



Bit Preservation, a way of life for digital archives

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Introduction
The Digital Preservation Challenge
Community
Preserving Bits the OPF way
Looking forward
Threats & Risks

AGENDA

Introduction

The OPF's mission is to ensure that its members around the world meet digital preservation challenges with solutions and techniques that are widely adopted and actively used by memory institutions and beyond.

The challenge

- Producers of digital content today use technologies (media, software and hardware) that create an increasing amount of dependencies
- Preserving digital content is about understanding these dependencies and take action to assure future access and rendering
- Memory institutes need to have skilled staff with deep understanding of a wide range of technologies and an ability to act on issues caused by new publishing technologies. Respond, mitigate issues and take informed decisions about introduction of new technology challenges

Taking action

- We have to respond and take action on a continuously moving target (due to rapid technology changes)
- Should not wait to get involved, because it will only become more complex due to the shorter cycles of technology renewal
- Continued R&D efforts *and* also be pro-active
- Work on the organizational learning challenge
- Continuously train and educate digital preservation practitioners and developers
- **But doing it on your own is not an option!**

What is OPF and how can we help

- Is an active community sharing experience and practices
- Fosters and matures digital preservation tools and practices
- Promotes learning from its community experts
- Continues to build a Community of merit for digital preservationists via hackathons, webinars, a wiki and blogs
- Primarily connects your people (practitioners and developers) to real and actual long term access issues
- Stimulates collaboration and pragmatic, practical actions
- Above all empowers digital preservationists to stay involved, internationally connected and to develop the role of the digital preservation professional of the future

Preserving Bits the OPF way

Digital Forensics

Virtualization of
objects with
complex
dependencies

Format
Identification &
characterization

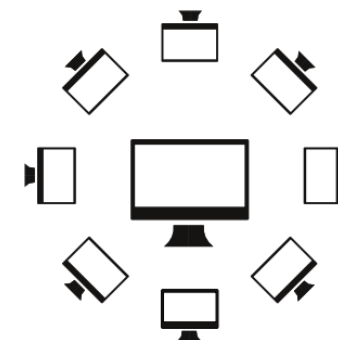
Emulation

Highlights

- **Quarterly hackathons**
 - Emulation, learn from the experts, Freiburg, November 2012
 - A Practical Approach to Disk Images & Digital Forensics, May 2013
 - Tackling Real-World Collection Challenges with Digital Forensics Tools and Methods, Chapel Hill, June 2013



Highlights



- **Monthly webinars**

- Understanding the Value of Preservation Data, by Dr. David Tarrant, OPF/University of Southampton
- Digital Preservation at your Command – Part I, by Carl Wilson, OPF
- Working Collaboratively in Digital Preservation, by Paul Wheatley, University of Leeds
- Digital Preservation at Your Command Part II, by Maurice de Rooij, National Archives of the Netherlands
- Format/know? Problems with Format Identification, by Jay Gattuso, New Zealand National Library
- BwFLA Project and emulation-based services, by Annette Strauch, University of Ulm
- Software Development with OPF, by Carl Wilson, OPF
- C3PO, An introduction to content profiling, by Petar Petrov, Creative Pragmatics

Preservation Health (sponsored by OCLC)

- Can we pull risk evidence from preservation metadata... (not limited to PREMIS)
- 2013 collecting and analysing data (BnF)
- Produce a repository (risk) threat dashboard prototype
- 2014 evaluate

2014 – 2016 Preview

- Pragmatic actions and improving practice
 - Don't fix what isn't broken
 - Be prepared to fix in case of evidence
 - Continued sharing of tools and experience
 - Reach out with increased online presence
 - Empowering with awards and community recognition
- **Train and build competence and skills (Covey: sharpen the saw)**

Hackathons

- Quarterly hackathons
- Themes for 2014-2016
 - PDF-A
 - HADOOP, increasing performance of tools
 - Preservation of Computer Games and Computer Art
 - Hacking as usual around preservation tools and rendering technologies
 - Database archiving
 - Take-up of Scape Tools
 - LOCATIONS
 - Hamburg, The Hague, Stanford, Vienna, York

Webinars

- Monthly Webinars
- Training command line tools
- Evangelizing new tools
- Promoting (best) practices of members
- Supporting Dissemination of Projects (Scape and more)

DIGITAL PRESERVATION COMPLICATED?



Control
Risk management
Trust & Certification
Institutional Action

Maintain
Re-purpose
Re-use
Respond

six properties of successful digital preservation (SPOT model)

- Availability
- Identity
- **Persistence**
- Authenticity
- Understandability
- Renderability

“Persistence is the property that the bit sequences comprising a digital object continue to exist in a usable/processable state, and are retrievable/processable from the medium on which they are stored.”

Covey, Habit 5: Seek First to Understand, Then to be Understood

- Availability
- Identity
- Persistence
- Authenticity
- Business continuity Plan
- Disaster recovery Plan
- Redundant data center
- Manage Data Integrity

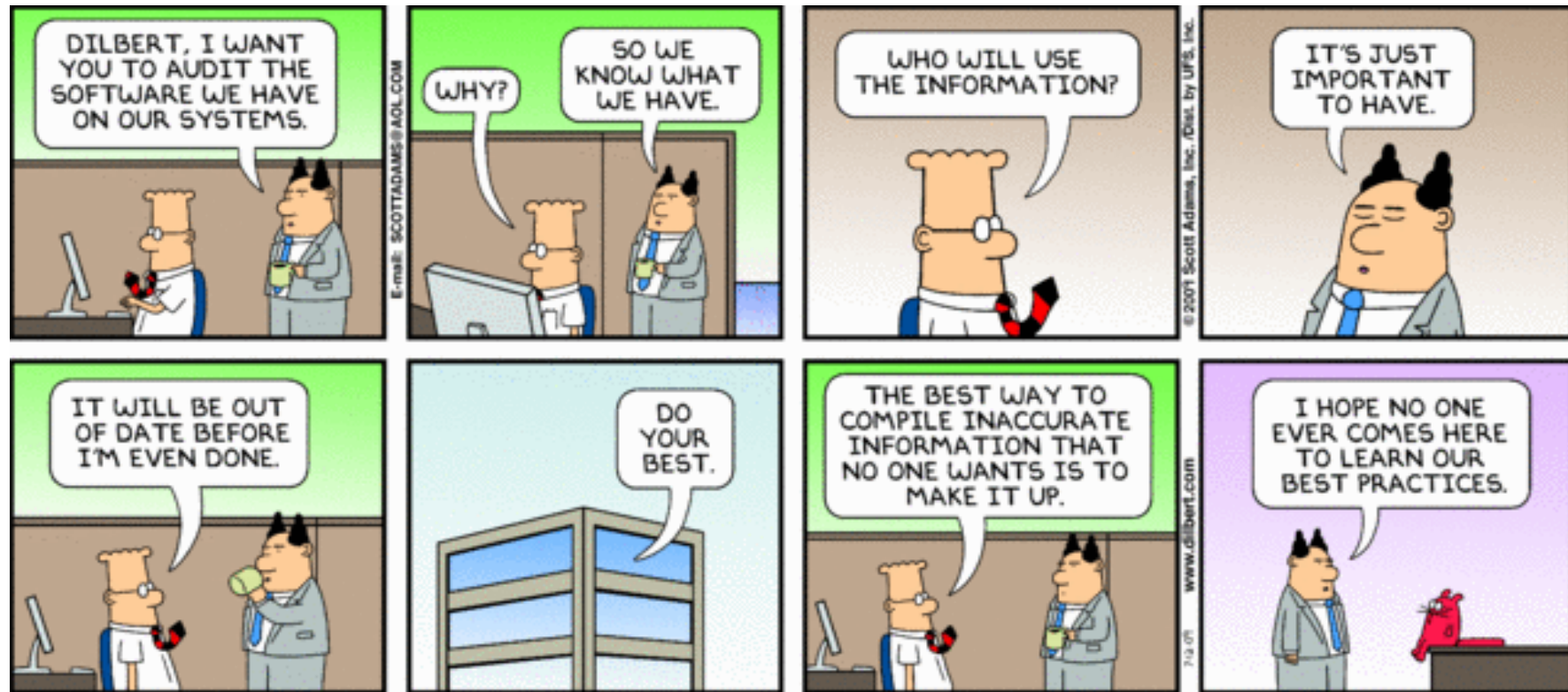


Translating Digital preservation threats into operational practice

- Tender for storage
- Decide on Make or Buy (don't re-invent the wheel, or think "not invented here")
 - Open Source is not for free
 - Use commercial solutions when possible (Out of the Box, please!)
- Understand and apply IT Governance and operational best practices (COBIT, CMM. ITIL etc)

1-Articulate (R&D) remaining threats and mitigate associated risks

- Manage accurate Preservation & Technical Metadata



2-Articulate (R&D) remaining threats and mitigate associated risks

- Virtualize digital objects with their dependencies
- Emulate obsolete hardware and operating systems



The Real Risks

- The way people work
- Retention of key staff
- **Management & Governance**
 - Technology change is a fact of life outside our control, but there are lots of tools and workarounds

And what about Digital Records Management.....

- That is your job.....
 - Preserving records is the domain of an archive
 - Once bits are lost digital records will be affected forever
- ***Digital Preservation is a pre-condition that can and must be taken into practice today***

Lack of Governance and domain expertise are the main risks for our digital memory

- Developing and retaining qualified staff
- Career path for technologists



Technology challenges are solved by
people (with some support of tools)

THANK YOU

