



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

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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!