Prophets, Hills and Identical Interfaces

for Open Source and MS 365

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2 **Agenda**

- Introduction to the Kopano RestAPI

- Querying data with the "Grapi Explorer"

- Existing integrations: Harmonizely

- Summary

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3   **Hands-on**

- If you want to play with our RestAPI yourself:

    – https://github.com/Kopano-dev/univention-summit-2021-workshop

- Requires at least the „kopano-core" app to be installed on the same system

    – Its recommended to use the appliance for easy tests
    https://www.univention.com/products/univention-app-center/app-catal
    og/kopano-core/

    – You could also install the „Univention Demo Data" app for easy test
    users

- Manual installation will no longer be necessary with the upcoming „Kopano
One"app
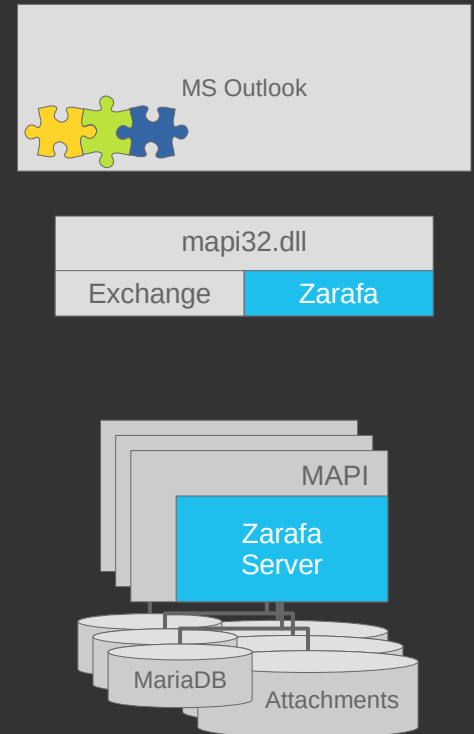
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In the past... Outlook & Zarafa

- Back at Zarafa, Outlook was the center of the world

- Low-level integration through mapi32.dll, brought native interaction with Outlook
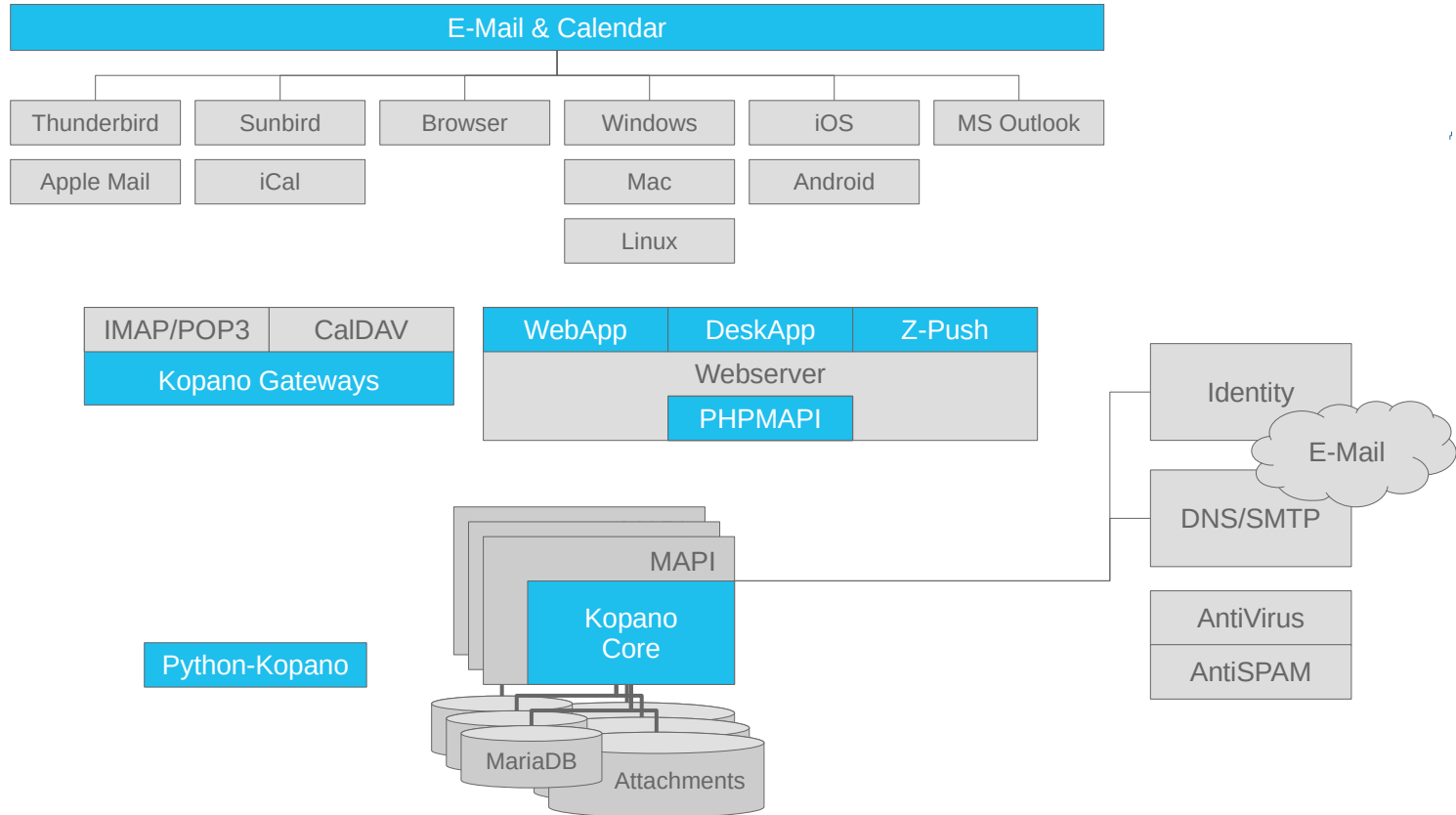
- With Outlook as the main point of contact ...

MS Outlook

mapi32.dll

Exchange | Zarafa

MAPI

Zarafa Server

MariaDB | Attachments
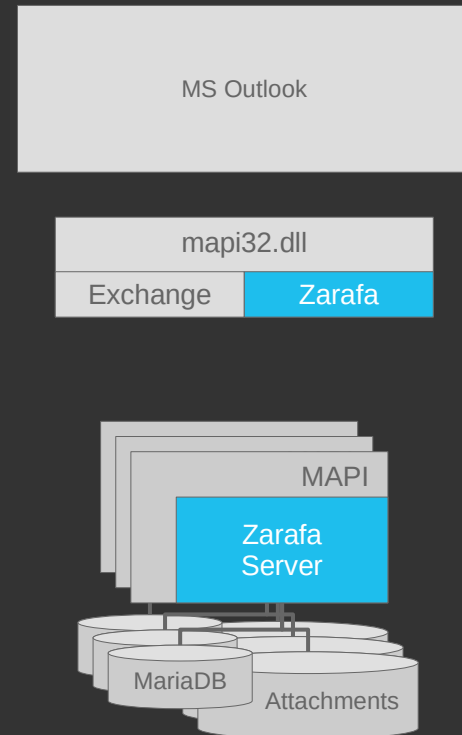
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5 **In the past... Outlook & Zarafa**

- With Outlook as the main point of contact ... it could be used as a interface for integrations

- Client side integrations have disadvantages
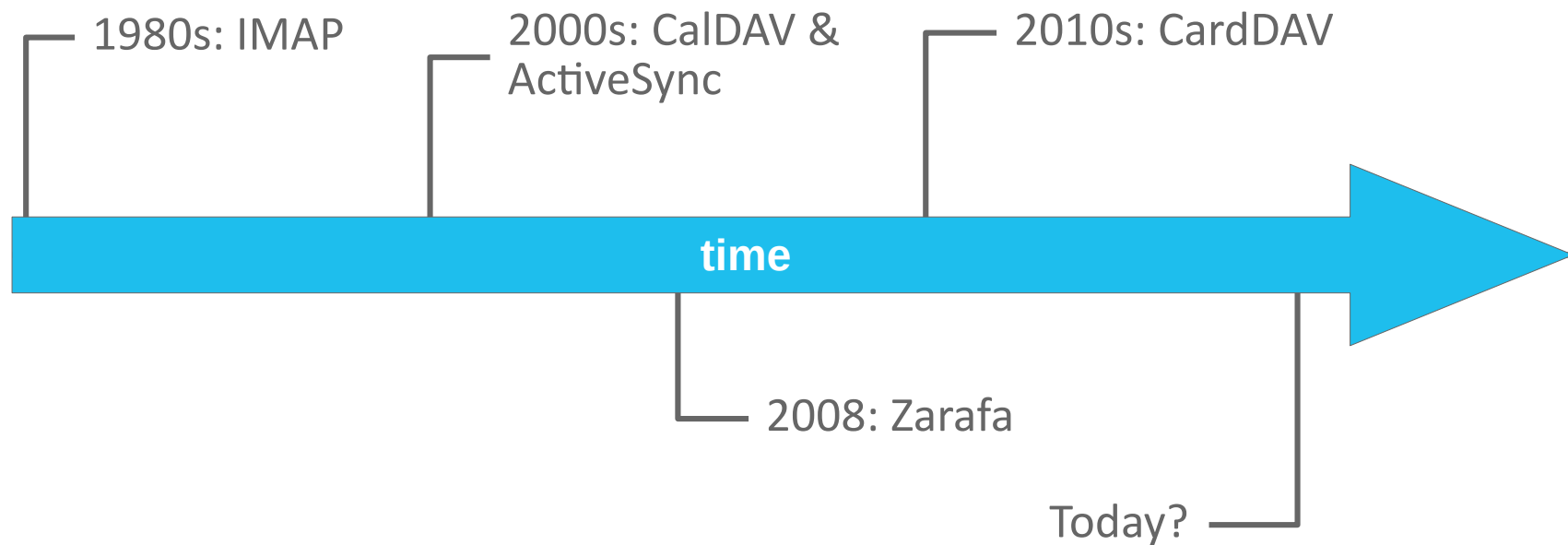
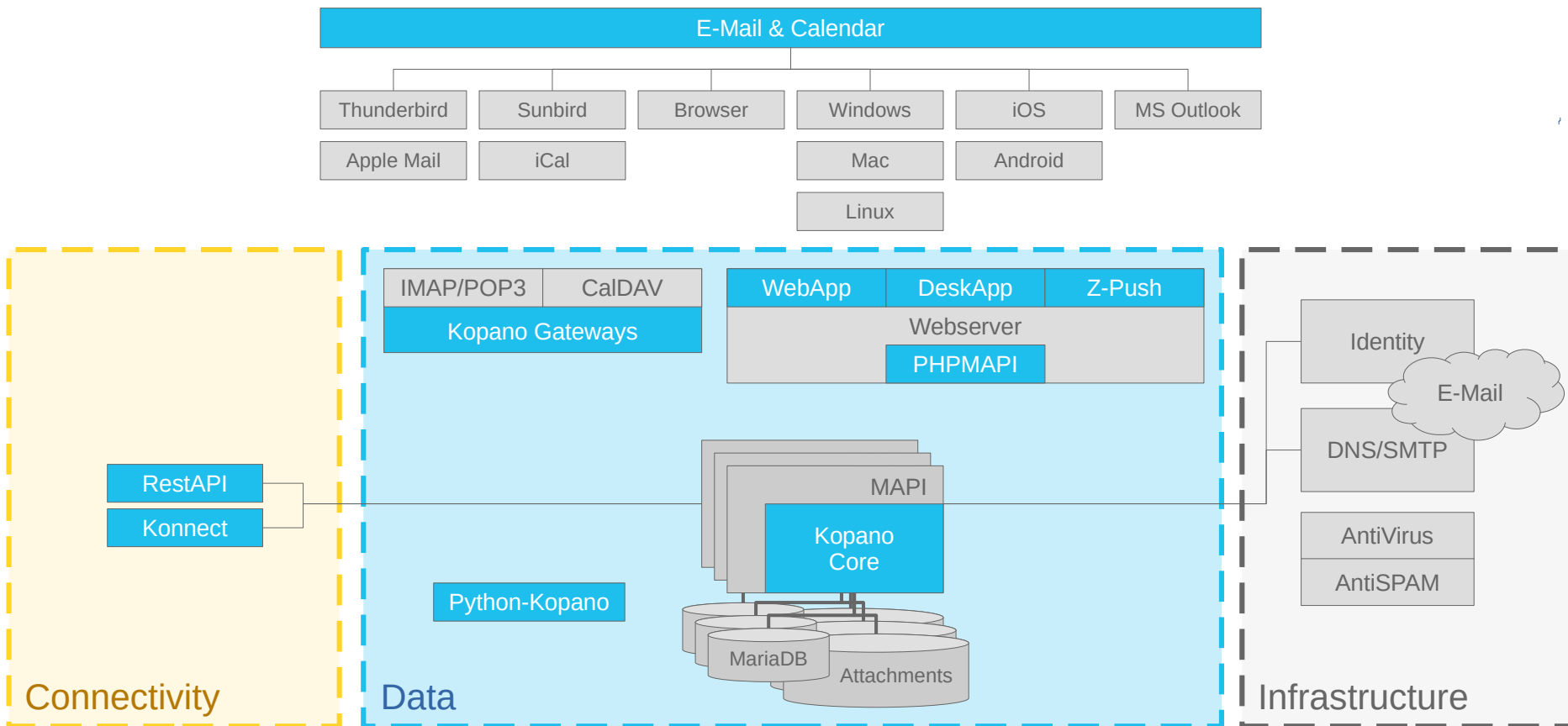- Microsoft moved on from mapi32.dll

ERP/CRM

Documents

Meetings

MS Outlook

mapi32.dll

Exchange | Zarafa

MAPI

Zarafa
Server

MariaDB | Attachments

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Kopano Infrastructure

E-Mail & Calendar

Thunderbird	Sunbird	Browser	Windows	iOS	MS Outlook
Apple Mail	iCal		Mac	Android	
			Linux		

IMAP/POP3	CalDAV
Kopano Gateways	

WebApp	DeskApp	Z-Push
Webserver		
	PHPMAPI	

Identity

E-Mail

DNS/SMTP

AntiVirus

AntiSPAM

MAPI

Kopano Core

Python-Kopano

MariaDB

Attachments

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Well known APIs for connecting

1980s: IMAP

2000s: CalDAV & ActiveSync

2010s: CardDAV

time

2008: Zarafa

Today?

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Introduction to the Kopano RestAPI

Kopano RestAPI is compatible to MS Graph API
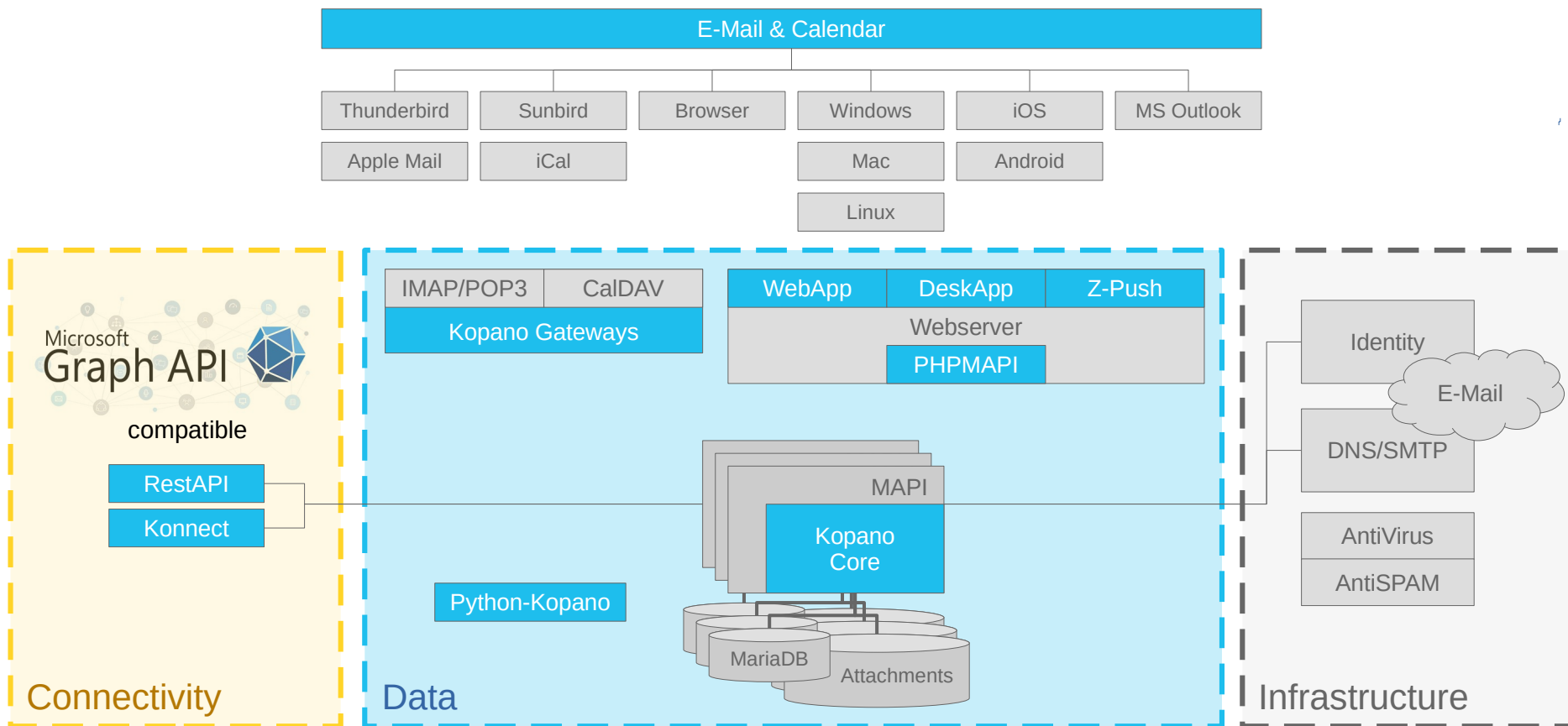
Why Microsoft Graph?

- It's a well known API

  – Lots of developers already have experience with it

  – There are plenty of examples and SDKs available

- It's a well defined API

  – Provides endpoints for mail, calendars, tasks, user management, video meetings, chat, files, …

- Token auth instead of handling usernames & passwords directly

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11 **Demo: Checking the installation**

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12 Querying the RestAPI with the „Grapi Explorer"

- Fork of the Microsoft Graph Explorer made to work with a custom endpoint instead of https://graph.microsoft.com

- Source: https://stash.kopano.io/projects/KC/repos/grapi-explorer/

13 Easily execute sample queries

- By default only shows "getting started" queries

  - More can be enabled by going to "show more samples"

- Not all examples are implemented for the Kopano RestAPI

  - Current WIP can be enabled by setting "enable_experimental_endpoints" in grapi

14 Porting applications to the Kopano RestAPI

- The Grapi Explorer can also serve as an example how to port existing Office 365 applications to Kopano:

- Link to diff

15 **Demo: Grapi Explorer**

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Examples out in the wild: Harmonizely

- Harmonizely is a cloud service to simplify planning meetings

- Europe based (developed in Poland)

- Had integrations already for Google Calendar, iCloud and Office 365

- Integration with Kopano RestAPI can be used with the free account
  - Integration of Kopano Meet requires paid account

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17 **Demo: Harmonizely**

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Examples out in the wild: Harmonizely

„Due to Kopano's MS-compatible REST API, 90% of the work was already done."
Rafal Muszynski – CEO & Founder at Harmonizely.com

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19 **Harmonizely: Try it out yourself**

- Demo calendar: https://app.harmonizely.com/felixbartels/demo

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How to connect additional backends?
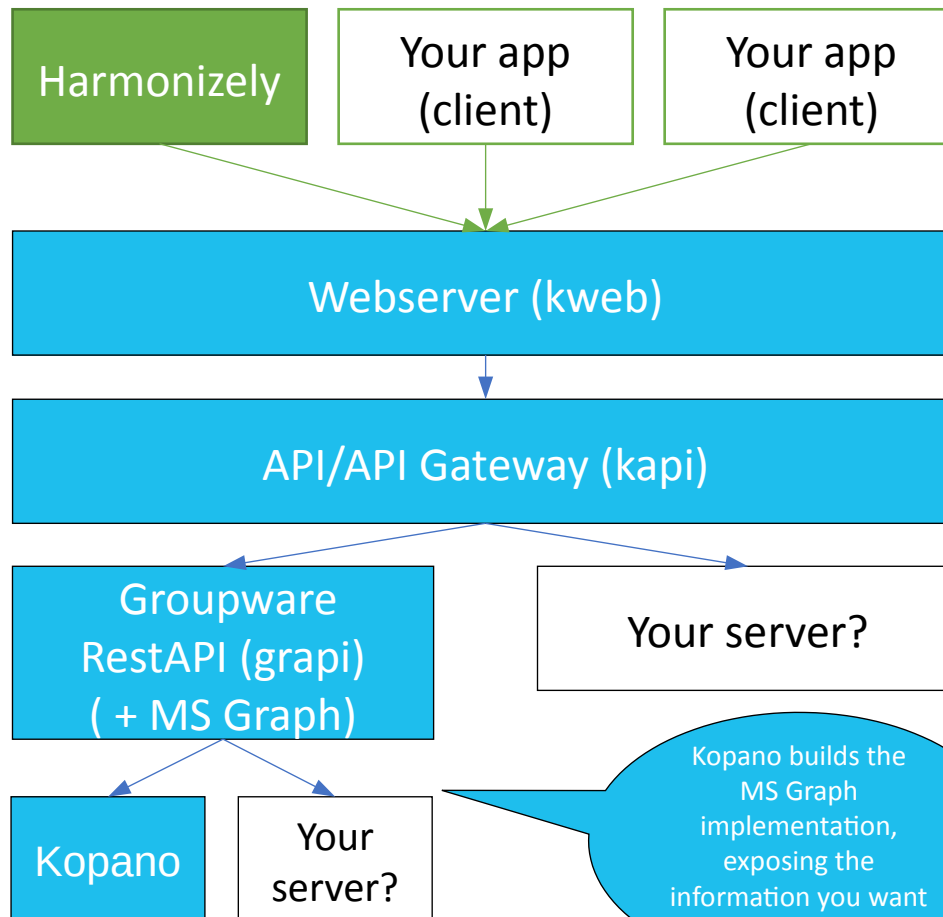
21 Tl;dl

- The RestAPI will be part of the new „Kopano One" app on Univention

- Designed after Microsoft Graph important differences at
  https://stash.kopano.io/projects/KC/repos/grapi/browse/COMPAT.md

- Not all endpoints are included as of yet

  - WIP endpoints can be queried when setting
    „enable_experimental_endpoints" to yes

- To allow applications to access data the „kopano/gc" needs to be
  requested at login

- In case an application already supports Microsoft Graph, 90% of the
  work is already done for a Kopano integration

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22 **Thanks for your attention!**

- Time for your questions!

- Or follow up at the Kopano sponsor both
  - or via https://app.harmonizely.com/felixbartels

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24 Abstract

Workshop 14:45 – 15:30

Propheten, Berge und identische Schnittstellen für Open Source und MS 365

Die Herausforderung: Sie brauchen dringend eine oder mehrere Spezial- oder Fachanwendungen. Die dafür verfügbaren Anwendungen bieten auch sehr hilfreiche Schnittstellen zur Kommunikations- und Kollaborationsinfrastruktur. Die Anbieter der Software konzentrieren sich aber in erster Linie auf die vermeintlich „geltenden Industriestandards". Weshalb digital souveräne, quelloffene Systeme oft außen vor bleiben.

In unserem Workshop zeigen wir, wie wir diese Herausforderung mit einer flexiblen, für alle Anbieter offenen und vor allem mit den Schnittstellen von MS 365 kompatiblen RestAPI lösen. Der Integrationsaufwand für den Zugriff auf Termine, Frei/Gebucht-Informationen, E-Mails oder Dateien wird damit mehr als deutlich reduziert.

Wir stellen die Idee unserer Schnittstelle vor und richten diese auf UCS ein. Die Kompatibilität demonstrieren wir mit einer angepassten Version des MS Graph Explorers von Microsoft. Wir belassen es aber nicht bei theoretischen Beweisen. Zum Abschluss des Workshops verbinden wir einen Kalender des Univention/Kopano-Systems mit dem Cloud-Tool Harmonizely, um die Terminplanung mit Personen, die keinen Zugriff auf den Univention-Server haben, zu vereinfachen.

Mit diesem Ansatz stehen wir in unserer Tradition „Industriestandards" erfolgreich in die Open-Source-Welt zu überführen – wie wir das bereits mit unserem MAPI-Server und auch Z-Push (ActiveSync-over-the-Air) gemacht haben.

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