eRA Paperless Business Practices Workgroup

Date: December 10, 2002
Time: 3:00–4:30 p.m.
Location: Rockledge 2, Room 6087
Advocate: Steve Hausman
Analyst: Michael Cox

Next Meeting: Tentative. January 28, Tuesday, Rockledge 2, Room 6087

Action Items

1. (Michael Cox) Validate numbers of IC study sections using CDs vs. handing out hard copies with Margaret Agresti.

Public Key Infrastructure for Certification of Grants Files

Guest speaker Dr. Peter Alterman discussed Public Key Infrastructure (PKI) and its potential application for certifying NIH electronic grants files. PKI is a technology that allows organizations to bind identities to electronic or digital tokens. These tokens can be hardware tokens (i.e., smart cards) or software tokens (i.e., encrypted files on floppy disks or hard disks). With PKI, organizations can create, manage, and maintain these digital tokens for the purpose of signing electronic documents.

Dr. Alterman said that PKI technology would greatly assist NIH efforts to establish electronic documents as the legal, authentic, and official records of the NIH. He said that the only way to demonstrate the legality and authenticity of electronic documents is by attaching a digital signature to those documents. However, this signature also needs to be legal and authentic. According to Dr. Alterman, PKI technology ensures both legality and authenticity, allowing the NIH to place significant confidence in affixing digital signatures to electronic files so that electronic business can be conducted securely.

Dr. Alterman emphasized that PKI, unlike other electronic-signing technology, provides two key benefits: non-repudiation and confidentiality. PKI allows organizations to prove in a court of law that the individual who owns a digital signature, credential or token has legally signed an electronic file. PKI also provides confidentiality because signing a file creates a hash algorithm with a unique cryptographic signature, allowing users to detect any changes to a file after it has been signed. Dr. Alterman explained that with PKI, the NIH would not only be saving paper, but protecting and covering its legal requirements.

To attach a digital signature to an electronic document, Dr. Alterman explained that NIH would have to image all pages in files, affix the digital signature of the designated authority to the files, and create restricted file access on a server. To bind identities to a digital token, the NIH would have to either issue digital certificates locally, using in-house software, or purchase them from a trusted third party, such as the National Finance Center or Digital Signature Trust. Dr. Alterman said that there are also PC desktop applications that would allow NIH users to affix their digital

signature to an electronic file and to validate the signature on an incoming grant application. To validate a signature, users would simply click on the digital certificate and run a search through an Internet infrastructure.

Digital signatures can also be used for authorization so that users can present their digital certificates as a means of gaining access into secure records. Encryption keys, which are used to encrypt a file so that only an individual possessing the key can enter the file, can also be used foraccess control.

Dr. Hausman asked whether or not PKI was necessary for converting official paper documents into electronic images. Dr. Alterman said that PKI is not necessary and that there are other ways to convert paper into electronic files. However, Dr. Alterman explained that PKI, unlike other technology, provides for the legality and authenticity of electronic files.

During a question and answer session, Dr. Alterman was asked whether it was possible for PKI to automatically validate digital signatures on grant applications without NIH users having to click on the certificate and run a search on the validity of those signatures. Dr. Alterman said that he hopes to make automated validation of digital signatures a reality by the end of the first quarter of 2003. He is scheduled to discuss his research efforts and the developments in this area with Charlie Havecost at E-Grants.

Dr. Alterman's power point presentation *Electronic Records: Authenticity Issues and Digital Certificates* can be viewed at http://era.nih.gov/Docs/Digital_Records_12-10-02.pdf

Document Retention Policy Update

At the last eRA Project Team meeting, Steve Hausman asked for a consensus on how long grant images should be maintained in the database before being discarded. He proposed that they be on the same retention schedule as a paper grant record. The grant image would be retained in the database throughout the active life of the grant, and, when the grant terminates, would follow a set archival retention schedule. The Project Team agreed to maintain grant images the same length of time as a paper record. They would be maintained in the database until the grant is terminated, and then follow an archival retention schedule, which would end in the deletion of the grant record from the database.

Dr. Hausman explained that NIH would have to develop new rules and procedures for deleting grants from the database. For instance, NIH will need to consider how to handle the termination of documents related to grants, such as Summary Statements, which are often kept in files separate from the grant folders. Also, grants may be stored in several systems, and the NIH will have to develop rules to ensure the termination of grants from all systems. Dr. Hausman said that these are issues that the Paperless Business Practices Workgroup can raise to the NIH community. However, these issues will not be solved overnight.

Loan Repayment Program to IMPAC II Bridge

Michael Cox said that a bridge from the Loan Repayment Program office to the IMPAC II system was implemented December 6. This bridge transfers LRP applications from the current LRP interface Web site to IMPAC II. Establishing this bridge allows ICs to now retrieve LRP (Loan Repayment Program) applications from IMPAC II and transfer them to CDS for review purposes. Implementing this bridge was relatively easy because a bridge was already in place to move

scanned grant applications into IMPAC II and into CD production. This bridge was simply enhanced to accommodate LRP applications. Also, this same bridge was updated to handle the scanning of Legacy documents.

Legacy Scanning Pilot Institutes

Roger Coombs announced that the National Institute of Dental and Craniofacial Research will be the first Institute to pilot Legacy Scanning sometime in January. Environmental Health Sciences will be the next pilot Institute at the end of January or beginning of February.

Paper Reduction Update

Michael Cox said that approximately 250 study sections representing 16 ICs have used CDs for their meetings. However, despite this number, ICs seem to still be handing out paper copies at meetings. The group suggested that these numbers might be incorrect. Michael Cox said that he would check these numbers with Margaret Agresti. It was suggested that study sections are still handing out paper copies at meetings either because meeting participants are not equipped with laptops and ask for hard copies or because meeting coordinators have to guess at the number of hard copies needed a month before the meeting. Just-in-time hard copies would greatly reduce the quantity of paper distributed at meetings because meeting coordinators could, rather than arbitrarily guess how many hard copies are needed month in advance, determine the number of hard copies needed at the very beginning of the meeting and print them out quickly for distribution.

Action: (Michael Cox) Validate numbers of IC study sections using CDs vs. handing out hard copies with Margaret Agresti.

eRA Project Plans for FY 2003

Michael Cox said that the eRA Project is currently determining priorities for FY 2003. In March, the grant folder in IMPAC II is scheduled to be upgraded. The upgrade will allow the folder to be more generic and less restrictive in terms of the number and kinds of documents users can view in the folder. Finally, the analysis of all document needs is scheduled to be completed sometime in July to determine requirements for a total e-file system.

Attendees

Agresti, Margaret (OD)
Akeem, Carleen (CIT)
Armistead, Allyson (OCO)
Colbert, Penny (NICHD)
Coombs, Roger (QA)
Cox, Michael (OD)
Hagan, Ann (NIGMS)
Hausman, Steve (NIAMS)
Mason, Melvin (CIT)
Meeker, Tim (NCI)
Niles, Glen (QA)
Owsowitz, Sidney (NINDS)
Panniers, Richard (NINR)
Schultz, Susan (NIMH)
Sinnet, Ev (CSR)
Stanfield, Brent (CSR)