ILLINOIS

THE ANDREW W. MELLON FOUNDATION

OctoberPDFest ONLINE

A Specification for using PDF to Package and Represent Email

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About Me

Budding Historian and Anglophile

Accidental Archivist

Digital Preservation Student

Digital Strategies Leader

About the Archives, RM, DP Community

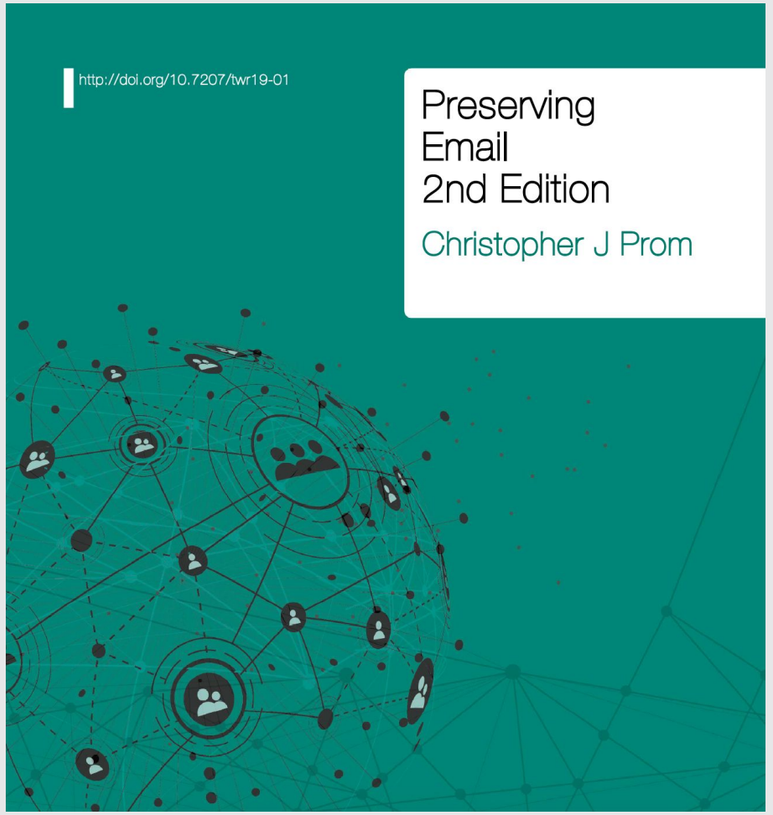
archivists.org arma.org dpcoline.org clir.org

Email Archiving Challenges

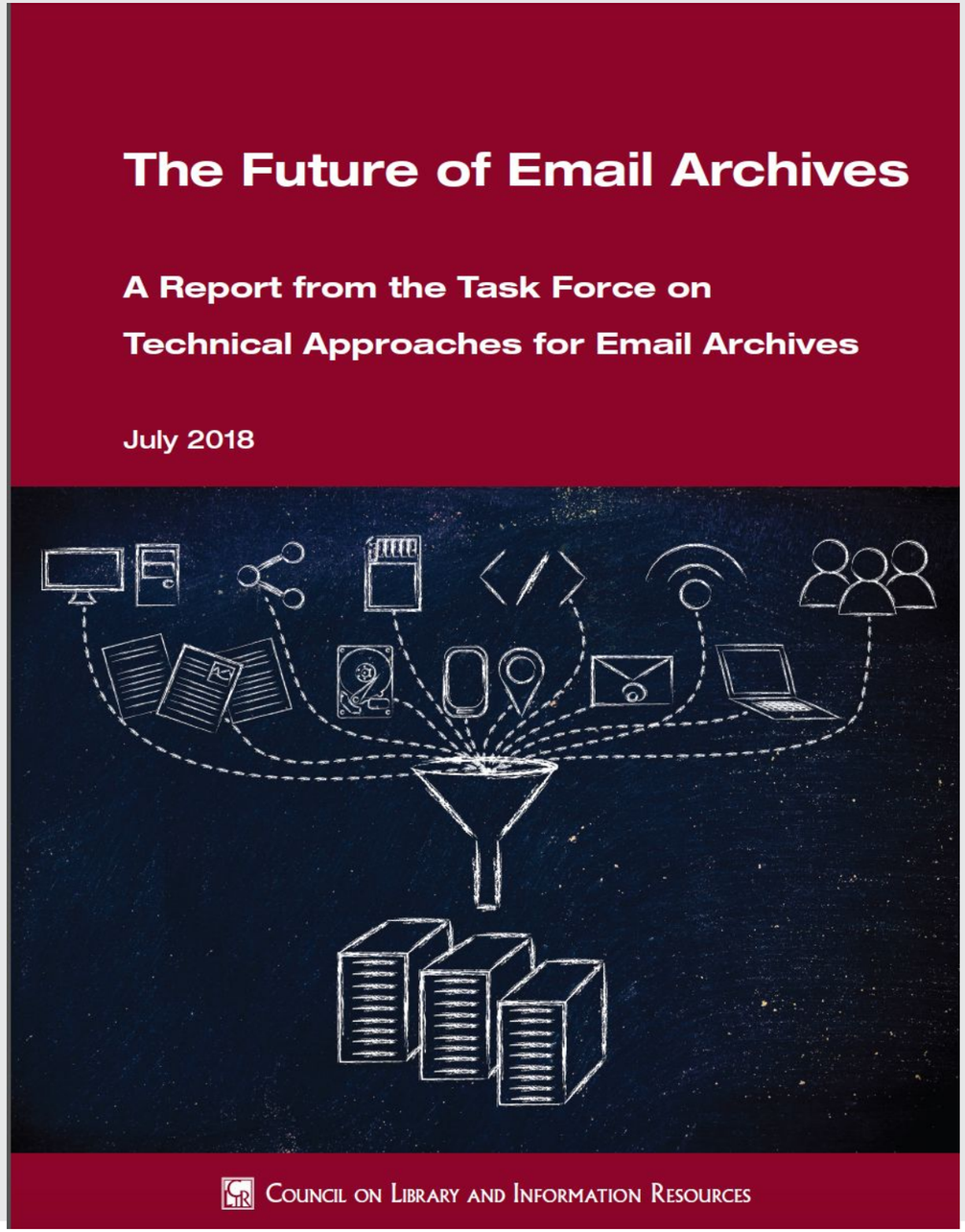
- How to capture?
  - “Appraisal,” privacy, sensitivity
  - Attachments, linked content
- How to preserve?
  - Preferred preservation/access formats?
  - File metadata support
  - Appropriate container formats
- How to scale?
  - Complex tool chaining
  - Reliance on community-specific tools

Deep Background/Extra Credit Reading

- Recommendations for information professionals who seek to preserve email for its cultural, legal or administrative value.
- Guidance to private individuals who may wish to preserve their email correspondence
- Describes the key policies, implementation strategies, procedures, tools, and services that can be drawn upon when developing an email preservation programme.
- Advocates for implementing appropriate technical standards, capture methods, and processing tools so that community can take practical steps to preserve email for its legal, administrative, or historical value.



http://doi.org/10.7207/twr19-01



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DigitalPreservationCoalition

www.clir.org/pubs/reports/pub175/

Email to PDF Working Group Members

Chris Prom, University of Illinois (PI)

Kevin De Vorsey - National Archives and Records Admin

Kate Murray - Library of Congress

Duff Johnson - PDF Association

Lynda Schmitz Fuhrig - Smithsonian Archives

Steve Levenson - ISO TC 171 SC2 WG5 Convenor for PDF/A

Stephen Abrams - Harvard University Libraries

Tricia Patterson - Harvard University Libraries

Cal Lee, UNC School of Information and Library Science

Camille Tyndall Watson - State Archives of NC

Jamie Patrick-Burns - State Archives of NC

Matthew Hardy - Adobe Systems Inc.

Dietrich von Seggern, Callas software, GmbH

Joel Simpson - Artefactual Systems

“High Impact” Recommendations

- Sustain email archiving community
- Specification planning for beginning-of-lifecycle email tools
- Develop criteria for email authenticity
- Improve standards documentation
- **Improve options for PDF in email archiving workflows**
- Demonstrate value for email as research data source/data challenge

- Improved tools for sensitivity review
- **Develop email self-archiving tools**
- **Sustaining and integrating existing tools**
- **Develop standards for tool interoperability with a reference implementation**
- Machine learning and natural language processing
- Email archiving at scale

Specification Purpose

- Articulate the rationale for transforming email messages, folders, and accounts into archive-ready PDF packages
- Describe conceptual requirements for packaging one or many email messages into an “email archive using PDF” (EA-PDF) container: a PDF file containing email data in defined structures and having several core archival attributes.
- Describes functional requirements for EA-PDF-specific viewers.

https://go.illinois.edu/DraftEmailSpec

Why Convert Email to PDF???

Community Demand

xxxx xxxxx: I'm very excited about this work. It will be helpful in organizations for supporting retention schedules. I'm using print to PDF now for the most part and am a bit uneasy about it.

xxxxxxx xxxxxxxxxx: Seems like PDF would be a great low-tech bar of entry for users to access email archives.

xxxx xxxxxx It will be a great benefit to lone arrangers with limited IT support provided the tools are GUI supported.

xxxxx xxxxxxxxxx-xxxxxx: Agree!

xxxxxxx xxxxxxxxxx: It would take so much one-on-one time for reading room staff to guide low-tech researchers through software. PDF would be more of a neutral meeting ground for that.

Tool Roster

OctoberPDFest ONLINE

FTK Imager

Aid4Mail™

archivematica®

BitCurator

RATOM

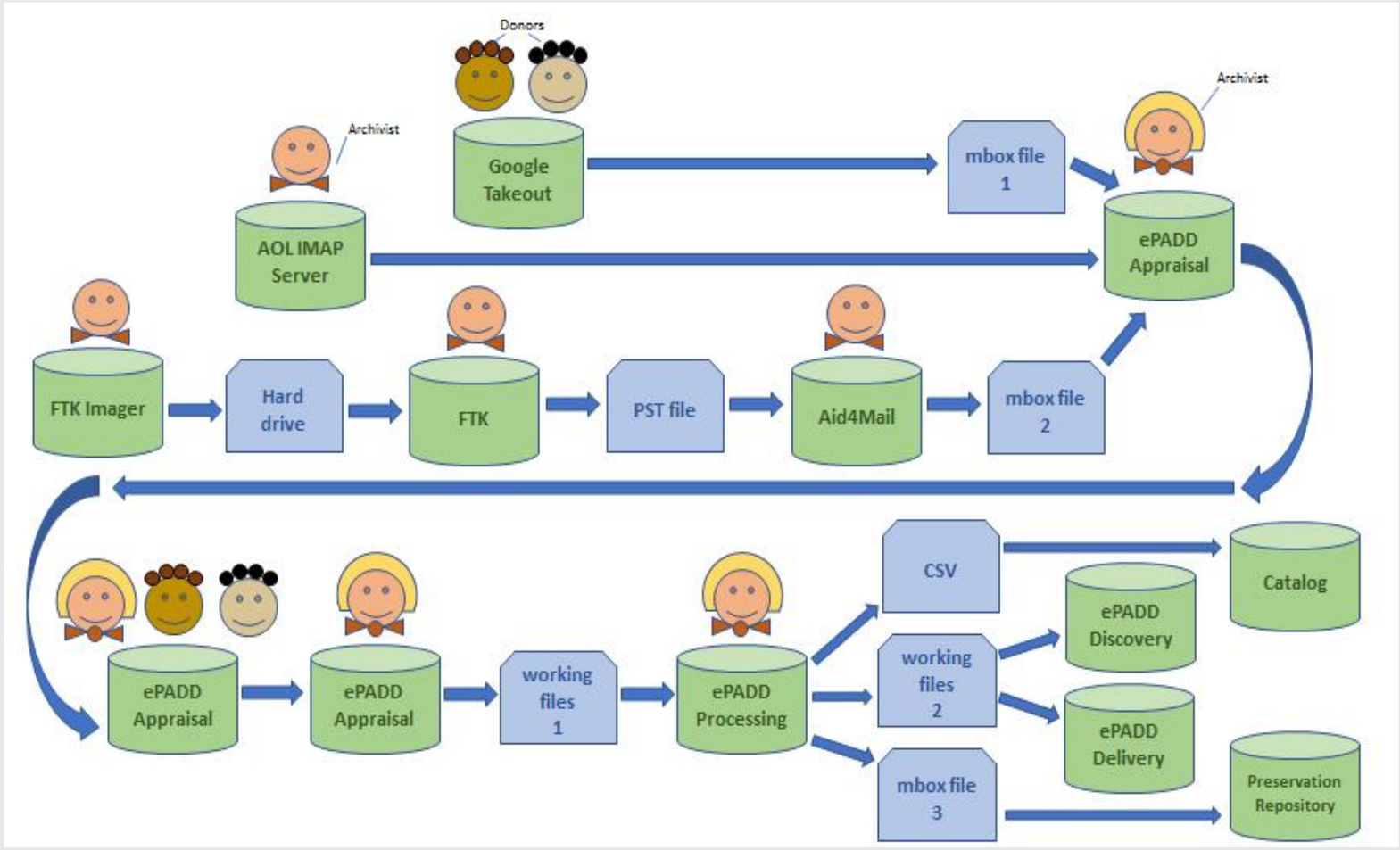
Review, Appraisal, and Triage of Mail

Smithsonian Institution Archives

ePADD

Transforming Online Mail with Embedded Semantics (TOMES)

Workflow scenario:



Do we need another standard for email?

The core email standards (IETF family of standards starting with RFC 5322) were designed for *sending* emails; not for storage, capture or later representation.

The most common email formats (.pst, .mbox etc.) in the vast majority of cases are not truly ‘original formats’ but exports taken at a point in time.

We believe those formats *can* be improved on, in two main ways:

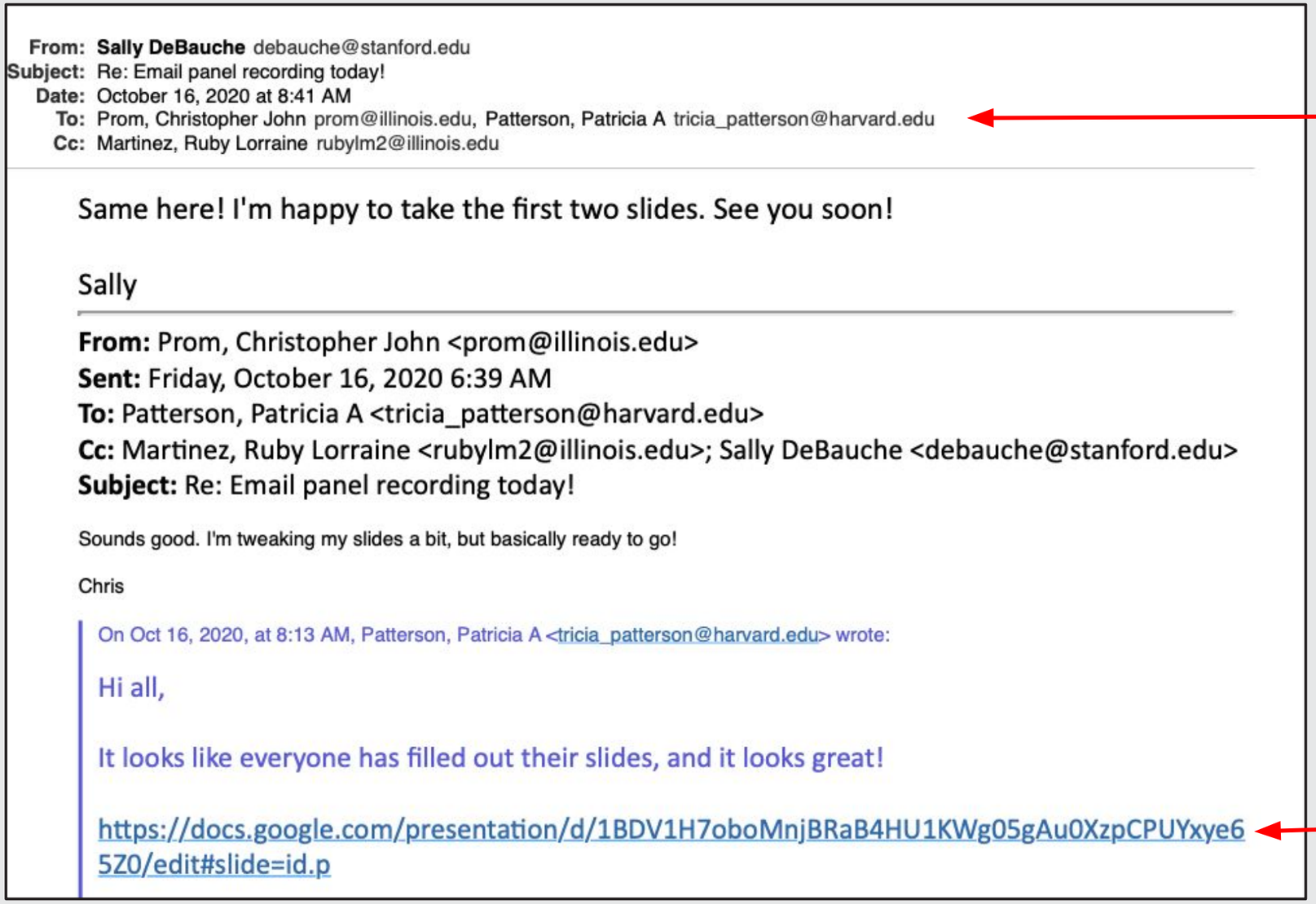
- standardizing the data-model for email capture
- capturing more information & context at the point of creation
- improving the quality and usability of exported email for the purposes of both preservation and access.

PDF has . . .

- *Existing market*
  - While current pdf tools are inadequate, the market already exists
- *Strong ecosystem*
  - Hundreds of PDF technology vendors; PDF basic viewing is almost universally supported
  - 160+ members of the PDF Association, which already supports software and standards development
- *Technical fit to requirements*
  - PDF 2.0 provides great support for technically complex containers, metadata, and associated content

Overview of Functional Specs

- **Open Standards:** Superset leveraging PDF 2.0 (ISO 32000-2); packages ‘should’ conform to ISO PDF/A and PDF/UA-2; structured metadata (XMP)
- **Capturing Email:** All messages, headers, body parts, and captured attachments by default; tools should support options to include exclude based on policy; options for linked content.
- **Describing Email:** Exclusions should be documented; EA-PDF package as whole should be described; provenance tracked; packages signed
- **Representing Email:** legacy reader support; core representation: collections defined; searchability
- **EA-PDF Viewer Functionality:** full support for core representation display properties and search; extraction of core representation as EML



From: **Sally DeBauche** debauche@stanford.edu
Subject: Re: Email panel recording today!
Date: October 16, 2020 at 8:41 AM
To: Prom, Christopher John prom@illinois.edu, Patterson, Patricia A tricia_patterson@harvard.edu
Cc: Martinez, Ruby Lorraine rubylm2@illinois.edu

Same here! I'm happy to take the first two slides. See you soon!

Sally

From: Prom, Christopher John <prom@illinois.edu>
Sent: Friday, October 16, 2020 6:39 AM
To: Patterson, Patricia A <tricia_patterson@harvard.edu>
Cc: Martinez, Ruby Lorraine <rubylm2@illinois.edu>; Sally DeBauche <debauche@stanford.edu>
Subject: Re: Email panel recording today!

Sounds good. I'm tweaking my slides a bit, but basically ready to go!

Chris

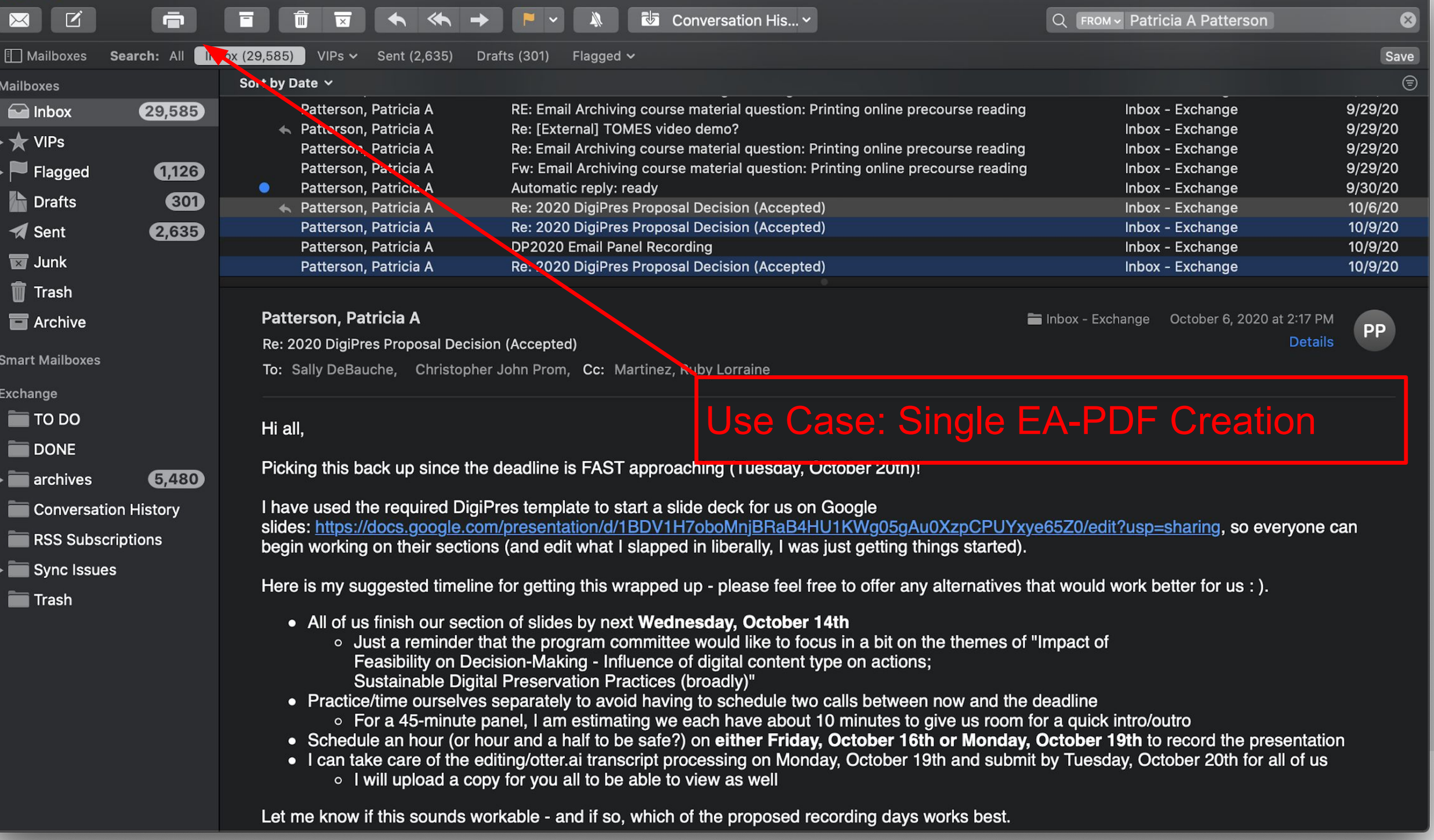
> On Oct 16, 2020, at 8:13 AM, Patterson, Patricia A <tricia_patterson@harvard.edu> wrote:
>
> Hi all,
>
> It looks like everyone has filled out their slides, and it looks great!
>
> https://docs.google.com/presentation/d/1BDV1H7oboMnjBRaB4HU1KWg05gAu0XzpCPUYxye65Z0/edit#slide=id.p

Limited Headers

Package Provenance?

Attachments?

Broken Link?


Conversation His...
FROM Patricia A Patterson
Mailboxes
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VIPs
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Drafts (301)
Flagged
Save
Sort by Date
Mailboxes
Inbox 29,585
VIPs
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Sent 2,635
Junk
Trash
Archive
Smart Mailboxes
Exchange
TO DO
DONE
archives 5,480
Conversation History
RSS Subscriptions
Sync Issues
Trash
Patterson, Patricia A RE: Email Archiving course material question: Printing online precourse reading Inbox - Exchange 9/29/20
Patterson, Patricia A Re: [External] TOMES video demo? Inbox - Exchange 9/29/20
Patterson, Patricia A Re: Email Archiving course material question: Printing online precourse reading Inbox - Exchange 9/29/20
Patterson, Patricia A Fw: Email Archiving course material question: Printing online precourse reading Inbox - Exchange 9/29/20
Patterson, Patricia A Automatic reply: ready Inbox - Exchange 9/30/20
Patterson, Patricia A Re: 2020 DigiPres Proposal Decision (Accepted) Inbox - Exchange 10/6/20
Patterson, Patricia A Re: 2020 DigiPres Proposal Decision (Accepted) Inbox - Exchange 10/9/20
Patterson, Patricia A DP2020 Email Panel Recording Inbox - Exchange 10/9/20
Patterson, Patricia A Re: 2020 DigiPres Proposal Decision (Accepted) Inbox - Exchange 10/9/20
Patterson, Patricia A
Inbox - Exchange
October 6, 2020 at 2:17 PM
Details
PP
Re: 2020 DigiPres Proposal Decision (Accepted)
To: Sally DeBauche, Christopher John Prom, Cc: Martinez, Ruby Lorraine
Use Case: Single EA-PDF Creation
Hi all,
Picking this back up since the deadline is FAST approaching (Tuesday, October 20th)!
I have used the required DigiPres template to start a slide deck for us on Google slides: https://docs.google.com/presentation/d/1BDV1H7oboMnjBRaB4HU1KWg05gAu0XzpCPUYxye65Z0/edit?usp=sharing, so everyone can begin working on their sections (and edit what I slapped in liberally, I was just getting things started).
Here is my suggested timeline for getting this wrapped up - please feel free to offer any alternatives that would work better for us :).
All of us finish our section of slides by next Wednesday, October 14th
Just a reminder that the program committee would like to focus in a bit on the themes of "Impact of Feasibility on Decision-Making - Influence of digital content type on actions; Sustainable Digital Preservation Practices (broadly)"
Practice/time ourselves separately to avoid having to schedule two calls between now and the deadline
For a 45-minute panel, I am estimating we each have about 10 minutes to give us room for a quick intro/outro
Schedule an hour (or hour and a half to be safe?) on either Friday, October 16th or Monday, October 19th to record the presentation
I can take care of the editing/otter.ai transcript processing on Monday, October 19th and submit by Tuesday, October 20th for all of us
I will upload a copy for you all to be able to view as well
Let me know if this sounds workable - and if so, which of the proposed recording days works best.

What's Next? Proof of concept

- Draft the format specification based on the functional specification
- From an MBOX file, create EA-PDF for:
  - a single email message
  - a folder of messages
  - a message thread
  - an entire account/inbox
- An independent implementer will use the format specification to implement round trip conversion, exporting EA-PDF to EML/MBOX.
- Partnerships with PDF Association and members
- ISO standard for "EA-PDF" not contemplated at this time

Questions/Discussion