



# **InterPARES 3 Project**

International Research on Permanent Authentic Records in Electronic Systems  
**TEAM Italy**

## **GUIDELINES AND RECOMMENDATIONS FOR E-MAIL RECORDS MANAGEMENT AND LONG-TERM PRESERVATION**

**InterPARES 3  
TEAM Italy**



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## ASSUMPTIONS

E-MAILS ARE NOT PER SE RECORDS

E-MAIL RECORDS ARE NOT PER SE A RECORDS SERIES

THE CONDITIONS TO DEFINE E-MAIL MESSAGES AS RECORDS ARE BASED ON THE INTERPARES INTELLECTUAL FRAMEWORK

E-MAILS AND RECORDS ASSOCIATED WITH THEM ARE NOT NECESSARILY IN THE RATIO OF ONE-TO-ONE



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## **PROBLEMS**

**THE OVERWHELMING NUMBER OF E-MAILS**

**IT SYSTEMS FOR E-MAILS AS ISOLATED ENVIRONMENTS**

**BUSINESS AND PRIVATE INFORMATION: PRIVACY CONCERNS AND RECORDS MANAGEMENT PROBLEMS**



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## MORE PROBLEMS

### THE COMPLEX STRUCTURE OF E-MAIL RECORDS:

- MANY POSSIBLE COMPONENTS
- ANY KIND OF INFORMATION
- ANY FILE FORMAT
- THREAD FUNCTIONS

### THE INTELLECTUAL AND PHYSICAL ORGANIZATION OF E-MAIL RECORDS



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## **INTEGRATION WITH THE RECORD-KEEPING SYSTEM**

**THE PIVOTAL RECOMMENDATION**

**URGED BY RESEARCH PROJECTS, STANDARDS,  
POLICIES, RELEVANT LITERATURE**

**IT MUST BE ALWAYS PROVIDED AT LEAST FROM AN  
INTELLECTUAL POINT OF VIEW**



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## GOVERNING INCOMING AND OUTGOING FLOWS

FULL AWARENESS OF THE GATES BETWEEN THE  
RECORDS-KEEPING SYSTEM AND THE WHOLE SET OF  
CORPORATE ACCOUNTS

CORPORATE ACCOUNTS ASSOCIATED WITH OFFICES  
OR FUNCTIONS RATHER THAN INDIVIDUAL BUSINESS  
ACCOUNTS

NEVER USE PRIVATE PERSONAL ACCOUNTS



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## **INCLUSION STRATEGY**

**HOW TO COPE WITH THE IMMENSE WORKLOAD?**

**A STRATEGY BASED ON FOUR PILLARS**

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



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## **AUTOMATION IS ESSENTIAL IN THE RIGHT AMOUNT**

**AUTOMATION IS INDISPENSABLE FOR  
MANAGING LARGE FLOWS OF E-MAILS BUT...**

**....HUMANS MUST HAVE THE LAST WORD**

- **ONLY HUMANS ARE ACCOUNTABLE**
- **ONLY HUMANS CAN HELP MACHINES TO  
OVERCOME AMBIGUITIES**





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## **BUSINESS PROCESS REENGINEERING**

**DESIGN AND CONTROL OF WORKFLOW  
PROCESSES AS A PROACTIVE APPROACH**

### **CONCRETE BENEFITS**

- **COMPLIANCE WITH SPECIFIC REQUIREMENTS  
(METADATA VALUES, DOCUMENTARY FORMS)**
- **ROUTINE STEPS USEFUL FOR CHECKS AND RULE  
ENFORCEMENT**

**EXHAUSTIVENESS IS NOT NECESSARY**



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## **MANAGEMENT-ORIENTED DIPLOMATICS**

**REGULAR DOCUMENTARY FORMS TO SUPPORT  
AUTOMATION AND STREAMLINED PROCESSES**

**PREARRANGED E-MAIL TEMPLATES OR JUST  
REGULAR PATTERNS**

- **CONTROLLED VOCABULARY AND FIXED PHRASES**
- **RECURRING DOCUMENTARY FORMS**
- **MANDATORY FEATURES**

**EFFECTIVE ONLY IN CONJUNCTION WITH BPR**



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## **THE STRUCTURE OF E-MAIL RECORDS**

**THE INTELLECTUAL AND PHYSICAL ORGANIZATION OF E-MAIL RECORDS**

**LIST(S) OF REQUIRED INTELLECTUAL AND DIGITAL CHARACTERISTICS AS WELL AS OF MANDATORY METADATA ELEMENTS**

**LIST OF THE FILE FORMATS THAT CAN NORMALLY BE KEPT IN THE RKS**



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## TO EACH ONE HIS OWN

ANY RECORD SENT BY E-MAIL MUST BE INCLUDED IN THE RKS AS A SEPARATE ENTITY

IF POSSIBLE, A RATIO OF ONE-TO-ONE BETWEEN E-MAILS AND RECORDS ASSOCIATED WITH THEM

EVERY E-MAIL RECORD MUST BE ASSIGNED A UNIQUE IDENTIFIER AND HANDLED JUST AS ANY OTHER RECORD (WITH REGARD TO CLASSIFICATION, FILING, ETC.)



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## **SENDERS AND ADDRESSEES**

**THE IDENTIFICATION OF SENDERS AND ADDRESSEES IS OFTEN DIFFICULT OR EVEN IMPOSSIBLE**

**LIST(S) OF PHYSICAL AND JURIDICAL PERSONS**

**A STRATEGY FOR DISTRIBUTION LISTS AND ADDRESSEES IN CARBON COPY AND BLIND CARBON COPY**

**APPROPRIATE TOOLS AND PROCEDURES FOR EACH RECORDS CREATOR AND BUSINESS PROCESS**



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## **BUILDING A PROPER SET OF METADATA ELEMENTS**

**MEANINGFUL E-MAIL SUBJECT HEADERS TO EASILY DETERMINE THE SUBJECT OF AN E-MAIL RECORD**

**DATE(S) AND TIME(S)**

**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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## **AUDIT TRAILS AND CHECKSUMS**

**BOTH FOR THE WHOLE E-MAIL AND FOR EACH OF ITS DIGITAL COMPONENTS**

**DIFFERENT KINDS OF CHECKSUM**

**NEW CHECKSUMS EVERY TIME THAT AN E-MAIL RECORD IS MODIFIED**



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## THREAD FUNCTIONS (REPLY AND FORWARD)

TO BE REGULATED THROUGH POLICIES AND  
CONTROLLED WORKFLOWS

“IT MUST BE CLEAR WHO SAID WHAT TO WHOM” (M.  
PENNOCK, DIGITAL CURATION MANUAL, 2006)

REGARDLESS OF ANY ASSOCIATION EXISTING WITH A  
THREAD, ANY E-MAIL RECORD MUST BE INCLUDED IN  
A RKS IN A WAY THAT MIRRORS ITS INTELLECTUAL  
RELATIONSHIPS





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## STRATEGIES FOR LONG-TERM PRESERVATION

OAIS MODEL

OAIS-COMPLIANT AIPS FOR E-MAIL RECORDS MAY  
BE COMPLEX PACKAGES

MIGRATE, DO NOT EMULATE



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## SETTING THE STAGE FOR MIGRATION PROCESSES

USE OF STANDARDS FORMATS AND  
SOFTWARE- AND HARDWARE-INDEPENDENT  
METHODS OF REPRESENTATION OF INFORMATION

THE ROLE OF XML



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## SCHEDULING LONG-TERM PRESERVATION ACTIONS

WHEN TO PERFORM THE CONVERSION TO LONG-  
TERM PRESERVATION FORMATS

NEVER IMPAIR THE EFFECTIVENESS OF ROUTINE  
BUSINESS PROCESSES



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## LONG-TERM PRESERVATION AS AN ONGOING PROCESS

APPROPRIATE PROCEDURES TO ENSURE THE  
ONGOING MAINTENANCE OF E-MAIL RECORD  
OAIS-COMPLIANT AIPS

METADATA ELEMENTS DOCUMENTING  
THE CUSTODIAL HISTORY ARE ALWAYS ESSENTIAL



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## LINKS

**LINKS CONNECTED WITH EXTERNAL RESOURCES  
MUST BE ADEQUATELY DESCRIBED**

**USE OF LINKS TO EXTERNAL RESOURCES MUST BE  
REGULATED THROUGH POLICIES AND BUSINESS  
PROCESS MODELLING**



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## ENCRYPTIONS

THE PRESERVATION OF THE ORIGINAL BITSTREAM OF  
DIGITAL SIGNATURES AND OTHER KINDS OF  
ENCRYPTION

TWO CONTRASTING NEEDS: THE LONG-TERM  
PRESERVATION OF E-MAIL RECORDS VS . THE  
INTEGRITY OF BITSTREAMS



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## **THE EVIDENTIAL VALUE OF A DIGITAL SIGNATURE**

**AN AUTHENTIC RECORD CAN EFFECTIVELY ATTEST  
THE AUTHENTICITY OF A DIGITAL SIGNATURE**

**THE REVERSE IS FAR LESS LIKELY TO HAPPEN**



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## **SOME CONCLUSIONS**

**SEVERAL ISSUES ARE COMMON TO BOTH E-MAIL AND PAPER MAIL RECORDS, BUT ARE FAR MORE SERIOUS FOR E-MAIL RECORDS**

**A THOROUGH UNDERSTANDING AND AN ONGOING ANALYSIS OF THE BUSINESS PROCESSES AND WORKFLOWS OF THE RECORDS CREATOR ARE KEY PREREQUISITES**





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THANK YOU!