



InterPARES 3 Project

International Research on Permanent Authentic Records in Electronic Systems

TEAM Italy

MANAGING AND PRESERVING E-MAIL RECORDS

Massimiliano Grandi, TEAM Italy

InterPARES 3 Project
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ASSUMPTIONS

1. E-MAILS ARE NOT PER SE RECORDS
2. E-MAIL RECORDS ARE NOT PER SE A RECORDS SERIES
3. THE CONDITIONS TO DEFINE E-MAIL MESSAGES AS RECORDS ARE BASED ON THE INTERPARES INTELLECTUAL FRAMEWORK
4. E-MAILS AND RECORDS ASSOCIATED WITH THEM ARE NOT NECESSARILY IN THE RATIO OF ONE-TO-ONE



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PROBLEMS

1. THE NUMBER OF E-MAILS MADE AND RECEIVED BY AN ORGANIZATION IS USUALLY OVERWHELMING
2. E-MAIL RECORDS CAN BE CHARACTERIZED BY A COMPLEX STRUCTURE:
 - MANY POSSIBLE COMPONENTS
 - ANY KIND OF INFORMATION CAN BE ASSOCIATED WITH THEM
 - ANY FILE FORMAT CAN BE PRESENT
 - THE USE OF THREAD FUNCTIONS MAY INVOLVE RISKS
3. THE INTELLECTUAL ORGANIZATION OF THE PARTS OF AN E-MAIL MESSAGE CAN BE COMPLETELY DIFFERENT FROM THE PHYSICAL ONE
4. IT SYSTEMS TO HANDLE E-MAILS ARE OFTEN ISOLATED ENVIRONMENTS
5. AN E-MAIL MAY CONTAIN BOTH BUSINESS AND PRIVATE INFORMATION: PRIVACY CONCERNS AND RECORDS MANAGEMENT PROBLEMS



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INTEGRATION WITH THE RECORD-KEEPING SYSTEM

1. THE PIVOTAL RECOMMENDATION AND THE ONLY STRATEGY THAT IS SUCCESSFUL AND MAKES SENSE
2. RESEARCH PROJECTS, STANDARDS , POLICIES AND MOST OF THE RELEVANT LITERATURE RECOMMEND IT
3. IF A TECHNOLOGICAL INTEGRATION CANNOT BE IMPLEMENTED, THE INTEGRATION MUST BE PERFORMED AT LEAST FROM AN INTELLECTUAL POINT OF VIEW (MIRRORING)



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INCLUSION IN THE RKS/1

HOW TO COPE WITH THE IMMENSE WORKLOAD REQUIRED TO APPROPRIATELY INCLUDE E-MAIL RECORDS IN A RKS?

A STRATEGY BASED ON FOUR PILLARS

1. HUMAN SUPERVISION
2. ADVANCED AUTOMATION
3. MANAGEMENT-ORIENTED DIPLOMATICS
4. BUSINESS PROCESS REENGINEERING

HUMANS MUST HAVE THE LAST WORD, NOT ONLY BECAUSE THEY ARE ACCOUNTABLE , BUT ALSO BECAUSE THEY CAN HELP MACHINES TO OVERCOME THE AMBIGUITIES OF INTERPRETATION AND MEANING



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INCLUSION IN THE RKS/2

- 1. INTELLECTUAL AND PHYSICAL STRUCTURE OF E-MAIL RECORDS**
- 2. PROACTIVE MINDSET: METADATA ELEMENTS AND INTELLECTUAL AND DIGITAL COMPONENTS DEFINED ACCORDING TO SPECIFIC TRANSACTIONS AND TYPOLOGIES OF RECORD**
- 3. ANY RECORD SENT BY E-MAIL MUST BE INCLUDED IN THE RKS AS A SEPARATE ENTITY**
- 4. WHENEVER POSSIBLE, A RATIO OF ONE-TO-ONE BETWEEN E-MAILS AND RECORDS ASSOCIATED WITH THEM**



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INCLUSION IN THE RKS/3

- 5. DURING THE PHASE OF INCLUSION EVERY E-MAIL RECORD MUST BE HANDLED JUST AS ANY OTHER RECORD (WITH REGARD TO CLASSIFICATION, FILING, ETC.)**
- 6. A STRATEGY FOR THE IDENTIFICATION OF THE SENDER**
- 7. A STRATEGY FOR THE IDENTIFICATION OF ALL THE OTHER ADDRESSEES**
- 8. MEANINGFUL E-MAIL SUBJECT HEADERS TO EASILY DETERMINE THE SUBJECT OF AN E-MAIL RECORD**
- 9. DATE AND, IF APPLICABLE, TIME OF INCLUSION IN THE RKS**
- 10. ALL THE HEADERS OF AN E-MAIL MUST BE ADDED TO THE RECORD PROFILE OF EACH RECORD ASSOCIATED WITH THE E-MAIL**



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MAINTENANCE AND WORKFLOWS

1. AUDIT TRAILS IN ORDER TO KEEP TRACK OF ANY EVENT
2. CHECKSUMS FOR BOTH THE WHOLE E-MAIL RECORD AND ANY OF ITS DIGITAL COMPONENTS
3. THREAD FUNCTIONS (REPLY AND FORWARD) MUST BE REGULATED THROUGH POLICIES , TOOLS AND CONTROLLED WORKFLOWS

INAPPROPRIATE USE OF THREAD FUNTCTIONS MAY RESULT IN MISUNDERSTANDINGS ABOUT THE IDENTITY OF THE PERSONS INVOLVED IN THE PROCESS OF CREATION OF AN E-MAIL RECORD



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LONG-TERM PRESERVATION/1

1. OAIS MODEL
2. EMULATION IS NOT A VIABLE OPTION
3. ACTIONS FOR LONG-TERM PRESERVATION MUST BE BASED ON MIGRATION AND USE OF STANDARD FORMATS AND SOFTWARE- AND HARDWARE INDEPENDENT METHODS OF REPRESENTATION OF INFORMATION
4. ACTIONS FOR LONG TERM PRESERVATION MUST NEVER IMPAIR THE EFFECTIVENESS OF THE ROUTINE BUSINESS PROCESSES OF AN ORGANIZATION



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LONG-TERM PRESERVATION/2

5. CONVERSION TO LONG-TERM PRESERVATION FORMATS (IF NEEDED) SHOULD BE PERFORMED AT THE TIME OF THE INCLUSION IN THE RKS. POSTPONING CONVERSION AT THE TIME OF THE TRANSFER FROM THE RKS TO THE DIGITAL REPOSITORY IS DANGEROUS
6. APPROPRIATE PROCEDURES TO ENSURE THE ONGOING MAINTENANCE OF E-MAIL RECORD OAI-S-COMPLIANT AIPS
7. METADATA ELEMENTS DOCUMENTING THE CUSTODIAL HISTORY ARE ALWAYS ESSENTIAL



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LINKS AND ENCRYPTIONS

LINKS CONNECTED WITH EXTERNAL RESOURCES MUST BE ADEQUATELY DESCRIBED

USE OF LINKS TO EXTERNAL RESOURCES MUST BE REGULATED THROUGH POLICIES, TOOLS AND CONTROLLED WORKFLOWS

LEGAL OBLIGATIONS AND BUSINESS NEEDS MAY REQUIRE THE PRESERVATION OF THE ORIGINAL BITSTREAM OF DIGITAL SIGNATURES AND OTHER KINDS OF ENCRYPTION

CATERING FOR TWO CONTRASTING NEEDS: A VIABLE DIGITAL LONG-TERM PRESERVATION STRATEGY CANNOT BE BASED ON THE PRESERVATION OF THE INTEGRITY OF BITSTREAMS

AN AUTHENTIC RECORD CAN EFFECTIVELY ATTEST THE AUTHENTICITY OF A DIGITAL SIGNATURE. THE REVERSE IS FAR LESS LIKELY TO HAPPEN



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THANK YOU!