



Augsburger Linux Info-Tag 2025

Michael Kromer, CTO

mission

grommunio offers *genuine* digital sovereignty

We offer a fully GDPR-compliant communication solution that keeps your data under your control.



grommunio

grommunio independence



vendor lock-in → independence

Use of open standards without being tied to a specific provider. Full control over where all the data and infrastructure runs. On-site or in a data center of your choice. Full support of Microsoft Outlook and others by providing wired protocols. grommunio is a true M365 and Google alternative.



proprietary → open

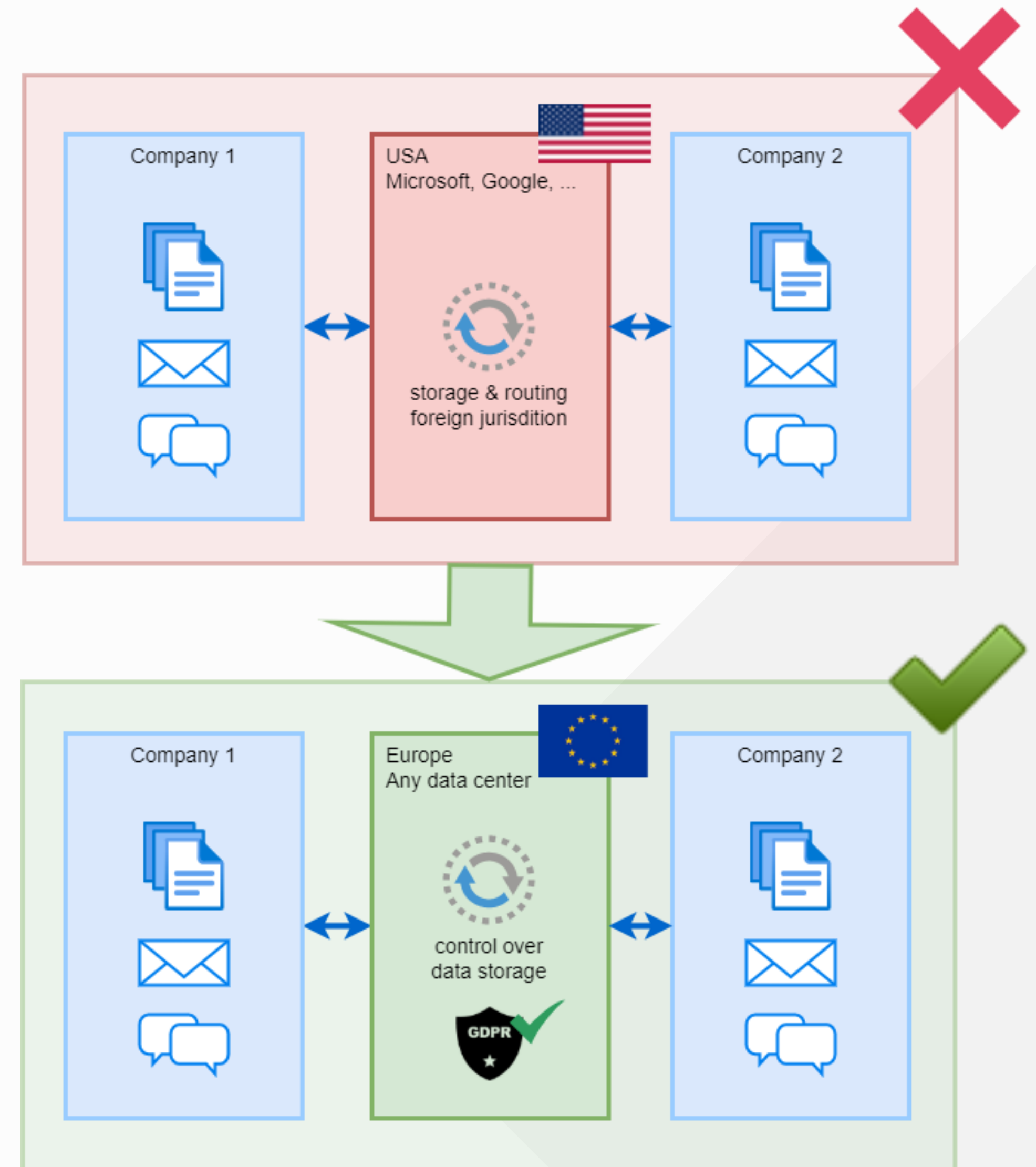
Open source offers genuine compatibility and expandability and enables integration with other software solutions. No product strategies of individual providers, in line with the European Council's strategy for open source:

https://ec.europa.eu/info/departments/informatics/open-source-software-strategy_en



Data: foreign jurisdiction → GDPR

Cloud providers are pushing for centralization with data storage under foreign jurisdiction, violating key elements of important data protection laws such as GDPR and ePrivacy regulations. grommunio protects data at the highest level, including the use of military-grade encryption..



Leading groupware technology for businesses

Microsoft is undoubtedly leading the enterprise groupware market with its products, either on-premises with Microsoft Exchange or Microsoft Exchange Online/O365/M365 as the leading cloud provider in the enterprise market, but the state of security ... read for yourself:

Vulnerability Management

Azure and Microsoft Exchange Servers Victim To Active Exploitation by Hackers

Microsoft’s Azure platform has been subject to a major data breach, compromising several accounts, including that of senior company executives. Find out more about Microsoft’s security issues with Azure and Exchange servers.

 Anuj Mudaliar Assistant Editor - Tech, SWZD

February 21, 2024



Privacy

Microsoft 365 faces darkening GDPR compliance clouds after German report

Natasha Lomas @riptari / 7:00 PM GMT+1 • November 28, 2022

 Comment

2023 EXCHANGE BREACH —

Microsoft blamed for “a cascade of security failures” in Exchange breach report


Summer 2023 intrusion pinned to corporate culture, "avoidable errors."

KEVIN PURDY - 4/3/2024, 8:51 PM

The Register

Microsoft slammed for lax security that led to China's cyber-raid on Exchange Online

CISA calls for 'fundamental, security-focused reforms' to happen ASAP, delaying work on other software

 Simon Sharwood

Wed 3 Apr 2024 // 02:15 UTC

CSO

US government blames 2023 Exchange breach on ‘preventable’ security failures by Microsoft

News

Apr 03, 2024 • 4 mins

Data and Information Security

Data Breach

Government

The US Department of Homeland Security’s Cyber Safety Review Board is calling for industrywide change to help prevent high-impact situations.

in

Political environment fuels demand for open source

- Auditability
- Transparency
- Security
- Honeypot?
- Data Privacy Framework
- Executive Order, *anyone?*





grommunio **current geopolitical risks**

- **Sanctions and Access Denial**

Political conflicts can cause sudden termination of software licenses and services.

- **Data Sovereignty Loss**

Sensitive personal, corporate, or government data may be hosted or controlled abroad.

- **Surveillance and Intelligence Risks**

Foreign powers could access, monitor, or exploit data via legal or clandestine means.

- **Export Restrictions and Blacklists**

Export control laws (e.g., ITAR, EAR) can block delivery of updates, patches, or new features.

- **Cost Inflation and Tariffs**

Political tensions can lead to sudden price hikes, taxes, or tariffs on software products and services.

- **Strategic Autonomy Erosion**

Nations lose control over critical digital infrastructures, undermining national resilience in crises.

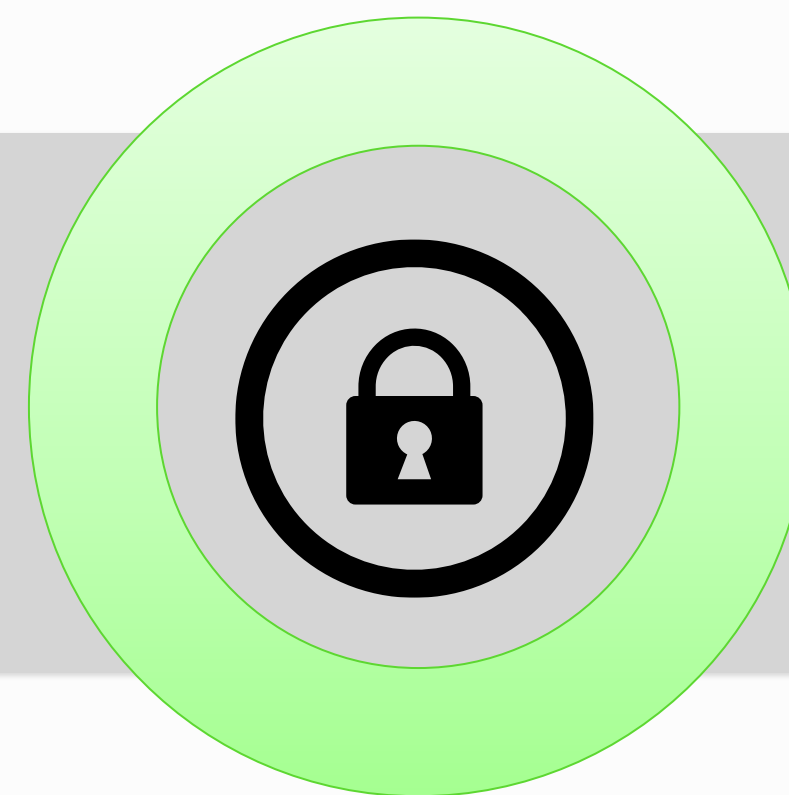
GDPR, CCPA and ePrivacy compliance

Compliance with the strongest data protection rights



open source

Complete OSI conformity

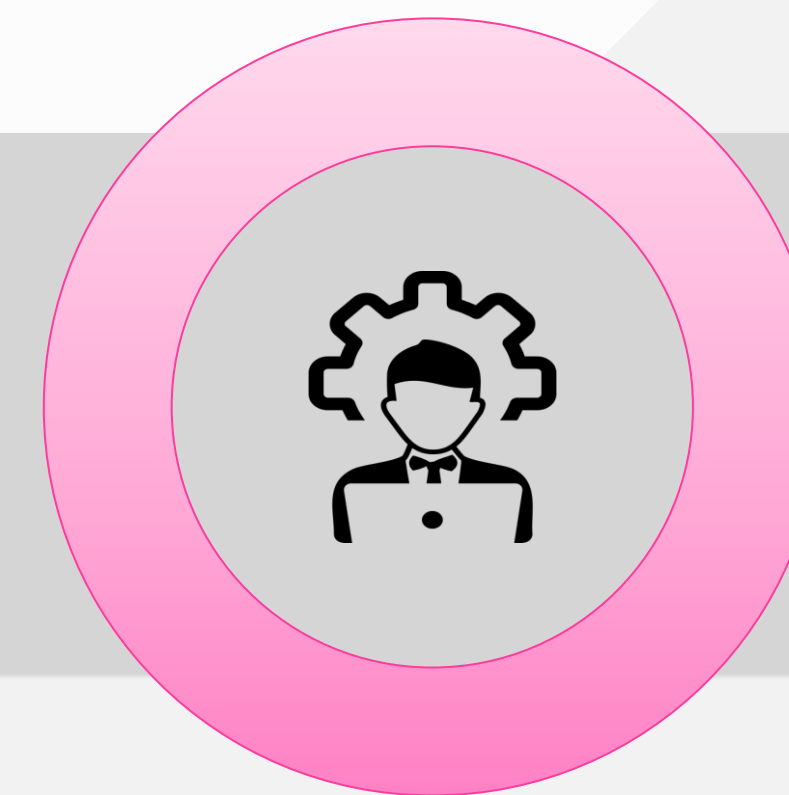
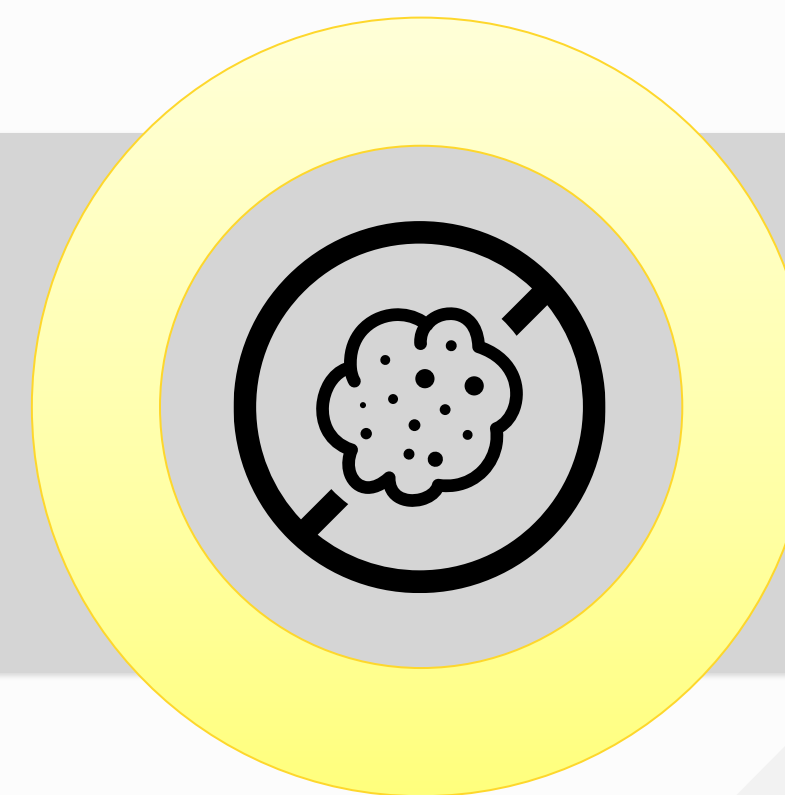


secure

Confirmed by bounty runs, certified according to PSA

Digitally sovereign

No dependency on external infrastructure



Enhanced productivity

All-in-one software stack for enterprise-level productivity with email, calendar, chat, video conferencing, file-sharing and office



grommunio / gromox Public

<> Code Issues 4 Pull requests 1 Actions Wiki Security Insights

Contributions to specs

Jan Engelhardt edited this page on Jan 27 · [16 revisions](#)

Instances where we found underspecifications or outright bugs in Microsoft documentation/specifications:

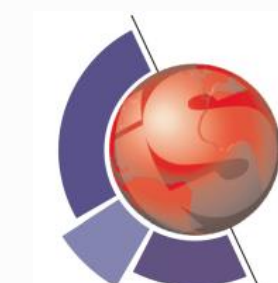
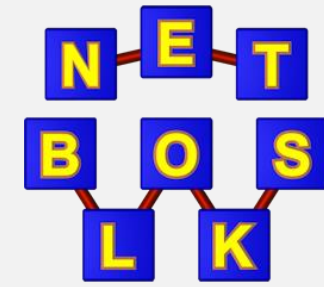
- [PT_LONG is not for the unsigned](#)
- [Outlook invokes unspecified behavior with regard to PR_SENSITIVITY](#)
- [Fix size mentions for named properties](#)
- [Mention EX2019 behavior with regard to SPropertyRestriction](#)
- [MAPI_HARD_DELETE not fully documented](#)
- [relationship between DIR_ENTRYID and CONTAB_ENTRYID](#)
- [EWS: Month can have value 0 as well](#)
- [EWS: Default property table with bogus entry](#)
- [PT_LONG is wrongly documented to be unsigned](#)
- [EX Server 2019 behavior when evaluating a NULL value with a SPropertyRestriction](#)
- [Mention DELETE_HARD_DELETE flag for IMAPIFolder::DeleteFolder](#)
- [Update flag descriptions of PR_RECIPIENT_FLAGS](#)
- [Synchronize commonly-used-property-sets.md with info from MS-OXPROPS](#)
- [Document more flags returned by IMAPIContainer::GetSearchCriteria](#)
- [SCountRestriction](#)

Major unsolved annoyances:

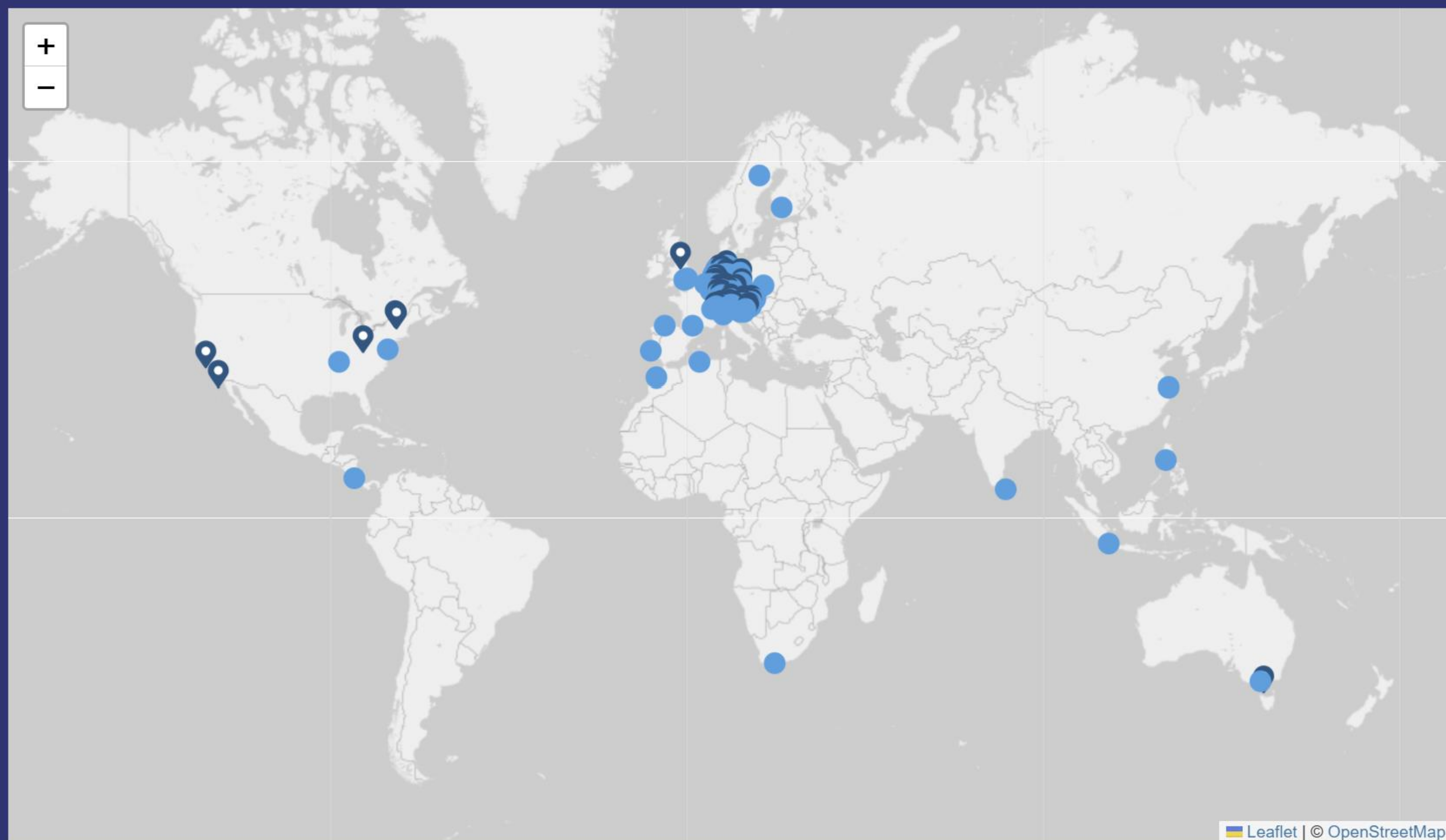
- The repository [open_specs_exchange](#) is erroneously set to private and cannot be edited like the others, **wth** ([bugreport](#))

Filed without PR (because open_specs_exchange):

grommunio stronger together



Our worldwide partners





**Open Source = long-term success
(guaranteed)**



grommunio “how hard can it be?”

MAPI is not easy, but worth it

Open Source = long-term success (no question about it)

Standards, standards, standards

Business & Community

grommunio overview

grommunio Groupware (gromox)

the core of grommunio with cutting edge API and scalability core with mail, calendar, contacts, tasks and notes

grommunio MDM

mobile device management for enterprise security management

grommunio Archive (Piler)

audit-proof and law compliant e-mail archiving

grommunio Meet (Jitsi)

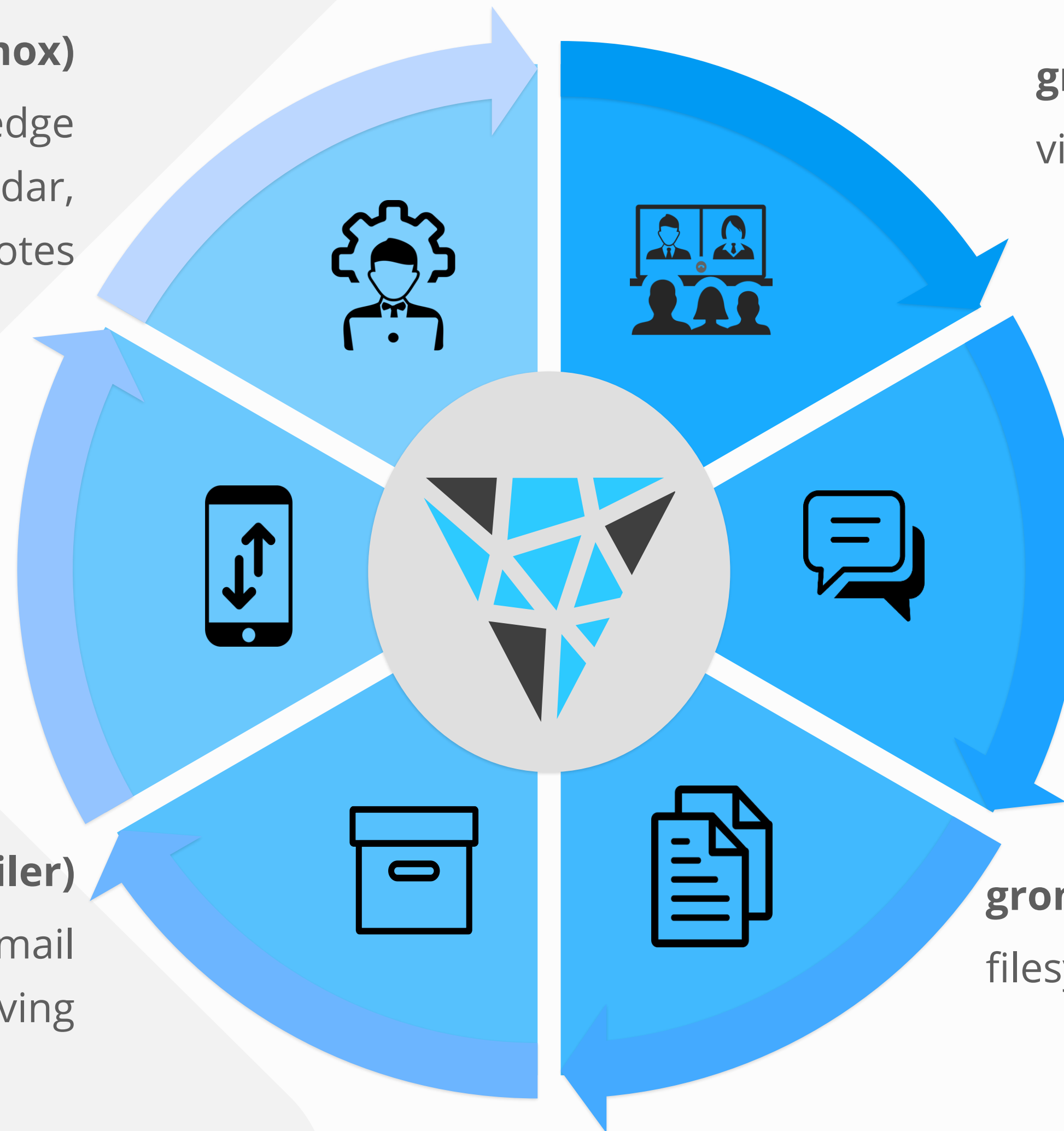
video Meetings & Remote Dial-in

grommunio Chat (Mattermost, Matrix)

instant messaging and realtime content exchange

grommunio Files & Office (Nextcloud, OO)

filesync & share and content collaboration





**Open Source = long-term success
(guaranteed)**



***grommunio* europe is stronger than you think**

Samba: A “Gold standard” of CIFS

Nextcloud: A “Gold standard” of FS&S

LibreOffice: A “Gold standard” of Documents

KDE: A “Gold standard” of Desktop

and many much more



***grommunio* activists, the time was never better**

Georg Greve

Founder of Free Software Foundation Europe (FSFE); promoted software freedom in politics, business, and society across Europe. Lead Anti-Trust case against Microsoft.

Frank Karlitschek

Founder of Nextcloud, pushing decentralized, open-source cloud solutions; strong advocate for user privacy and open standards. “Stronghold” against Microsoft domination.

Matthew Garrett

Linux kernel developer; champion of open standards and security in hardware and firmware (especially UEFI/Secure Boot openness). Fights for Open Source (e.g. Violations against GPL)



grommunio How this has already worked

Samba and CIFS: The Journey

- **1992: Andrew Tridgell reverse-engineers SMB → creates Samba for Unix/Linux.**
- **Samba grows into the de facto standard for SMB/CIFS interoperability.**
- **Microsoft rebrands SMB as CIFS (Common Internet File System) in late 1990s.**
- **Samba developers reverse-engineer undocumented SMB/CIFS behavior.**
- **Early 2000s: Microsoft faces antitrust pressure to document protocols.**
- **Microsoft hires Samba team members to help write accurate SMB/CIFS docs.**
- **Result: Formal protocol specs released, Samba achieves full compatibility.**
- **Samba remains critical today for Linux, NAS devices, and enterprise storage.**



grommunio

Microsoft Exchange Protocols

←

→

↺

🏠

🔍

learn.microsoft.com/en-us/openspecs/exchange_server_protocols/ms-oxprotlp/30c90a39-9adf-472b-8b5b-03c282304a83

Open Specifications

Specifications ▾

Dev Center

Events ↗

Test

Support

Programs

Patents

Blog ▾

🔍 Filter by title

Open Specifications

▾ Protocols

Protocols

▾ Exchange Server Protocol Documents

Exchange Server Protocol Documents

Preview Documents

> Overview Document

> Technical Documents

> References

Archive Documents

Learn /

⊕

⋮

Exchange Server Protocol Documents

Article • 03/18/2025 • 3 contributors

👍 Feedback

In this article

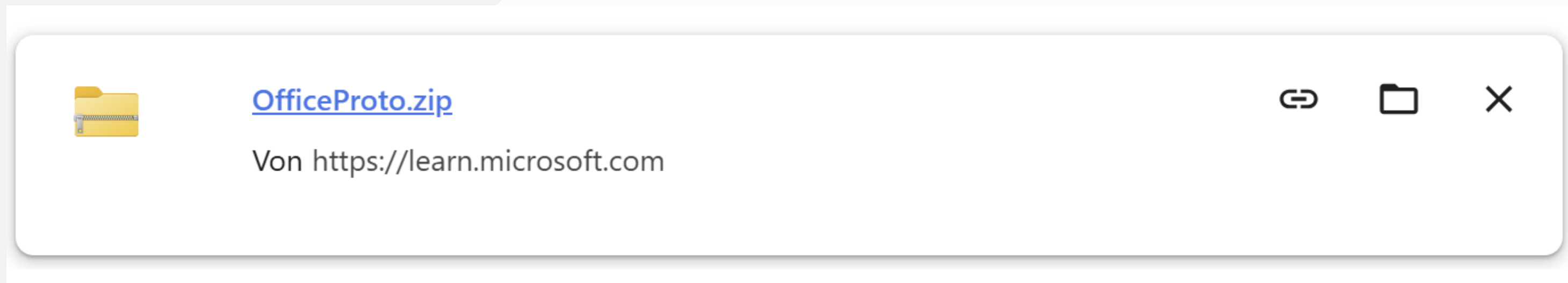
Explore Exchange Server Protocols Documentation

Q&A and Blogs

This documentation contains detailed technical specifications for Microsoft protocols that are implemented and used by Exchange Server to interoperate or communicate with other Microsoft products. It also contains technical specifications for extensions to industry-standard and other published protocols that are used by Exchange Server. In addition, the documentation includes a set of companion overview and reference documents that supplement the technical specifications with conceptual background, overviews of inter-protocol relationships and interactions, and technical reference information.

Although the Open Specifications technical documents are freely available, many of them include patented inventions. Some of these patents are available at no charge under the [Open Specifications Promise](#) or the [Microsoft Community Promise](#). The remaining patents are available through various licensing programs. For more information, please visit the [Microsoft Open Specifications](#) website or send an email message to the [IP Licensing Team](#).

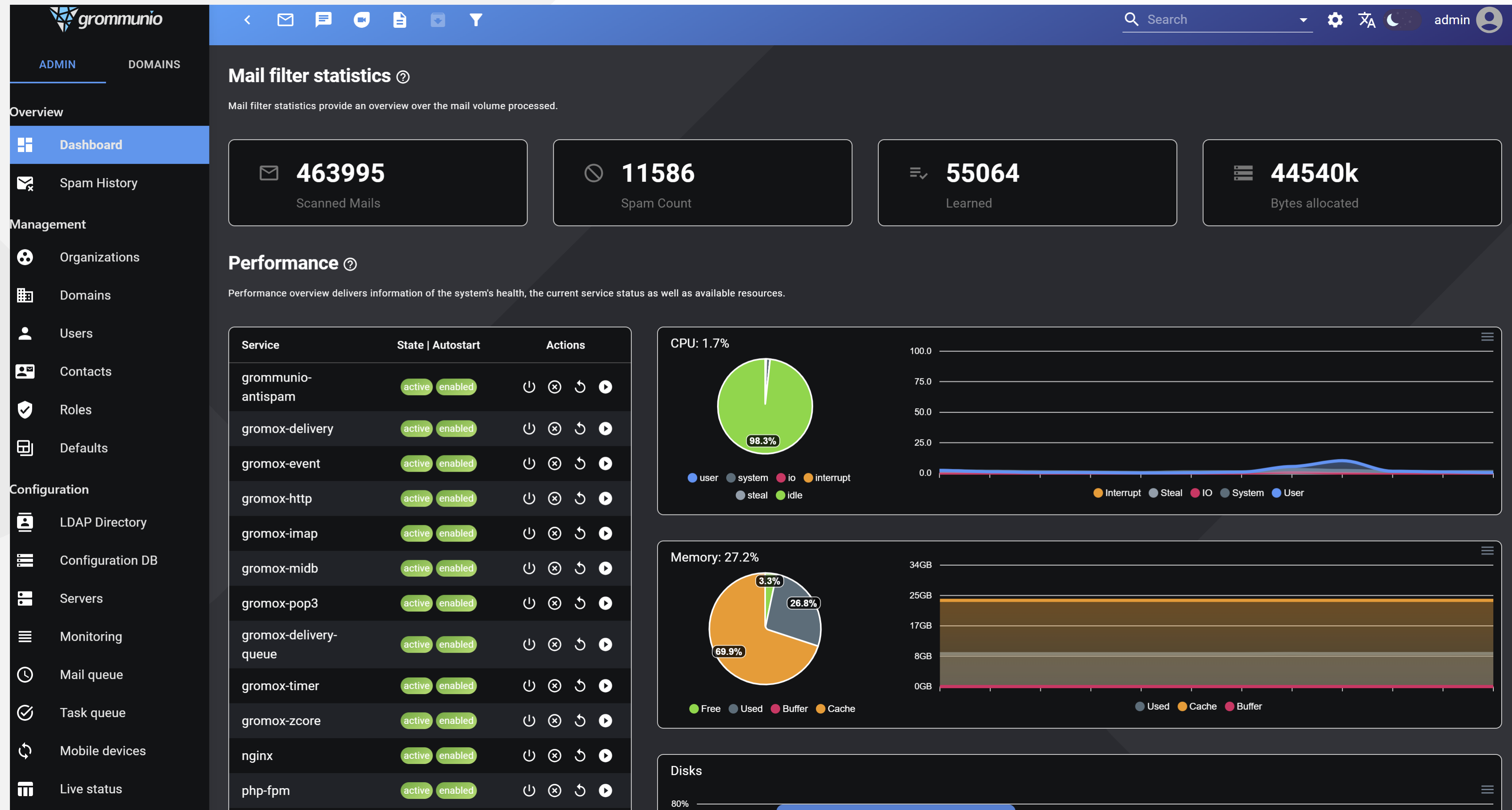
grommunio Microsoft Exchange Protocols



[MS-ABS].pdf: PDF document, version 1.4, 79 page(s)	document, version 1.4, 27 page(s)	document, version 1.4, 47 page(s)	document, version 1.4, 88 page(s)	[MS-MERX].pdf: PDF document, version 1.4, 24 page(s)	[MS-PSOM].pdf: PDF document, version 1.4, 111 page(s)	document, version 1.4, 31 page(s)	page(s)
[MS-AVEDGEA].pdf: PDF document, version 1.4, 40 page(s)	[MS-CVWREST].pdf: PDF document, version 1.4, 46 page(s)	[MS-GRVHENC].pdf: PDF document, version 1.4, 162 page(s)	[MS-GRVWDPP].pdf: PDF document, version 1.4, 50 page(s)	[MS-OBPAS].pdf: PDF document, version 1.4, 53 page(s)	[MS-PWBDPS].pdf: PDF document, version 1.4, 27 page(s)	[MS-SIPAPP].pdf: PDF document, version 1.4, 40 page(s)	[MS-TURN].pdf: PDF document, version 1.4, 61 page(s)
[MS-CONFAS].pdf: PDF document, version 1.4, 51 page(s)	[MS-DLX].pdf: PDF document, version 1.4, 70 page(s)	[MS-GRVPROT].pdf: PDF document, version 1.4, 57 page(s)	[MS-H264PF].pdf: PDF document, version 1.4, 33 page(s)	[MS-OBPRS].pdf: PDF document, version 1.4, 53 page(s)	[MS-PWBHPS].pdf: PDF document, version 1.4, 46 page(s)	[MS-RGSWS].pdf: PDF document, version 1.4, 46 page(s)	[MS-UDCX].pdf: PDF document, version 1.4, 37 page(s)
[MS-CONFAV].pdf: PDF document, version 1.4, 108 page(s)	[MS-DTMF].pdf: PDF document, version 1.4, 18 page(s)	[MS-GRVRDB].pdf: PDF document, version 1.4, 21 page(s)	[MS-ICE2BWM].pdf: PDF document, version 1.4, 32 page(s)	[MS-OCAUTHWS].pdf: PDF document, version 1.4, 92 page(s)	[MS-PWBPS].pdf: PDF document, version 1.4, 33 page(s)	[MS-RTASPF].pdf: PDF document, version 1.4, 16 page(s)	[MS-WOPI].pdf: PDF document, version 1.4, 98 page(s)
[MS-CONFBAS].pdf: PDF document, version 1.4, 248 page(s)	[MS-E911WS].pdf: PDF document, version 1.4, 38 page(s)	[MS-GRVSPCM].pdf: PDF document, version 1.4, 203 page(s)	[MS-ICE2].pdf: PDF document, version 1.4, 42 page(s)	[MS-OCDISCWS].pdf: PDF document, version 1.4, 34 page(s)	[MS-PWEDPS].pdf: PDF document, version 1.4, 299 page(s)	[MS-SIPREGE].pdf: PDF document, version 1.4, 134 page(s)	[MS-XCCOSIP].pdf: PDF document, version 1.4, 91 page(s)
[MS-CONFIM].pdf: PDF document, version 1.4, 81 page(s)	[MS-ECREST].pdf: PDF document, version 1.4, 32 page(s)	[MS-GRVSPMR].pdf: PDF document, version 1.4, 84 page(s)	[MS-ICE].pdf: PDF document, version 1.4, 31 page(s)	[MS-OCER].pdf: PDF document, version 1.4, 207 page(s)	[MS-PWPHP].pdf: PDF document, version 1.4, 15 page(s)	[MS-SIPRE].pdf: PDF document, version 1.4, 116 page(s)	[MS-XMLMC].pdf: PDF document, version 1.4, 20 page(s)
[MS-CONFPRO].pdf: PDF document, version 1.4, 63 page(s)	[MS-EUMR].pdf: PDF document, version 1.4, 29 page(s)	[MS-GRVSSTP].pdf: PDF document, version 1.4, 117 page(s)	[MS-IMESYN].pdf: PDF document, version 1.4, 13 page(s)	[MS-OCEXUM].pdf: PDF document, version 1.4, 19 page(s)	[MS-PWVPDP].pdf: PDF document, version 1.4, 129 page(s)	[MS-SRTP].pdf: PDF document, version 1.4, 19 page(s)	
[MS-CONMGMT].pdf: PDF	[MS-EUMSDP].pdf: PDF document, version 1.4, 17 page(s)	[MS-GRVSSTPS].pdf: PDF	[MS-INFODCF].pdf: PDF document, version 1.4, 24 page(s)	[MS-OCGCWEB].pdf: PDF document, version 1.4, 15	[MS-PWVRSC].pdf: PDF	[MS-SSRTP].pdf: PDF document, version 1.4, 24 page(s)	
	[MS-GRVDYNM].pdf: PDF					[MS-RTVPF].pdf: PDF document, version 1.4, 36 page(s)	
						[MS-SDPEXT].pdf: PDF document, version 1.4, 82 page(s)	
						[MS-SIPAE].pdf: PDF document, version 1.4, 49	

```
ls -1 | while read line; do file $line; done | awk '{ print $6 }' | sed 's#^#+#' | xargs echo 0 | bc
```

5038



Q & A