revision 2, Object Management Group, August 1995.

CORBAservices, Object Management Group, March 31, 1995, OMG TC Document 95-3-31.

CORBAsfacilities, Object Management Group, to appear late 1995. (Interim OMG TC Doc# 95-1-2)

Appendix B: OMG Process

OMG adopts specifications for interfaces, based on existing technology, by explicit vote on a technology-by-technology basis. The specifications selected each fill in a portion of the OMA Reference Model. OMG bases its decisions on both business and technical merit. The OMG Platform and Domain Technical Committees (PTC and DTC) provide technical guidance to the OMG in making decisions about specifications. The TCs are composed of representatives of all OMG member companies. The TCs are operated by a working full-time staff for the OMG itself (as opposed to being an employee of a member company).

The TCs operate in a Request for Proposal mode, requesting technology to fill open portions of the Reference Model from international industry. The responses to such a proposal, taken within the specific RFP response period, are evaluated by a Task Force of a TC with the full TC then voting on a recommendation to the Board for approval of a specific addition to the set of OMA specifications. Once a specification (a technology, not source or product) has been adopted by the OMG Board, it is promulgated to the industry through a variety of distribution channels.

RFIs such as this one are issued with the intent to survey the industry to obtain information that provides guidance which will be used in the preparation of forthcoming RFPs.

The OMG's fast track process allows for faster adoption of technology in the case where an existing OMG compliant specification exists and there is likely to be no competition.