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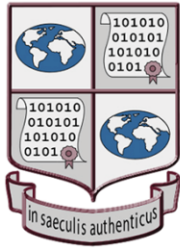
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It's All About Trust

The Implementation of Policy, Guidelines
and Recommendations for Ensuring the
Proper Management and Long-term
Preservation of E-mail Records

Maria Guercio, Team Italy

Citra, Oslo, Norway
15 September 2010



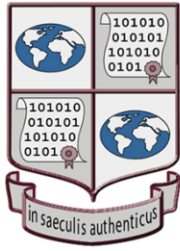
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The presentation concerns the report *Guidelines and recommendations for e-mail records management and long-term preservation* prepared and discussed by the IP3 Team Italy, discussed and approved by the IP3 International Team

The report has been elaborated by Massimiliano Grandi (Team Italy)



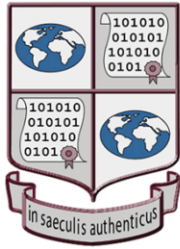
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BASIC ASSUMPTIONS: e-mail record

- The e-mail messages **are not intrinsically a type of record**, but they can become records:
 - they are by-products of systems originally created as *vectors* for sending and receiving information and/or records
- The requirements for their declaration/ recognition as records/archival documents depend upon the specific analysis of their **nature** and **function**



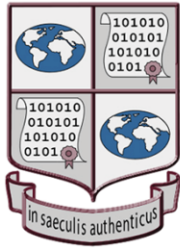
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BASIC ASSUMPTIONS: e-mail structure

- The e-mail structure is more **complex than expected** because of the multiplicity of components and formats available
- The uses are **flexible** and difficult to govern according to pre-defined rules



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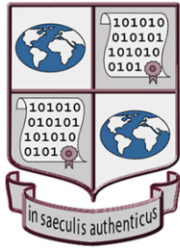
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BASIC ASSUMPTIONS: the attachments

From the archival point of view the attachments can be considered as:

- **parts of a single record** (another part is the plain text section displayed under the headers, presented as simple text without formatting or in html format)
- **enclosures** of a records
- **separate records**
- **records with one or more attachments**



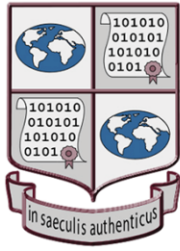
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OPEN QUESTIONS

- The **huge quantity** of e-mails received and sent for any organization increases the complexity for their handling
- The **isolation** and **lack of interoperability** and **standards** of the present dedicated e-mail systems make difficult their management as integrated part of the record system and produce fragmentation and lack of control



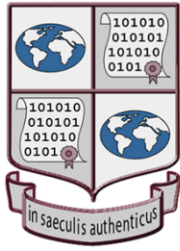
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OPEN QUESTIONS (cont.)

- The **quantity** (and the variety of **types**) of **accounts** available for sending/getting e-mails in a corporate IT system (personal, functional, institutional) and the **free use of them for conducting the business** activity increase the organizational complexity
- policy and rules are sometimes in place but their application is complex and often not connected with an **overall consistent records management policy**



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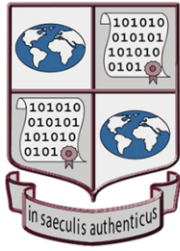
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RECOMMENDATIONS

3.1. INTEGRATION WITH RECORDKEEPING SYSTEMS

- It is a **crucial** recommendation, present in any international standard (like MoReq, DoD), in many national **policies** and in the archival **literature**
- The integration can be implemented as part of the technological solution (routed automatically or on request) or through the **intellectual control** (as a mirroring system able to reflect in the recordkeeping system the same structure of the e-mail systems)



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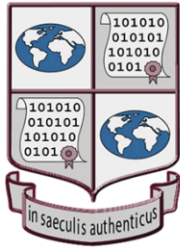
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RECOMMENDATIONS

3.1. INTEGRATION WITH RECORDKEEPING SYSTEMS (cont.)

- **institutional corporate accounts** are the best solutions: they have to be identified in **direct relation with the records system**.
- The accounts should be
 - accessible by given members of the RKS staff (3.1.2)
 - listed and controlled (3.1.3)
 - supported by tools finalized to implement the integration (for instance by defining controlled workflows for specific business processes) (3.1.4)



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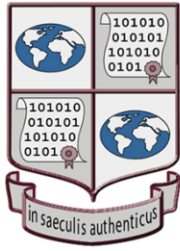
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RECOMMENDATIONS

3.2. CAPTURE AND FILING

E-mails records (as part of the recordkeeping system) have to be **captured** and **filed** into the RKS (3.2.1)



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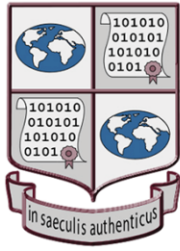
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RECOMMENDATIONS

3.2. CAPTURE AND FILING (cont.)

- The information related to the physical configuration of the digital components of the e-mail are metadata to be preserved in the **record profile** (3.2.2)
- Due to the quantity of the e-mail records handled it is necessary to develop the most advanced techniques for **automating the content analysis** and the process of capture and filing (3.2.3)



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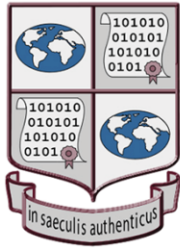
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RECOMMENDATIONS

3.2. CAPTURE AND FILING (cont.)

If this process is partly automated, the RKS staff must implement procedures that let humans **audit the results** and guarantee the accountability for the decisions taken (3.2.4) by:

- planning **controlled documentary forms** of e-mail records (for instance by using XML template at least for sent e-mail records) (3.2.5)
- **pre-defining metadata** and **digital components** in relation to specific activities and procedures (3.2.6 and 3.2.7)



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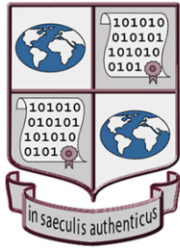
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RECOMMENDATIONS

3.2. CAPTURE AND FILING (cont.)

- Any record sent by e-mail must be included in the RKS as a **separate entity** (3.2.8)
- To facilitate the automation process, any e-mail should be associated with only **one record** (3.2.9)



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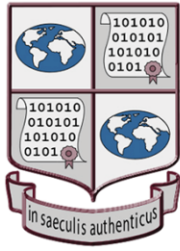
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RECOMMENDATIONS

3.2. CAPTURE AND FILING (cont.)

- Special attention has to be paid to the **identification of the author** of e-mail records as juridical or physical person when it is included to the RKS: the capture of e-mails of uncertain provenance should be strongly controlled (3.2.10 and 3.2.13)
- In case of **distribution lists** it is required to acquire the related documentation and maintain it in the RKS in connection with the record profile (3.2.14)



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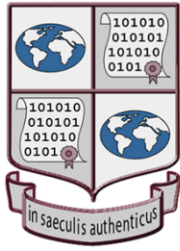
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RECOMMENDATIONS

3.2. CAPTURE AND FILING (cont.)

- Rules should be set about the use of the headers '**carbon copy**' and '**blind carbon copy**' (3.2.15 and 3.2.16)
- The **subject header** of an e-mail record to be included in the RKS has also to be included in the record profile and must be **meaningfully expressed** with reference to the transaction or the matter to which the record relates (3.2.17 - 3.2.19)



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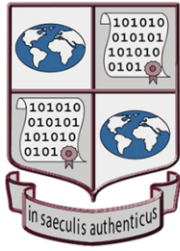
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RECOMMENDATIONS

3.2. CAPTURE AND FILING (cont.)

- The RKS staff should set up **appropriate tools** (e-mail templates, databases of normalized subjects, controlled dictionary and workflows) to expedite the definition of appropriate subject for any e-mail record (3.2.20)



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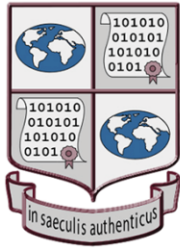
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RECOMMENDATIONS

3.2. CAPTURE AND FILING (cont.)

- The **dates** (including the time if appropriate) related to the e-mail records sent and received and captured by the RKS must be added as metadata to the associated **record profile** (3.2.21)
- It is necessary to define the **formats accepted** by the RKS and convert the e-mail record according to the retention schedule (3.2.23)



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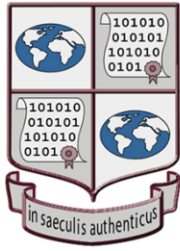
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RECOMMENDATIONS

3.2. CAPTURE AND FILING (cont.)

- If a RKS is in place, any e-mail record has to be **uniquely identified, classified, filed and associated with a retention and disposition schedule** and handled as any other record captured in the RKS (3.2.4)



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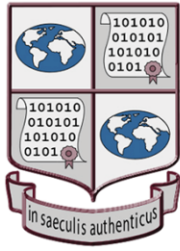
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RECOMMENDATIONS

3.3. MAINTENANCE AND WORKFLOW

- Any event affecting an e-mail record included in the RKS has to be **tracked** and appropriate **audit trails must be kept**; the audit trail must be able to indicate each digital component affected by the event; the record profile must show the audit trails available, which are **part of the e-mail record metadata** (3.3.1)



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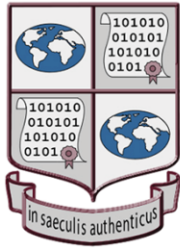
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RECOMMENDATIONS

3.3. MAINTENANCE AND WORKFLOW (cont.)

- Whenever an e-mail record is captured the RKS should create a **checksum** of the whole e-mail record and one for any component; the checksums must be stored as metadata and added to the record profile (3.3.2)
- In case of changes of a component, the RKS must create a **new checksum** and record it as metadata (3.2.3)



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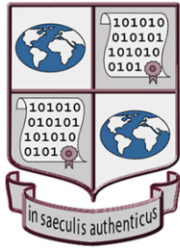
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RECOMMENDATIONS

3.4. LONG-TERM PRESERVATION FORMATS AND SOLUTIONS

- Solutions and procedures aimed to ensure the long-term preservation of e-mail records must be developed within a framework of **strategies based on standard formats** and hw- and sw-**independent methods** of representation of information (3.4.1)
- The RKS must preserve all the digital components in formats that allow to **efficiently and effectively carry out the routine business activities** of the organization (3.4.2)



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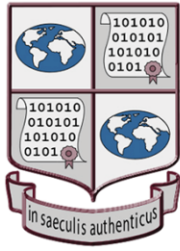
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RECOMMENDATIONS

3.4. LONG-TERM PRESERVATION FORMATS AND SOLUTIONS (cont.)

- **Formats suitable for long-term preservation** should be used for create outgoing e-mail records (3.4.3)
- The RKS should convert all the digital components of e-mail records designed for permanent retention in **formats suitable** for this purpose (3.4.5) and the metadata should be organized in an **OAIS-compliant AIP** (3.4.6), specifically for transferring to a long-term digital repository (3.4.7-3.4.10)



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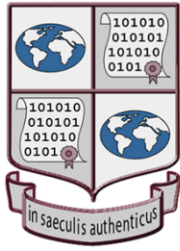
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RECOMMENDATIONS

3.5. LINKS, DIGITAL SIGNATURES AND HIDING ENCRYPTIONS: LINKS

- At the moment of the capture of an e-mail record, the RKS must appropriately **describe every link** connected with an external resource (URI, outcome of a check test on the link including date and time of the test and the juridical and physical person accountable for the external resource and any other metadata type useful to prove the configuration of the resource at the time of capture) (3.5.1)
- The RKS staff should guide the organization to **avoid risks** in using links to external resources (3.5.2)



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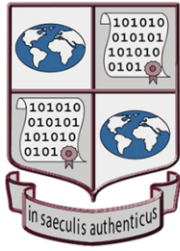
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RECOMMENDATIONS

3.5. LINKS, DIGITAL SIGNATURES AND HIDING ENCRYPTIONS: DIGITAL SIGNATURES

- The RKS staff must **ensure the validity** of any digital signature appended to any digital component of an e-mail record by preserving the original bitstream and performing all the actions required to operate the validation chain of the digital signature **as long as the validity of the signature must be retained because of legal obligations and business needs**; this information must be registered in the record profile (3.5.3)



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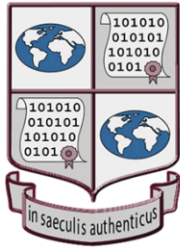
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RECOMMENDATIONS

3.5. LINKS, DIGITAL SIGNATURES AND HIDING ENCRYPTIONS: DIGITAL SIGNATURES (cont.)

- In case of permanent retention and conversion of the digital component to a format fit for long-term preservation, the **original bitstream of the component and the digital signature should be preserved** and the related metadata added to the record profile (3.5.4-3.5.6)



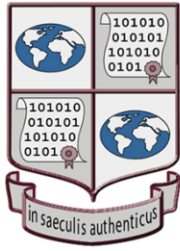
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IN CONCLUSION

- The apparently simple use of the e-mail systems hides unexpected complexities both for management and preservation
- The correct recordkeeping of e-mail records is at the basis of their feasible preservation (more clearly and not differently than any other kind of records)



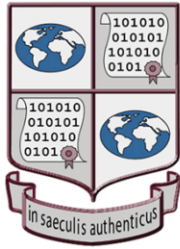
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IN CONCLUSION (cont.)

- The quantity of e-mails handled by any organization and the variety of the accounts available make these actions expensive without automation processes
- In synthesis, the e-mails records are one of the best evidence of the need for continuing investments in the digital record-making and keeping as requirements for efficient business management and for sustainable maintenance and preservation processes



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Thanks for your attention