



CeDIV Workshop

eDiscovery of challenging
data sources

Teams, Zoom, Slack & Co

19 March 2021

Today's Content



Adrian Ott
Head eDiscovery
Switzerland

Phone +41 79 768 76 38
Email: adrian.ott@ch.ey.com



Jeffrey Shapiro
Director eDiscovery
UK

Phone +44 20 7951 5538
Email: jeffrey.shapiro@uk.ey.com

01 What are emerging data sources ("EDS")

- ▶ The modern workplace
- ▶ Introduction to Collaboration Platforms
- ▶ Social Media / IOT / Web Portals

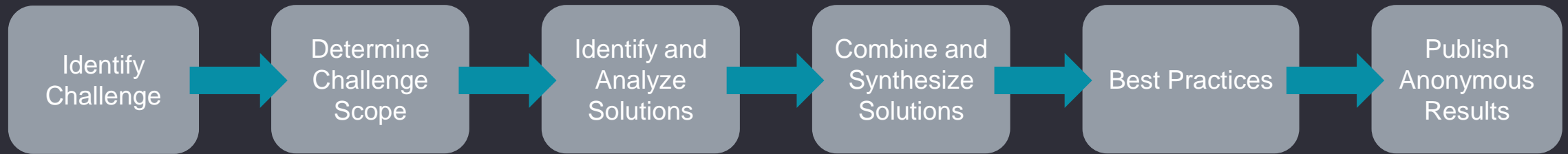
02 Collection and Preservation Challenges

- ▶ Regulatory requirements for preservation Data Sources
- ▶ Data Sources for fact-finding
- ▶ How to approach the preservation and collections

03 How is data processed and reviewed?

- ▶ The Different Sources in collaboration platforms
 - ▶ Chat and Messaging
 - ▶ A modern EDS-Review workstream
 - ▶ Production Considerations
 - ▶ Do the classic workflows still make sense?
-

The CeDIV Process



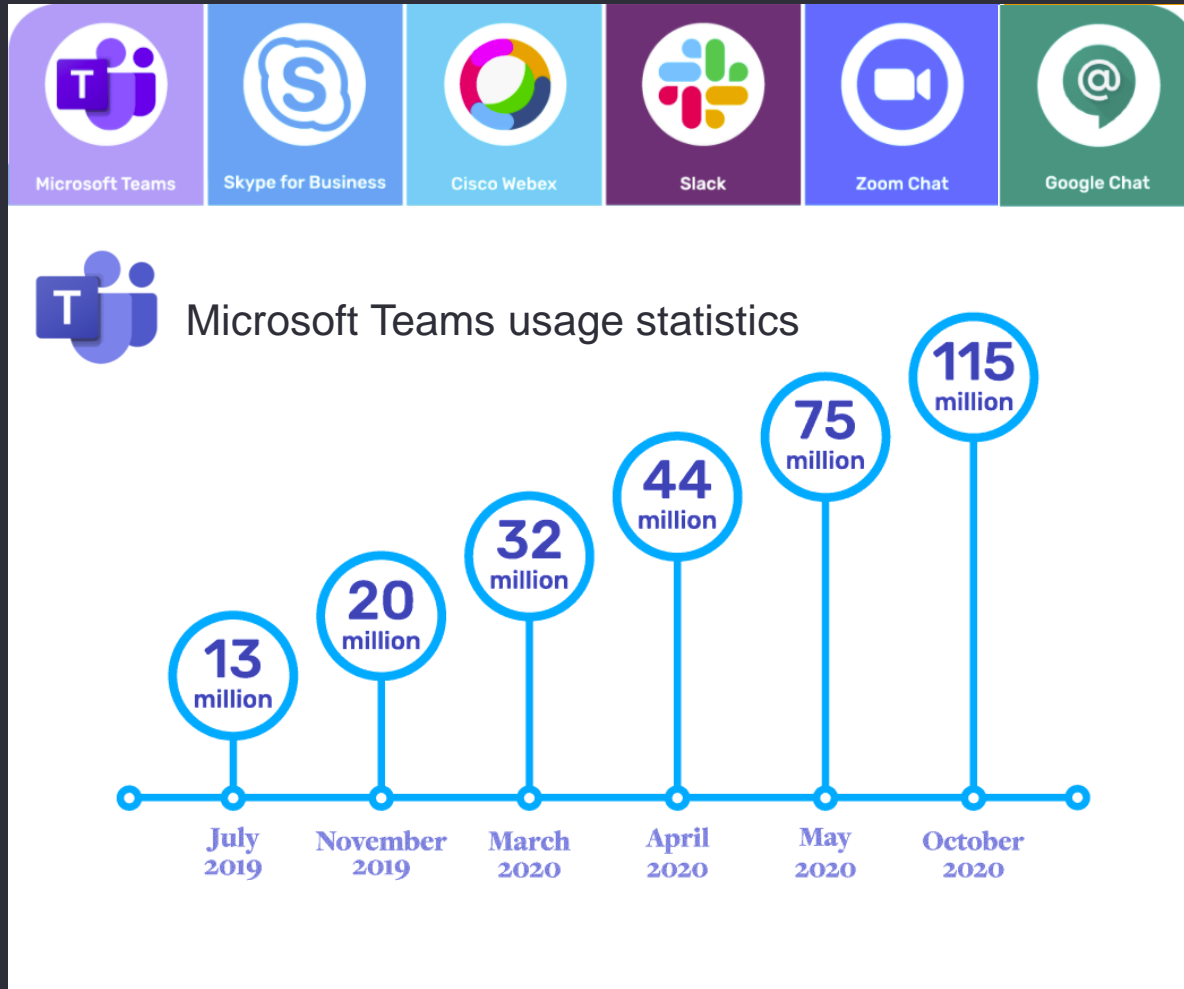


01 What are the emerging data sources?

The modern Workspace

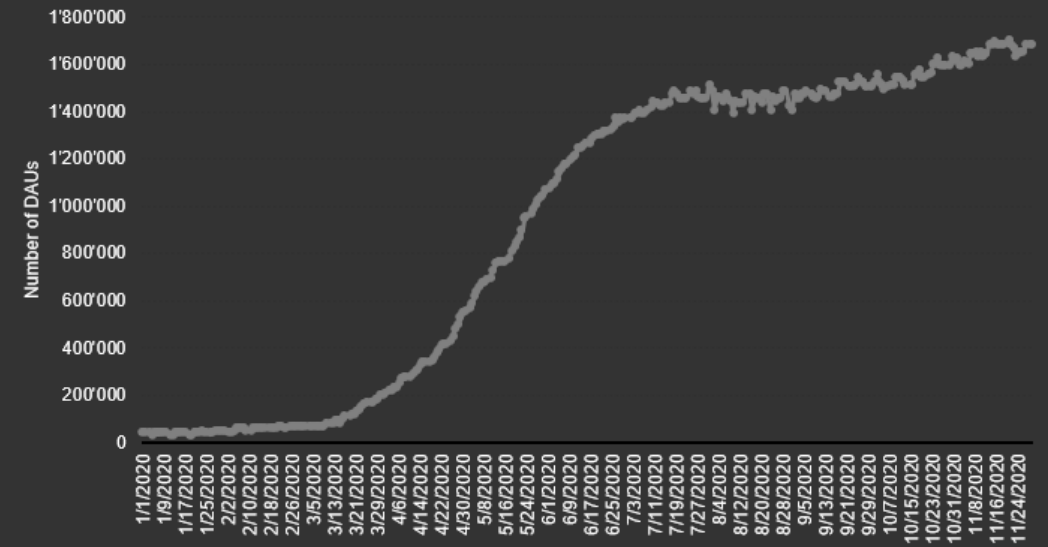


Rapid increase in collaborative platforms



Source: <https://tomtalks.blog/>

Daily active users of Zoom on android and iOS devices in the UK 2020



340 BILLION
Emails

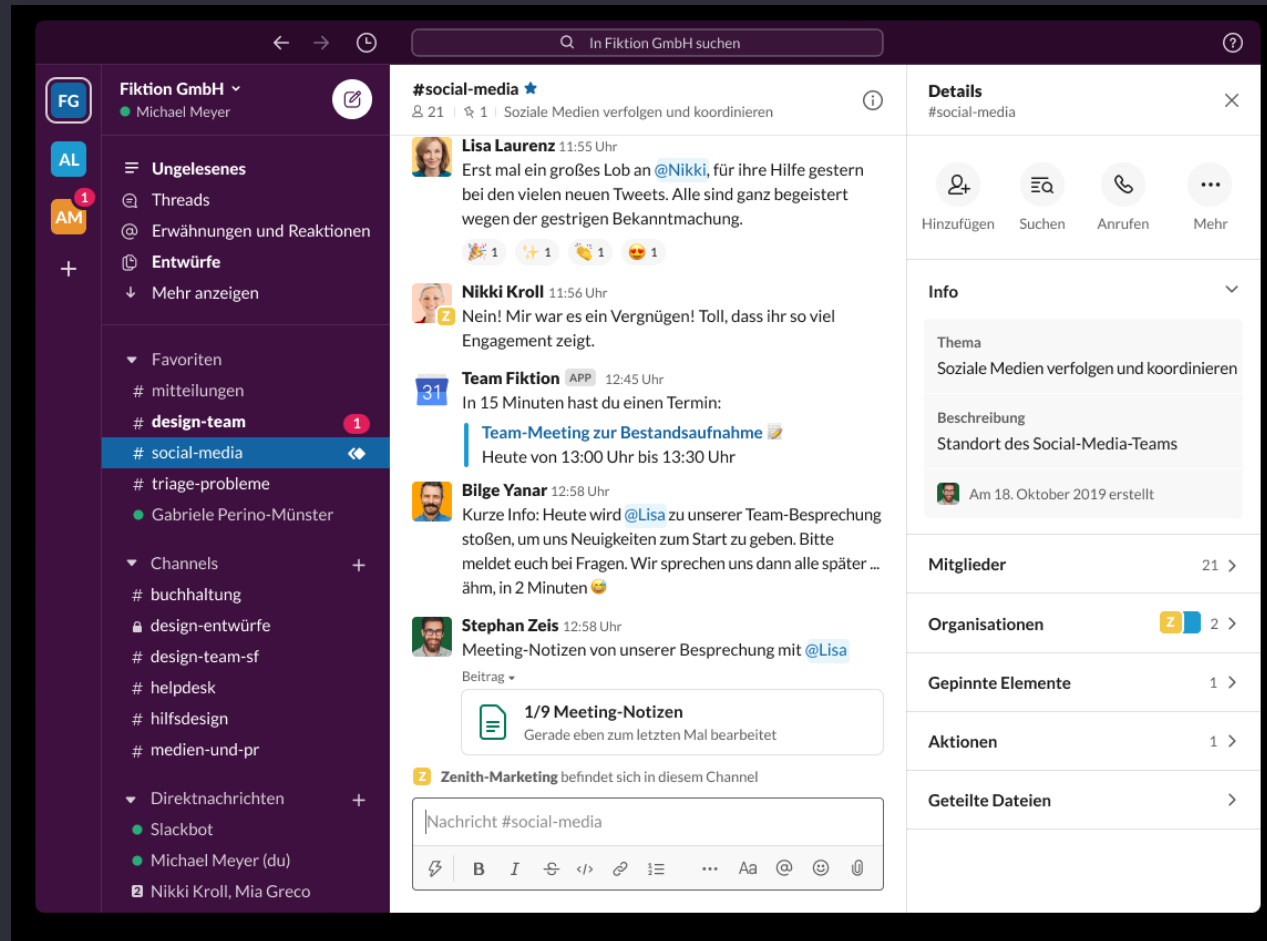


65 BILLION
WhatsApp



20 MILLION
Bloomberg Messages

Emerging data sources: Slack



Cloud-based precursor to MS Teams, originally for software development teams

1. Chat Protocol:

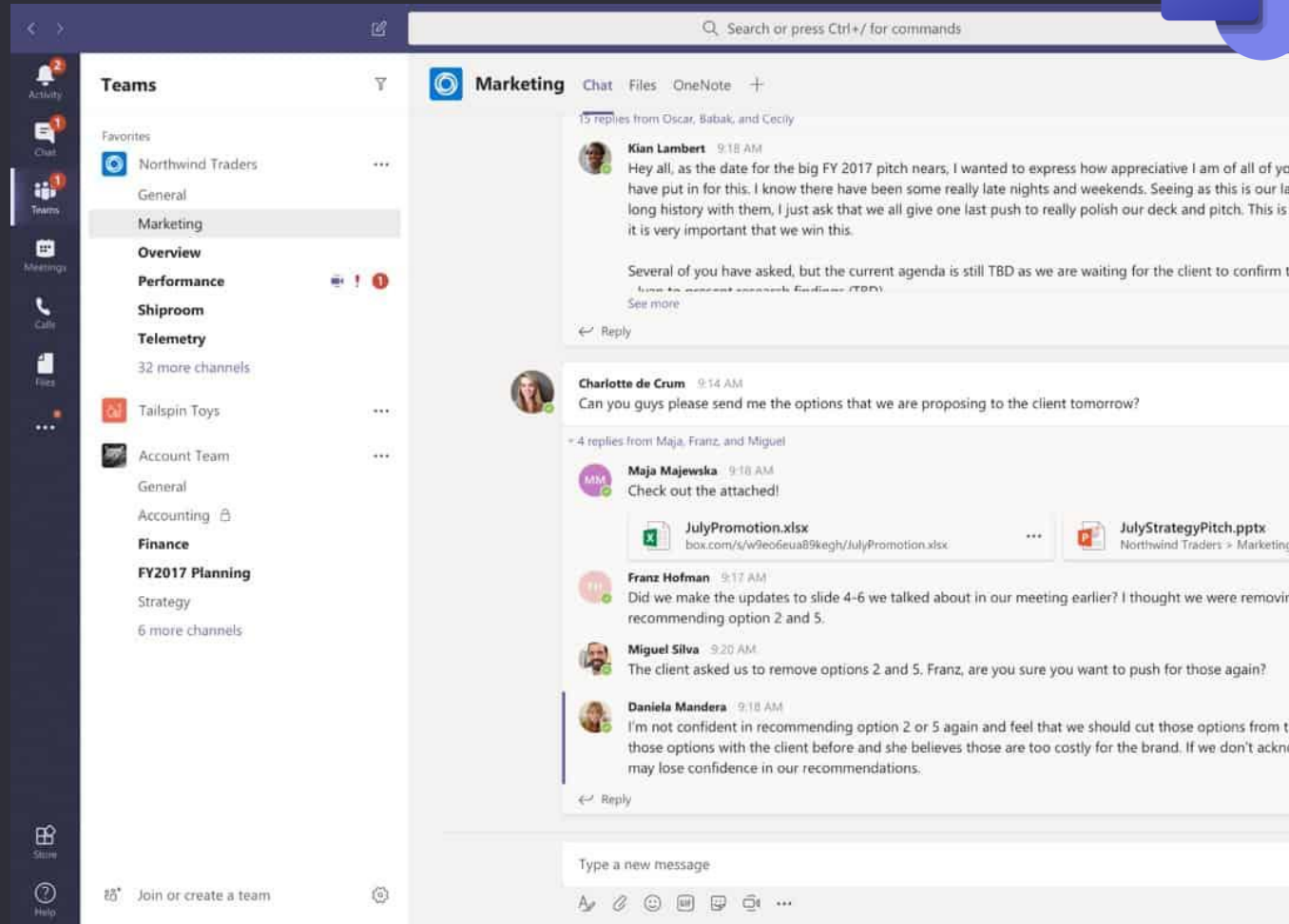
- one-on-one chats
- team channels
- public channels

2. (Conference) calls incl. video, screensharing

3. Advanced search features

4. 2000+ apps: software development, ticketing, filesharing

Emerging data sources: Teams



widespread in businesses and education (part of Office365)

1. Chat Protocol:

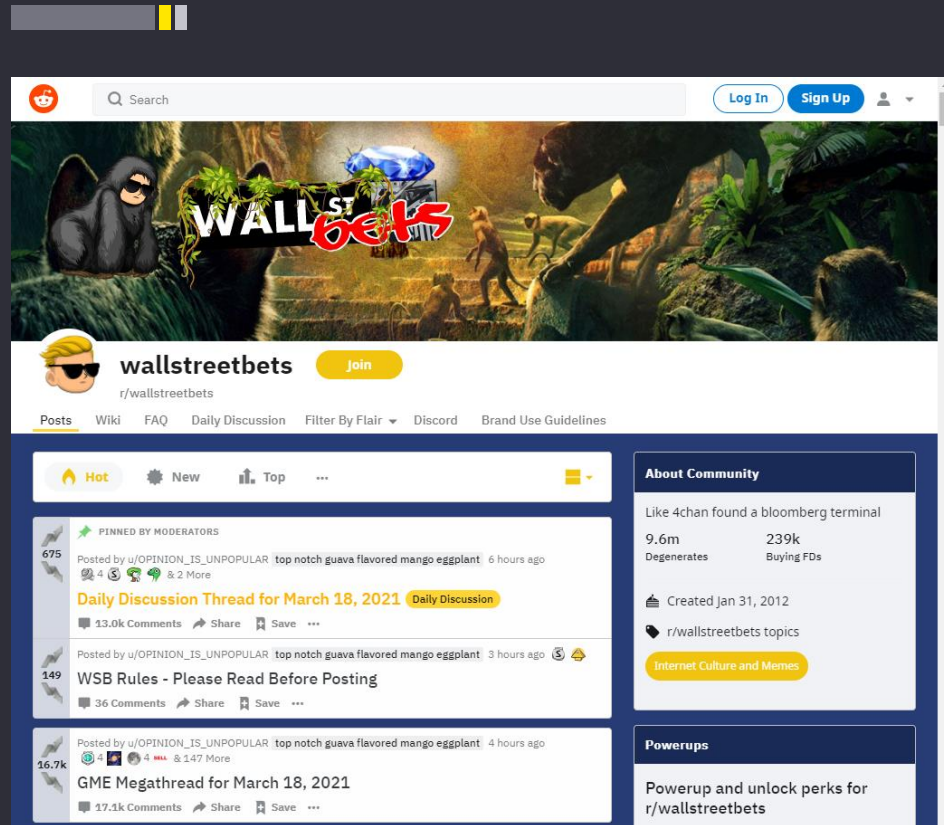
- one-on-one chats
- team chats
- project team channels

2. (Conference) calls incl. video, screensharing, whiteboard

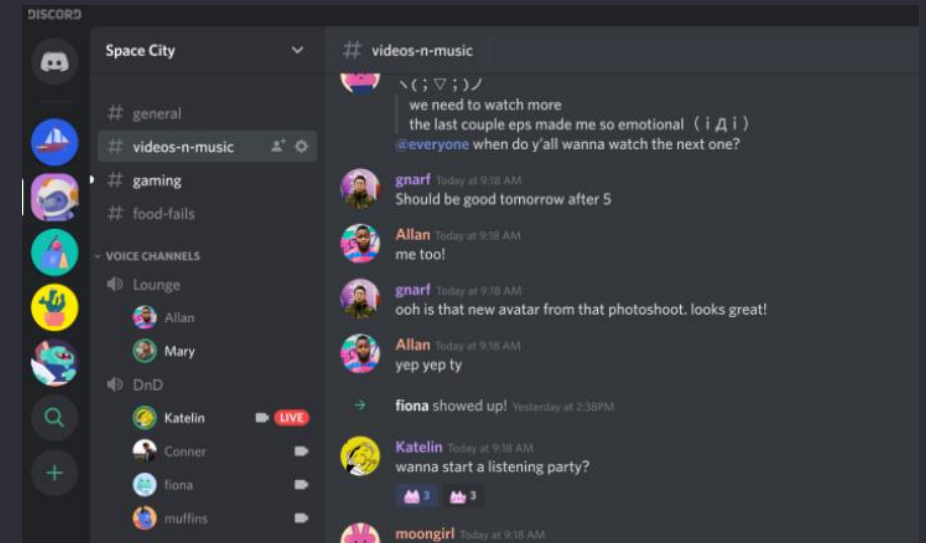
3. Integrated with OneDrive (file sharing), Outlook (Email + Calendar)

4. 600+ apps: Tasks, shift planner, Q&A bots, surveys, Azure

Emerging data sources: Web Portals



Reddit is a social media platform with several recent controversies (e.g. Gamestop)



Discord is an online application for messaging and audio/video communication, initially focusing on video gaming

INSIDE PARADEPLATZ

FINANZNEWS AUS ZÜRICH

Hinweis an Redaktion

Anonymous Box

Senden Sie Ihren Hinweis hier oder an +41 79 605 39 52. [Lieber per Post?](#)

Ihre vertrauliche Nachricht

News, discussion and whistleblowing platforms
e.g. Inside Paradeplatz

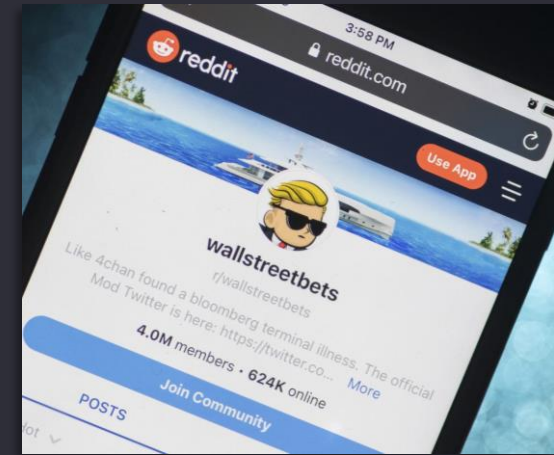


02 Collection and Preservation Challenges

Requirements for preservation data sources (continued)

Reddit preservation request via law enforcement

In accordance with applicable law, Reddit will temporarily preserve user information (“records”) pending issuance of legal process for disclosure of that information.



Other ways to collect Reddit data:

1. Static preservation via screenshots
2. Web scraping
3. Internal monitoring of suspicious behaviour (Keylogger)



Data sources for fact-finding - messaging and structured data

Derivatives Trader A: "can u put 6m swiss libor in low pls?"

White: "NO"

Derivatives Trader A: "should have pushed the door harder"

White: "Whats it worth?"

Derivatives Trader A: "ive got some sushi rolls from yesterday?"

White: "it dont push inwards, thankfully"

Derivatives Trader A: "id have ripped it off the hinges straight in ur face"

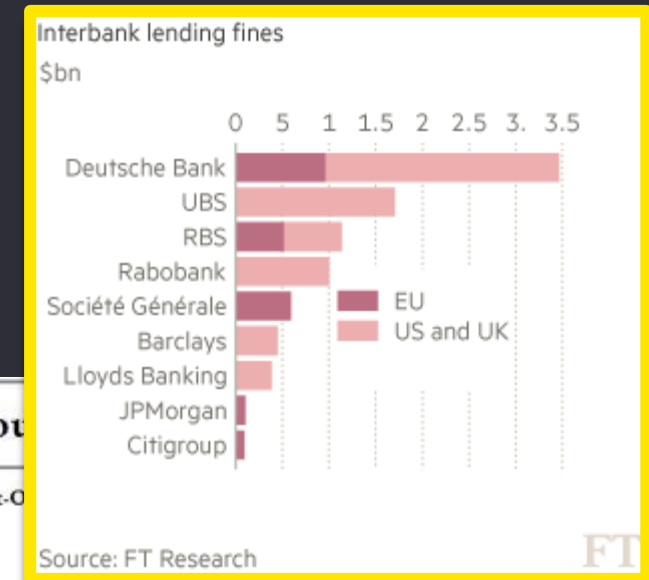
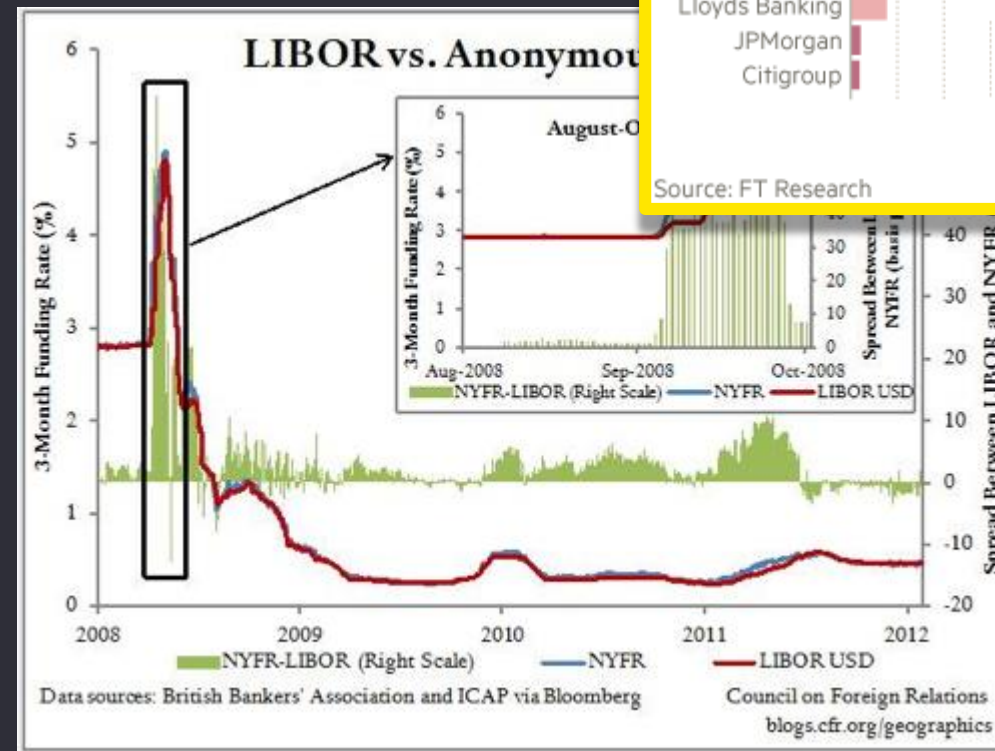
White: "ok low 6m, just for u"

Derivatives Trader A: "woooooohooooooooo 0.01%?"

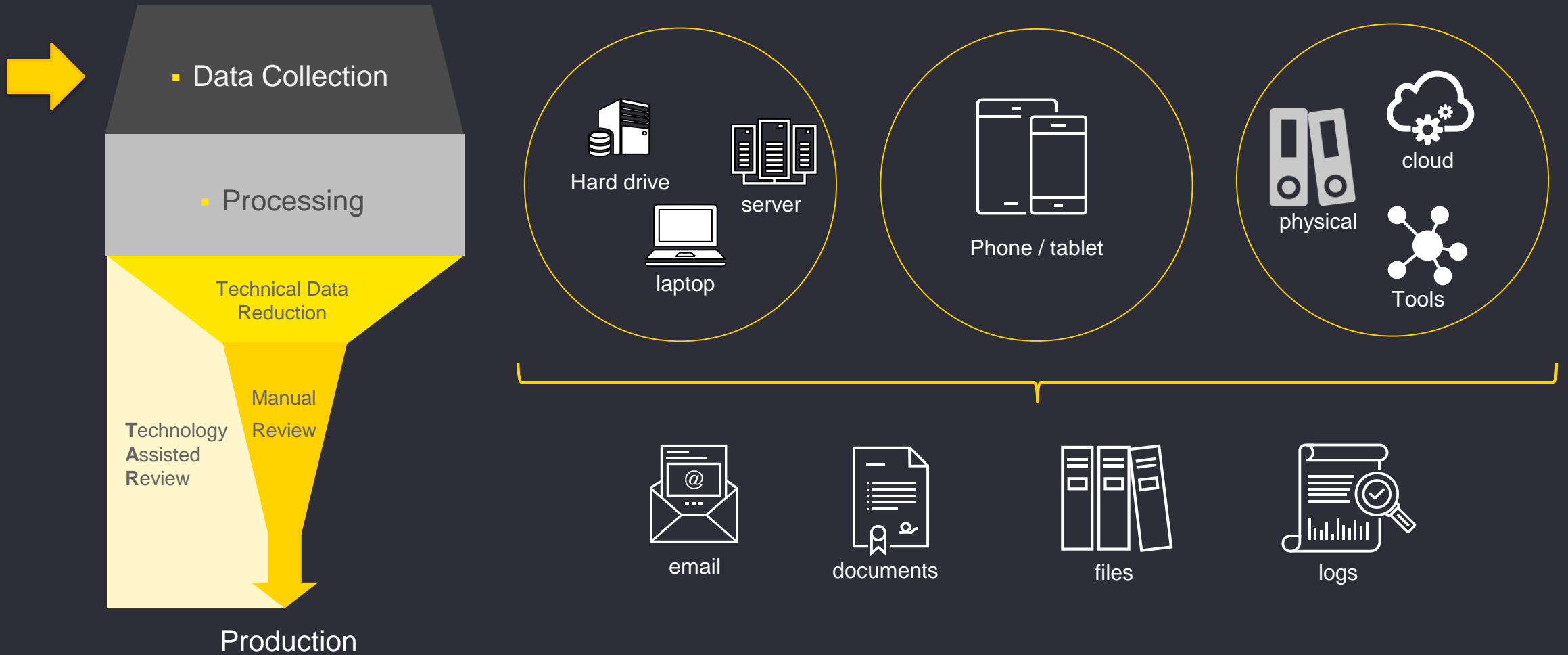
Derivatives Trader A: "thatd be awesome"

White: "1.33"

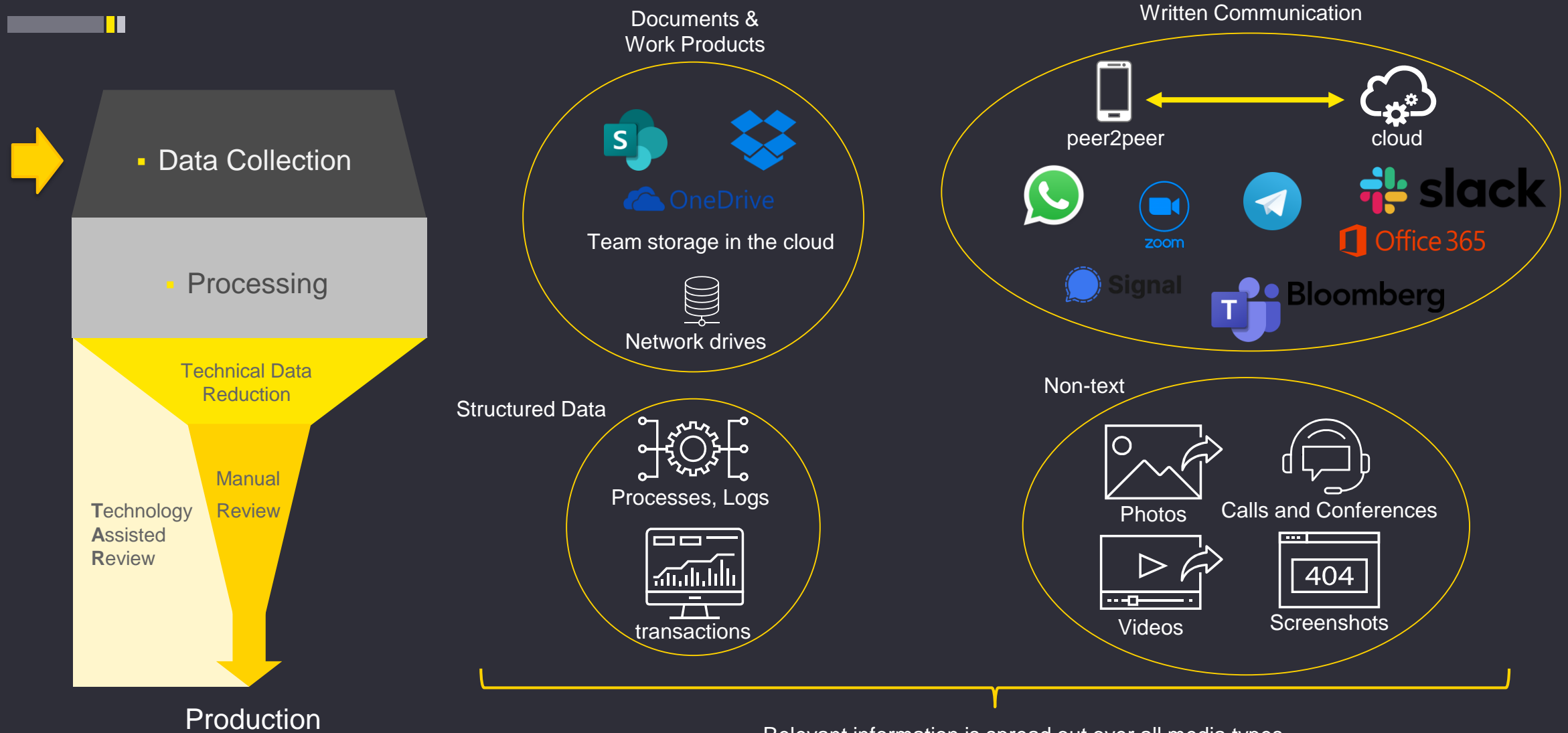
Derivatives Trader A: "perfect u r a nice man"



How to approach the collections - Old world: Focus on Devices



How to approach the collections - New World: Focus on Platforms



Relevant information is spread out over all media types.
Processing specialists and data analysts are needed throughout the review

Collections Investigation: Zoom

1. By default, video and voice is not recorded
2. Recording can be enabled by an admin and meetings are stored in the cloud
 - MP4 video file
 - M4A audio file
 - txt file of any chats that occurred during the meeting
 - If enabled: transcription of the audio of the meeting in a.vtt file
3. Recordings can be done individually if not disabled: Many local copies
4. It's not only about audio and video, but also about metadata and call-reports that are created
 - topic of the meeting
 - meeting ID
 - the user (incl. email) who set up the meeting
 - the name and email addresses of the attendees
 - department, group
 - creation of the meeting time
 - start and end time of the meeting
 - duration of the meeting
 - join time and leave time for each participant along with duration
5. The only way for an administrator or owner to delete the usage activity is to delete the user. Deleting a user will permanently remove the user, including their meetings and recordings from Zoom.

Collections Investigation: Office 365 example

The following data sources and locations are available for Litigation (Retention) Hold (and discovery) in Microsoft 365

- Exchange email
- SharePoint site
- OneDrive accounts
- Microsoft 365 groups
- Skype for Business
- Exchange public folders
- Teams channel messages
- Teams chats
- Yammer community messages
- Yammer private message

M365 Workload	eDiscoverable Data	Metadata Included	Challenges
Exchange Online (EXO) Exchange Retention	<p>Messages and Attachments - stored in the Recoverable Items folder and Custodian Hold</p> <ul style="list-style-type: none"> • Deletions: contains all items that are deleted from the Deleted Items folder. • Versions: If on hold, contains the original and modified copies of the deleted items. • Purges: If on hold, contains all items that are purged. • Discovery Holds: If on hold, contains all items that meet the hold query parameters and are purged. • Calendar Logging: contains calendar changes that occur within a mailbox. 	<p>Subject, body, attachments, senders and recipients, or date sent or received for a message. See In-Place Hold and Litigation Hold</p>	<p>Threaded messages can saved in the Review Set via settings. See Export case data in Advanced eDiscovery and Loose files and PST export structure.</p>
SharePoint Online (SPO) and OneDrive for Business (ODB) SharePoint and OneDrive Retention	<p>Files (and content)</p>	<p>File versions are retained only if Versioning is turned on in SPO/ODB. Document metadata fields in Advanced eDiscovery and Supported File Types eDiscovery</p>	<p>File versions will be stored in the hidden Preservation Hold library as separate files for export. See SharePoint and OneDrive Retention</p>
Teams - Workspaces Microsoft Teams Retention and Retention policies in Microsoft Teams	<ul style="list-style-type: none"> • Files (see SPO/ODB) • Channel Messages (and Channel Meeting Messages) <p>See eDiscovery and Teams and Place a Microsoft Teams user or team on legal hold</p>	<p>Channel messages, including embedded images (emojis), tables, hypertext links and links to other Teams messages and files. Channel messages include the team name and the message title (if supplied).</p> <p>Retention in MS Teams</p>	<p>Teams messages in private channels, name of channels, audio recordings, and reactions from others in the form of emoticons are not eDiscoverable.</p> <p>Conversations should be reconstructed as a Conversation Review Set to be properly exported (into a PDF). Review and Export conversations in Advanced eDiscovery</p>

Collections Investigation: Office 365 example - Legal Hold

Create a new hold

- ✔ Name your hold
- Choose locations
- Create query
- Review your settings

Choose locations

Location	Include
Exchange email	None
Office 365 group er	Choose users, groups, or
Skype for Business	
Teams messages	
To-Do	
SharePoint sites	None
OneDrive accounts	Choose sites
Office 365 group si	
Teams sites	
Exchange public fol	None

Enterprise Office 365

Exchange admin center

in-place eDiscovery & hold auditing data loss prevention retention policies retention tags journal rules

Export search results to a PST file

Export Name: Woodgrove Bank Search Query

Select the location that will be used to store downloaded export files:

C:\Woodgrove Bank Legal Case

Enable deduplication

Include unsearchable items

NAME	HOLD S
Woodgrove Bank Search Query	No
WAV search dedupe	No
WAV search	No
Search All Items in All Mailboxes	No

Collections Investigation: MS Teams example

- 1. Collection processes instead of device collections
- 2. Correct setup and tool knowledge is crucial, so information is stored if necessary
 - 1. Teams: no automatic call and conference recordings but possibility for personal recording
 - 2. Project and private Channels are not collected by default if you collect a custodian

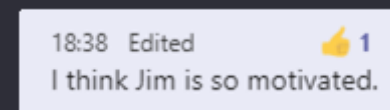
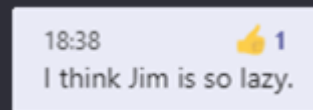
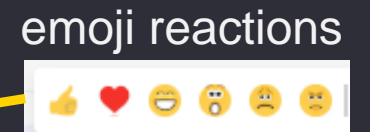
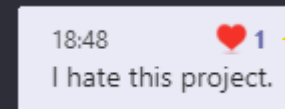
3. Pitfalls:

- 1. Recordings and emoji reactions are by default not collectable
- 2. Edited messages: Only final version saved (exception if person is on Legal Hold)

→ Impact on collection strategy

4. Alternative Collection solutions

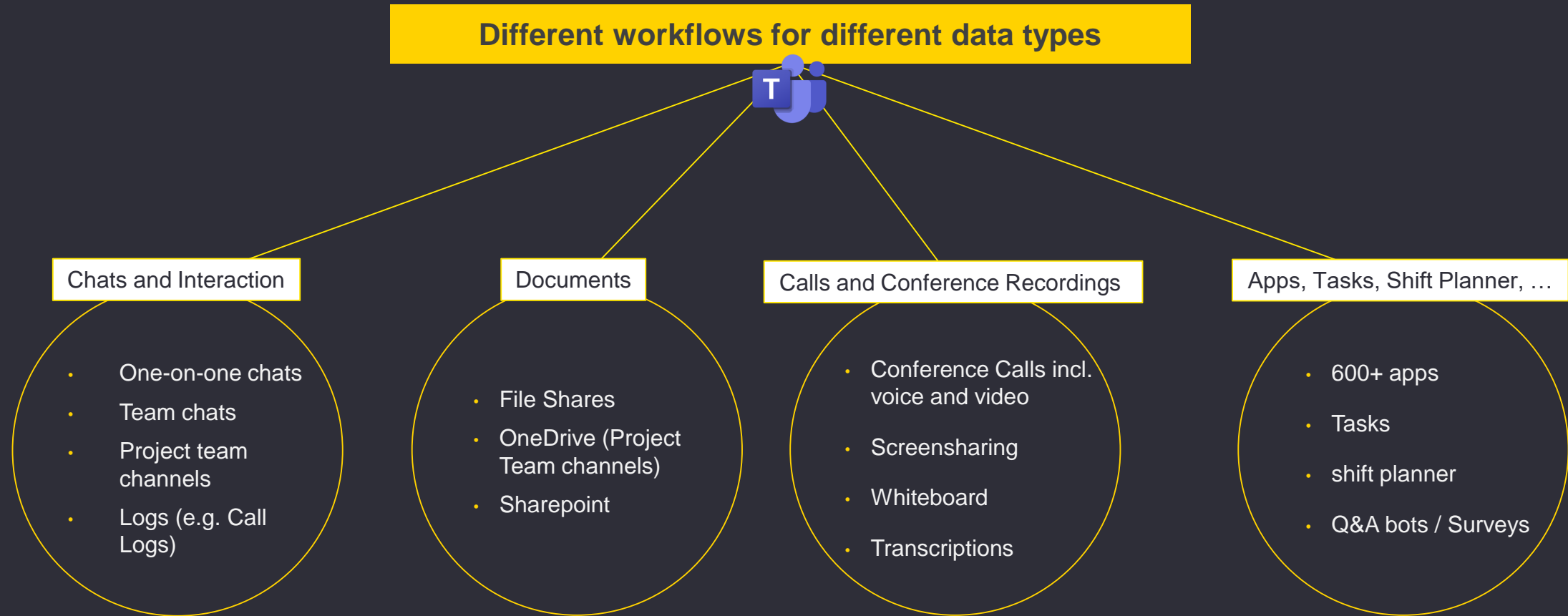
- 1. Screenshots / screen recording
- 2. Keylogging





03 How is the data processed and reviewed ?

The Different Sources in collaboration platforms



How Communication looks in its raw form

```
1 X-RSMF-Version: 1.0.0
2 X-RSMF-Generator: Relativity
3 X-RSMF-BeginDate: 2010-02-18T10:05:11.0000000Z
4 X-RSMF-EndDate: 2011-01-26T13:33:20.0000000Z
5 X-RSMF-EventCount: 4662
6 To: Keith Kaminski, Karl Knoernschild, Jim Witte
7 Content-Type: multipart/mixed; boundary="_RSMF_Boundary_Delimiter_"
8 MIME-Version: 1.0
9
10
11 --_RSMF_Boundary_Delimiter_
12 Content-Type: text/plain; charset="us-ascii"
13 Content-Transfer-Encoding: quoted-printable
14
15 You there?
16 Yeah.
17
18
19
20 --_RSMF_Boundary_Delimiter_
21 Content-Type: application/zip; name="rsmf.zip"
22 Content-Disposition: attachment; filename="rsmf.zip"
23 Content-Transfer-Encoding: base64
24
25         BASE64 encoded RSMF.ZIP goes here
26
27
28 --_RSMF_Boundary_Delimiter_--
```

```
"version": "1.0.0",
"participants": [
  {
    "id": "1",
    "display": "Lukas Preiswerk"
  },
  {
    "id": "2",
    "display": "Sean Liddle"
  },
  {
    "id": "3",
    "display": "Jake Mulholland"
  }
],
"conversations": [
  {
    "display": "Internal Teams Channel",
    "id": "1",
    "platform": "SMS",
    "type": "direct",
    "participants": [
      "1"
    ]
  }
],
"events": [
  {
    "id": "1",
    "participant": "1",
    "timestamp": "2021-02-24T14:22:49",
    "type": "message",
    "body": "From Monday, 1 March, shops, museums and library readi",
    "conversation": "1"
  },
  {
    "id": "2",
    "participant": "1",
    "timestamp": "2021-02-24T14:27:03",
    "type": "message",
```

How to make the communication discoverable

```
"version": "1.0.0",
"participants": [
  {
    "id": "1",
    "display": "Lukas Preiswerk"
  },
  {
    "id": "2",
    "display": "Sean Liddle"
  },
  {
    "id": "3",
    "display": "Jake Mulholland"
  }
],
"conversations": [
  {
    "display": "Internal Teams Channel",
    "id": "1",
    "platform": "SMS",
    "type": "direct",
    "participants": [
      "1"
    ]
  }
],
"events": [
  {
    "id": "1",
    "participant": "1",
    "timestamp": "2021-02-24T14:22:49",
    "type": "message",
    "body": "From Monday, 1 March, shops, museums and library reading rooms can reopen, along with outdoor sports and leisure facilities, zoos and botanical gardens. Outdoor events for family and friends and sports and cultural activities involving up to 15 people will also be permitted. (https://www.bag.admin.ch/bag/en/home/das-bag/aktuell/medienmitteilungen.msg-id-82462.html)https://www.bag.admin.ch/bag/en/home/das-bag/aktuell/medienmitteilungen.msg-id-82462.html"
  },
  {
    "id": "2",
    "participant": "1",
    "timestamp": "2021-02-24T14:27:03",
    "type": "message",
    "body": "Sean, maybe it's comforting for you to know that the terraces of bars might reopen on 22 March if all goes well {Winking}{😄}"
  },
  {
    "id": "3",
    "participant": "2",
    "timestamp": "2021-02-24T14:27:03",
    "type": "message",
    "body": "That would bring me some comfort (Big smile) {😄}"
  },
  {
    "id": "4",
    "participant": "2",
    "timestamp": "2021-02-24T14:27:03",
    "type": "message",
    "body": "although the local beer delivery outlets will go out of business"
  },
  {
    "id": "5",
    "participant": "3",
    "timestamp": "2021-02-24T14:27:03",
    "type": "message",
    "body": ""
  }
]
```



Viewer | Extracted Text

75%

SL Sean Liddle [2] JM Jake Mulholland [2] LP Lukas Preiswerk [4]

Wednesday, February 24, 2021

Internal Teams Channel

LP Lukas Preiswerk

From Monday, 1 March, shops, museums and library reading rooms can reopen, along with outdoor sports and leisure facilities, zoos and botanical gardens. Outdoor events for family and friends and sports and cultural activities involving up to 15 people will also be permitted. (https://www.bag.admin.ch/bag/en/home/das-bag/aktuell/medienmitteilungen.msg-id-82462.html)https://www.bag.admin.ch/bag/en/home/das-bag/aktuell/medienmitteilungen.msg-id-82462.html

LP Lukas Preiswerk

Sean, maybe it's comforting for you to know that the terraces of bars might reopen on 22 March if all goes well {Winking}{😄}

SL Sean Liddle

That would bring me some comfort (Big smile) {😄}

SL Sean Liddle

although the local beer delivery outlets will go out of business

JM Jake Mulholland

2:22 PM

Feb 24

Relativity Communication view

Keith and Karl (Slack)

- Start date:** Wednesday, September 12, 2018, 9:49 AM
- End date:** Wednesday, September 12, 2018, 9:55 AM
- Total messages:** 6
- Participants:** 2
- Search Hits:** 14
- Platform:** slack

Jolanda Bozeman

bonnet in sudden desperation, "here I stand t and the mare catching cold at the door, and the sole of his foot!"

clock2: 4, 😊: 1, 🍄: 6


Tonette

Joe v comfortable by thoughtful bite out of his slice, which he

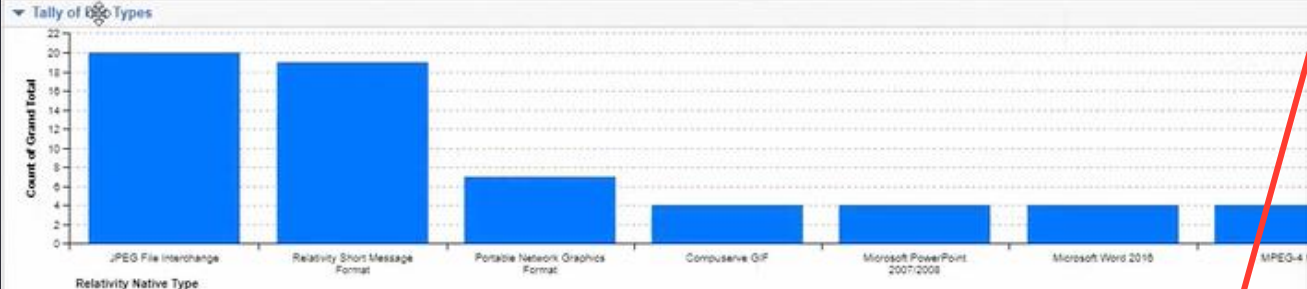
Relativity Communication view

New Document | All Documents | No Related Items | Add Widget | Document List | Export

Keyword Search | Enter Search Terms | Search | Clear



Tally of 686 Types



List

#	Control Number	Relativity Native Type	File Name	Custodian	Primary Date/Time	Unified Title	Relevance	Issue
1	REL0000000002	Relativity Short Message Format	slack_sms.rsmlf	Witte, Jim	03/12/2019 3:54 PM	--- Unfiled Document ---		
2	REL0000000002.0001	Portable Network Graphics Format	avatar_140.png	Witte, Jim	03/12/2019 10:54 AM	avatar_140.png		
3	REL0000000002.0002	JPEG File Interchange	fest18.jpg	Witte, Jim	03/12/2019 10:54 AM	fest18.jpg		
4	REL0000000002.0003	JPEG File Interchange	trust.jpg	Witte, Jim	03/12/2019 10:54 AM	trust.jpg		
5	REL0000000002.0004	Microsoft PowerPoint 2007/2008	UNECA_Activities.pptx	Witte, Jim	01/29/2007 7:23 PM	UNECA_Activities.pptx		
6	REL0000000002.0005	Microsoft Word 2016	World_Conference_2018.docx	Witte, Jim	02/14/2019 11:20 PM	World_Conference_2018.docx		
7	REL0000000003	Relativity Short Message Format	slack.rsmlf	Witte, Jim	03/04/2019 9:34 PM	--- Unfiled Document ---		
8	REL0000000003.0001	Portable Network Graphics Format	avatar_140.png	Witte, Jim	03/04/2019 3:34 PM	avatar_140.png		
9	REL0000000003.0002	JPEG File Interchange	fest18.jpg	Witte, Jim	03/04/2019 3:34 PM	fest18.jpg		

Friday, February 1, 2019

Mike, Mary, Dorothy, George 1:05 AM — 4:17 PM

Mike Martinez 1:05 AM
Can't sleep - I am too excited about RSMF

Mary Reed 8:05 AM
Hey I'm excited too, but you need some sleep. Why are you texting at 1am?

Mike Martinez 10:25 AM
Sorry slept through my alarm - Not coming in today. Here are those two documents you wanted

UNECA_Activities.pptx
92 KB

World_Conference_2018.docx
30.7 KB

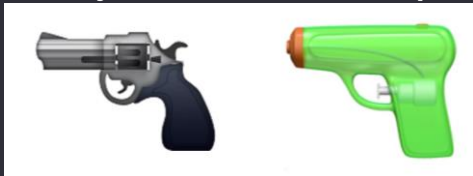
Mary Reed 3:55 PM
Since you are not here Mike, I need the password to get into your laptop

Mike Martinez 4:15 PM
It's MikedUp123 - Please don't share it with anyone, Mary

Mary Reed 4:17 PM DELETED
If you can't trust me - who can you trust Mike?

Today Issues with Chat

- High number of different chat messaging services, constantly evolving
- Different output formats that need to be parsed correctly
- Display of emojis can differ from originally collected message (depending on emoji set of review platform)

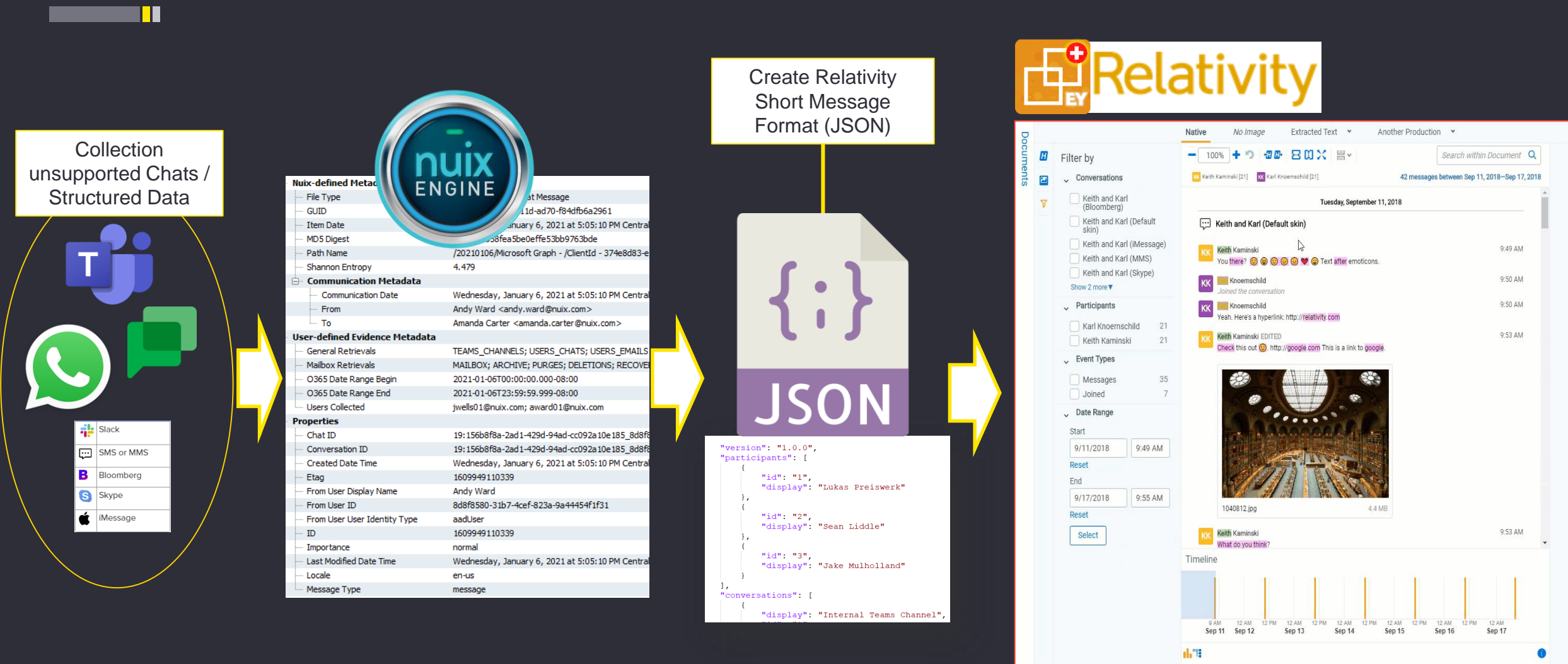


- Minor version upgrades or version differences in chat tools can break the eDiscovery chat viewer
- How to treat disclaimers, system messages (“has left the chat”, is idle, ...)
- Deduplication for chatrooms

Bad example - Metadata Issues after version update

The screenshot displays an email client interface. At the top, there's a toolbar with 'Viewer' and 'Extracted Text' options. Below that, a navigation bar shows '100%' zoom and various icons. The main content area is titled 'Moritz Schneider [6]' and '6 messages on Feb 10, 2021'. A date separator indicates 'Wednesday, February 10, 2021'. The first message is from 'Emir Odic ,Moritz Schneider'. The second message is from 'Moritz Schneider <moritz.schneider@ch.ey.com>' with a subject line. The 'To:' field lists a long list of names and email addresses, including Kevin Nguyen, Arohi Jain, Khawla Al Wehaibi, Lukas Preiswerk, Sean Liddle, Weronika Pelec, Moritz Schneider, Mark Tanner, Jake Mulholland, Konrad Schwenke, and Ashly O'Neill. The message body contains the text 'Hey Team, has anyone restored a DBMT backup from 8.1 to 10.3?'. A third message from 'Moritz Schneider <moritz.schneider@ch.ey.com>' is shown below, with a subject line and a 'To:' field listing Djamel Amara, Adrian Ott, Kevin Nguyen, Arohi Jain, Khawla Al Wehaibi, and Lukas Preiswerk.

A modern EDS-Review workstream



Manual JSON Preparation



Nuix-defined Metadata

- File Type: Message
- GUID: ...ad70-f84dfb6a2961
- Item Date: January 6, 2021 at 5:05:10 PM Central
- MDS Digest: ...08fea5be0effe53bb9763bde
- Path Name: /20210106/Microsoft Graph - /ClientId - 374e8d83-e...
- Shannon Entropy: 4.479

Communication Metadata

- Communication Date: Wednesday, January 6, 2021 at 5:05:10 PM Central
- From: Andy Ward <andy.ward@nuix.com>
- To: Amanda Carter <amanda.carter@nuix.com>

User-defined Evidence Metadata

- General Retrievals: TEAMS_CHANNELS; USERS_CHATS; USERS_EMAILS
- Mailbox Retrievals: MAILBOX; ARCHIVE; PURGES; DELETIONS; RECOVER
- O365 Date Range Begin: 2021-01-06T00:00:00.000-08:00
- O365 Date Range End: 2021-01-06T23:59:59.999-08:00
- Users Collected: jwells01@nuix.com; aaward01@nuix.com

Properties

- Chat ID: 19:156b8f8a-2ad1-429d-94ad-cc092a10e185_8d8f8...
- Conversation ID: 19:156b8f8a-2ad1-429d-94ad-cc092a10e185_8d8f8...
- Created Date Time: Wednesday, January 6, 2021 at 5:05:10 PM Central
- Etag: 1609949110339
- From User Display Name: Andy Ward
- From User ID: 8d8f8580-31b7-4cef-823a-9a44454f1f31
- From User User Identity Type: aadUser
- ID: 1609949110339
- Importance: normal
- Last Modified Date Time: Wednesday, January 6, 2021 at 5:05:10 PM Central
- Locale: en-us
- Message Type: message



Import DAT Import Other Wizards (beta) Fit Encoding Delimiters Data Tools Misc Tools Filter Sort Cloud Tools Settings Help

	DOCID	PARENT_DOCID	ATTACH_DOCID	BEGINBATES	ENDBATES	BEGINGROUP	ENDGROUP	PAGECOUNT	ITEMPATH	TEXTPATH	Document IDs	PrimaryDocumentN	DocExt	RecordType	Primary Date Time
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-24 11.2...
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-24 11.2... 56 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-24 11.2... 98 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-24 11.2... 73 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-26 11.0... 69 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-25 14.1... 53 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-10 08.1... 100 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-24 12.4... 76 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-10 07.2... 53 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-24 10.5... 68 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-26 11.0... 59 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-25 14.1... 51 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-24 10.5... 53 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-10 08.1... 54 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-24 12.4... 72 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-25 15.4... 109 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-24 15.0... 66 bytes
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-25 16.1...
	TEAM-001-0000...			TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	TEAM-001-0000...	1	NATIVE\00\000...	TEXT\00\000\T...	TEAM-001-0000...	[No Subject]		Microsoft Outlook...	2021-02-10 07.2...

Export Details
Export Options

Messaging Platform: SMS, Type of Conversation: direct, Export Format: RSMF, Destination Folder: C:\Users\ly\Desktop

Names Delimiter: Evaluation mode, Name RSMF by Conversation: checked

Export: Generate Export, Stop, Create Cross Ref File, Select Fields, Show Error Log, Clear

Save Grid to DAT, 0 Fields Selected, Errors: 0 Warnings: 0 Messages: 0

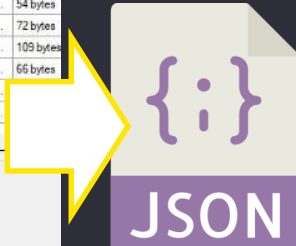
Field Selection 1

Control Number	Family Identifier	Conversation Identifier	Message Type	Body	Sender (From)	Time Stamp
DOCID	DOCID	DOCID	DOCID	DOCID	ExcelHiddenWorkbook	DOCID
PARENT_DOCID	PARENT_DOCID	PARENT_DOCID	PARENT_DOCID	PARENT_DOCID	ExcelProtectedSheets	PARENT_DOCID
ATTACH_DOCID	ATTACH_DOCID	ATTACH_DOCID	ATTACH_DOCID	ATTACH_DOCID	ExcelVeryHiddenSheets	ATTACH_DOCID
BEGINBATES	BEGINBATES	BEGINBATES	BEGINBATES	BEGINBATES	ExcelVeryHiddenSheetsCount	BEGINBATES
ENDBATES	ENDBATES	ENDBATES	ENDBATES	ENDBATES	ContainsTrackChanges	ENDBATES
BEGINGROUP	BEGINGROUP	BEGINGROUP	BEGINGROUP	BEGINGROUP	TrackChanges	BEGINGROUP
ENDGROUP	ENDGROUP	ENDGROUP	ENDGROUP	ENDGROUP	Comment	ENDGROUP
PAGECOUNT	PAGECOUNT	PAGECOUNT	PAGECOUNT	PAGECOUNT	ContainsComments	PAGECOUNT
ITEMPATH	ITEMPATH	ITEMPATH	ITEMPATH	ITEMPATH	From	ITEMPATH

Field Selection 2

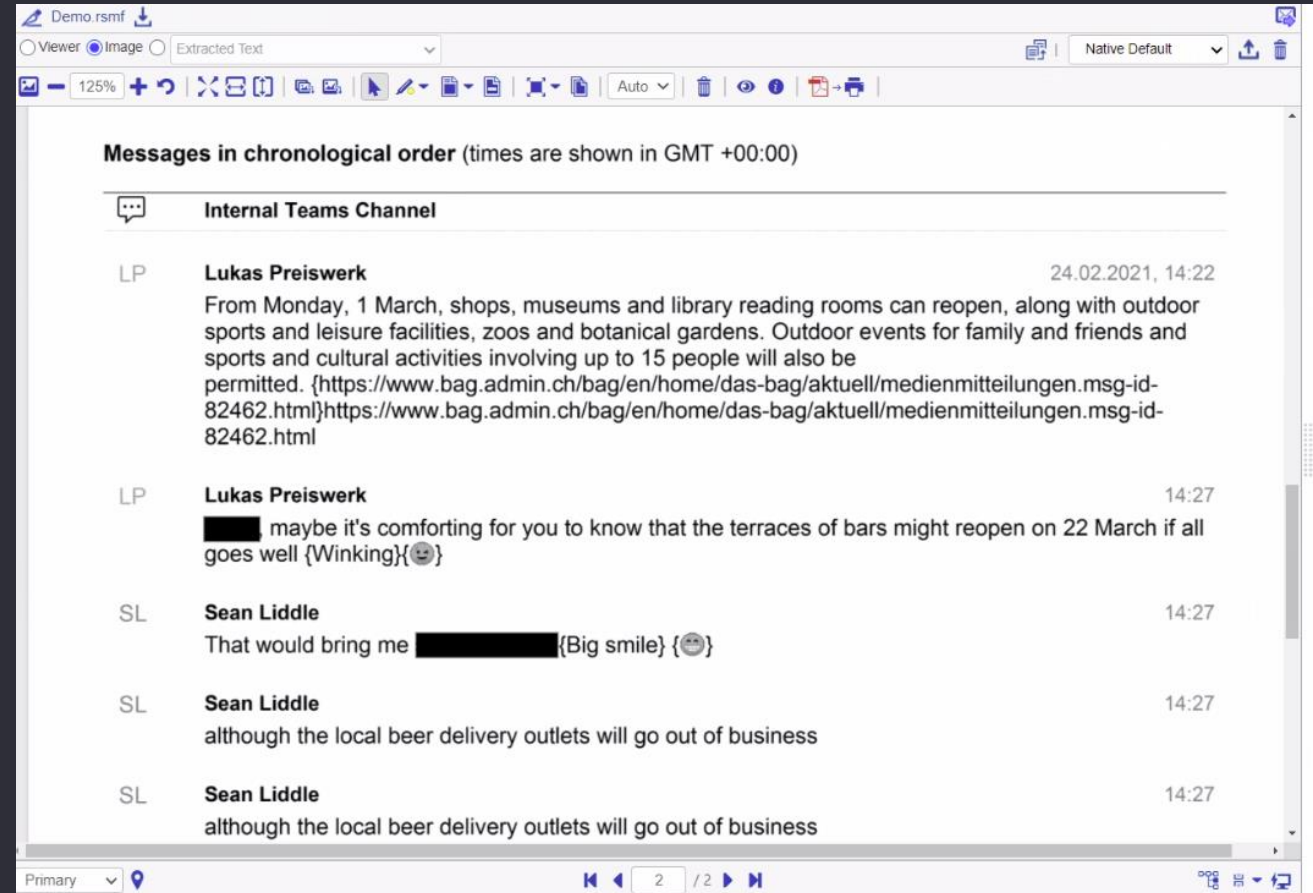
Deleted	Importance	Attachment Path	Attachment Name	Reactions	Other Fields to Include
CelebrityStartTime	DOCID	DOCID	DOCID	DOCID	DOCID
CelebrityLastActivity	PARENT_DOCID	PARENT_DOCID	PARENT_DOCID	PARENT_DOCID	PARENT_DOCID
CelebrityID	ATTACH_DOCID	ATTACH_DOCID	ATTACH_DOCID	ATTACH_DOCID	ATTACH_DOCID
ContainsHiddenText	BEGINBATES	BEGINBATES	BEGINBATES	BEGINBATES	BEGINBATES
EmailEntryID	ENDBATES	ENDBATES	ENDBATES	ENDBATES	ENDBATES
InternetMessageID	BEGINGROUP	BEGINGROUP	BEGINGROUP	BEGINGROUP	BEGINGROUP
SHA1	ENDGROUP	ENDGROUP	ENDGROUP	ENDGROUP	ENDGROUP
Encrypted	PAGECOUNT	PAGECOUNT	PAGECOUNT	PAGECOUNT	PAGECOUNT
Deleted	ITEMPATH	ITEMPATH	ITEMPATH	ITEMPATH	ITEMPATH

Include Path w No File



Productions of EDS

- Production strategy: Filtering is dynamic, but productions are not
- Chats produced in daily / weekly iterations?
- Redaction of large non-responsive chat-material can become expensive
- STR Hits → Review the whole chat history
- Per document pricing?



Review and Redaction of Recordings

The screenshot displays the EY Audio Review application interface. At the top, there is a navigation bar with a 'Return to document list' link and a document identifier 'AUDIO0002TEST'. Below this, a header area features the EY logo and the text 'Audio Review'. The main content area is divided into two sections: a media player and a transcription list.

The media player section includes a table with the following data:

Control Number	Duration [hh:mm:ss]	Mime Type
AUDIO0002TEST	00:14:26	audio/mpeg

Below the table is a waveform visualization of the audio recording. Underneath the waveform are playback controls, including a play/pause button, a progress slider, and a volume control. The controls show a play speed of 1.00x, a duration of 05:26:14:26, and a percentage played of 38%.

The transcription section is titled 'Transcription' and contains a list of speech segments:

- Person 1 (0:02): Hi Matthias would you join us for Lunch today
- Person 2 (0:11): I can't join I'm having a meeting with the client later that I have to prepare do you want to meet up later
- Person 1 (0:25): Is it the bank client that has promised you some insides to the on the project
- Person 2 (0:48): Let's catch up on whats a app

The right-hand side of the interface shows a sidebar with various settings and options, including 'Default Category', 'EYView: Audio', and 'EYViewParser:'. There is also a 'Chat Review' section with a 'Message Line' and 'Comment' field.

Advanced Data Parser for Chat and structured Data

← Return to document list
Document 1 of 2

DB001
Basic Default Image

Viewer Native Extracted Text Chat

Room Title	IB Conversation, 30 participants, PRECIOUS METALS Asia open: Gold: \$1324.50 (NY close: \$1127.5) Silver: \$23 (NY close: \$25.15) Plat: \$...	Start Time	11/29/2010 10:47:08 AM
Room ID	PCHAT-0x000000000001	End Time	11/30/2010 7:59:02 PM

Joiners/Leavers

Invitation

Disclaimers

Flagged

Chatroom Participants

Messages Per Minute

Show 10 entries Search:

Name	Participant	Message Time	Message	Category	Flag
1f62acc2-1cff-4508-9a01-f66d5ca28cc5	CD DJ	29 Nov 2010 23:49:53	viewed history from 11/29/2010 06:44:03 UTC to 11/29/2010 23:49:49 UTC	History	🚩
2960fe9a-57bd-40f7-bf24-ce695b0d1b48	PE ROZ	29 Nov 2010 23:59:26	viewed history from 11/29/2010 00:05:14 UTC to 11/29/2010 23:59:22 UTC	History	🚩
dad10b96-e784-470d-977d-7ab6496e1c08	GE ODA	30 Nov 2010 00:03:12	PRECIOUS METALS Asia open:Gold: \$13 (NY close: \$13) Silver: \$2 (NY close: \$2) Plat: \$16 (NY close: \$16) Pall: \$69 (NY close: \$69)	Message	🚩
f565ee70-8416-4cae-8c37-542c91a64aee	GE ODA	30 Nov 2010 01:03:16	BASE METALS Asia open:Copper: \$82 (\$82 LME close) Alu: \$22 (\$20 LME close) Zinc: \$21 (\$20 LME close) Lead: \$22 (\$21 LME close) Nickel: \$22 (\$22 LME close) Tin: \$23 (\$23 LME close)	Message	🚩
aa4f8ace-a287-4178-afd9-e3ac43d06b0b	GE ODA	30 Nov 2010 07:16:53	Copper sees sizeable dips buying close to \$85. We traded good 70 lots so far in Asia. most buying on the system.	Message	🚩

Showing 1 to 5 of 5 entries Previous 1 Next

Chat Review

Default Category: EYView: Chat EYViewParser: MHT EYView Status: 2

ChatroomMessageComment (DocumentCommentLink)

Items 0 - (of)

Message Link Comment

0 Selected Item(s) Select Page Size: 10