



<https://caldav synchronizer.org>

Outlook CalDav Synchronizer

The missing link in FOSS Exchange server replacement

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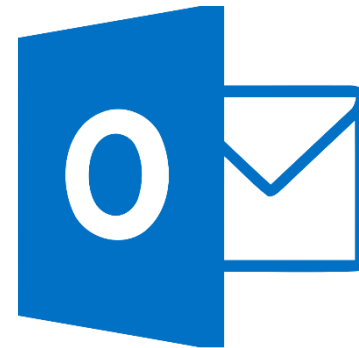
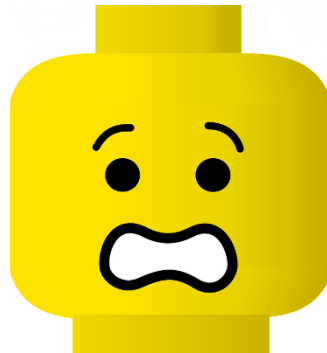
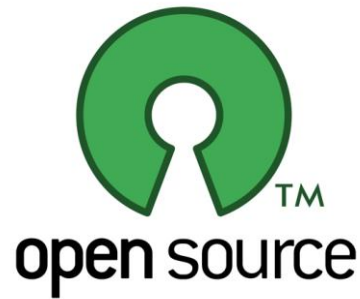
Lightning Talk

FOSDEM 2017



<https://caldavsynchronizer.org>

Every FOSS groupware's nightmare





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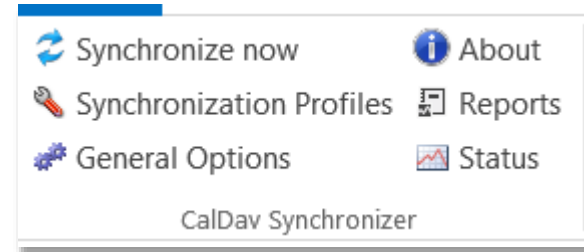
Motivation

- Alternative to MS Exchange/Outlook and Exchange ActiveSync (EAS) wanted
 - No license fees, no dependency on proprietary protocols
- OpenChange (Open Source MAPI Implementation) for native Exchange support on top of Samba4 stalled
- Most “**open**” groupware solutions use proprietary Outlook connectors or dropped Outlook support



<https://caldavsynchronizer.org>

To the rescue!



- **AGPLv3**
 - The only FOSS Outlook Addin for CalDAV/CardDAV support
- synchronizes events, tasks and contacts between Outlook and any CalDAV or CardDAV server
- initially developed as a master thesis project at the [University of Applied Sciences Technikum Wien](https://www.fhnw.at/), Software Engineering Degree program
- Meanwhile >350k downloads
- VSTO C#, .NET 4.5, MS Outlook 2007-2016 supported but 2013+ recommended



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Features

- Two-way sync with timerange filter
- SSL/TLS support, self-signed certificates and client certificate authentication
- Autodiscovery via `/.well-known/caldav` and SRV records RFC 6764 `_caldavs._tcp`
- Support for Google native contact and task API
- Map Windows to standard IANA/Olson timezones
- Map Outlook formatted RTFBody to html description via X-ALT-DESC attribute



Advanced settings

Timezone settings

- Create events on server in UTC
- Create events on server with downloaded IANA Timezones

Use IANA Timezone:

Europe/Berlin

- Include full IANA zone with historical data

Privacy settings

- Map Outlook Private flag to DAV CLASS:CONFIDENTIAL
- Map DAV CLASS:CONFIDENTIAL to Outlook Private
- Map DAV CLASS:PUBLIC and default events to Outlook Public

Scheduling settings

- Map Organizer and Attendees
- Set SCHEDULE-AGENT=CLIENT
- Don't send appointment notifications (from SO)

Outlook settings

Sync only Appointments with this category:

- Sync also Appointments without any category
- Negate filter and sync all Appointments except
- Map Calendar Color to category color

Category Shortcut Key:

Ctrl+F6

- Cleanup duplicate events after each sync run

- Purple
- Maroon
- Steel
- DarkSteel
- Gray
- DarkGray
- Black
- DarkRed
- DarkOrange
- DarkPeach
- DarkYellow
- DarkGreen
- DarkTeal
- DarkOlive
- DarkBlue
- DarkPurple
- DarkMaroon

PRIVATE

Confidential

instead of Public

Gelbe Kategorie

Fetch Color

Set DAV Color

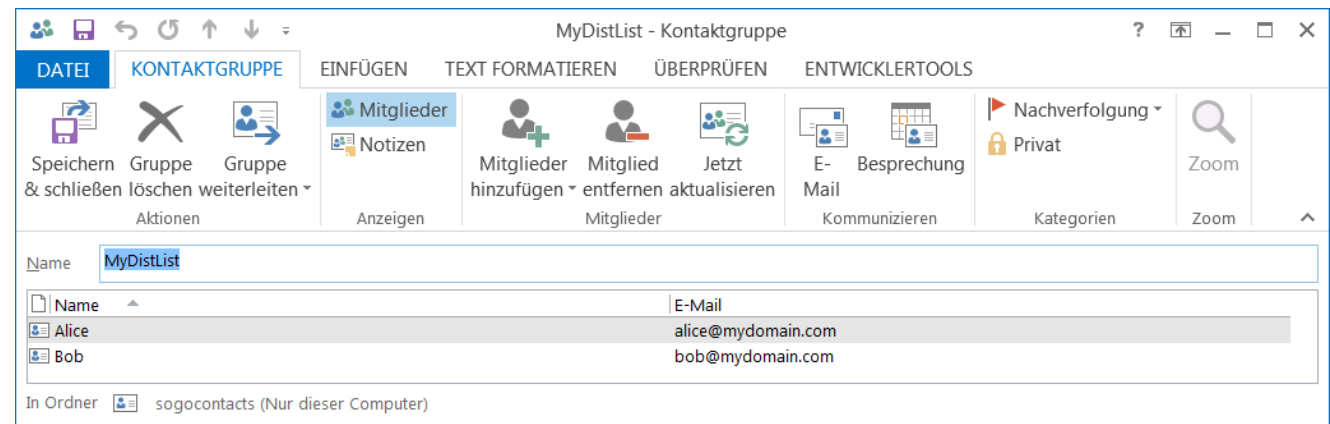
[Hide advanced settings](#)



Fancy stuff

- Initial support for Distribution Lists, only Outlook client which supports SOGo VLIST format

```
BEGIN:VLIST
UID:2399-588DFE80-1C1-1BE27080.v1f
VERSION:1.0
FN:MyDistList
DESCRIPTION:This is a SOGo VLIST
CARD;EMAIL=alice@mydomain.com;FN=Alice:2399-588DFE80-1BD-1BE27080.vcf
CARD;EMAIL=bob@mydomain.com;FN=Bob:2399-588DFE80-1BF-1BE27080.vcf
END:VLIST
```





Case study

- heterogenous university environment with event scheduling, invitations and shared calendars
- LDAP global address book
- Web frontend to manage custom free/busy URL, set as global Outlook option

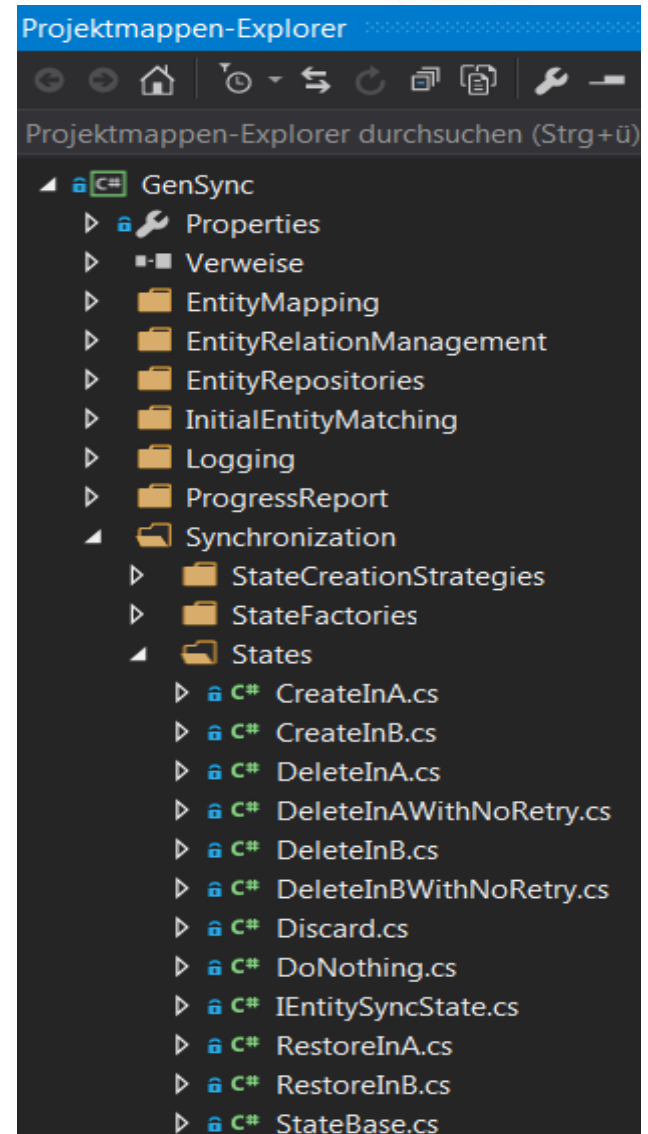


`https://mydomain.com/freebusy.php/%Name%`



Internal architecture

- generic synchronization framework
- implemented as state machine
- Focus on performance
 - 3500 contacts initial sync in 90s, subsequent sync without changes 3s





Challenges

- C# ICalendar parser
 - DDay.iCal abandoned, iCal.NET work in progress
- C# vCard parser
 - Thought.vCard abandoned, support for vCard 4.0 missing
- Outlook Object Model issues
 - COM (reference counting) vs. net (garbage collection)
 - iCalendar has a more generic data model
 - read only Outlook properties, access via PropertyAccessor
 - UI should stay responsive during synchronizing, although Outlook is a STA application



Future work

- Support for contact groups via X-ADDRESSBOOK-KIND

```
BEGIN:VCARD
VERSION:3.0
PRODID:-//Sabre//Sabre VObject 3.5.0//EN
UID:urn:uuid:b2876972-cc24-40eb-ac0a-105d62f9cf89
X-ADDRESSBOOKSERVER-KIND:GROUP
N;SORT-AS=Dummy_DL:Dummy_DL;;;
FN:Dummy_DL
MEMBER;X-CN=Max Muster:mailto:Max.Muster@mail.xy
MEMBER;X-CN=Moritz Muster:mailto:Moritz.Muster@mail.xy
END:VCARD
```

- Collection Sync Support, RFC 6578
- Automated deployment guidelines
- Server side app for Exchange integration?
- Support for attachments (linked to cloud storage)



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Thank you! Questions?



More information:



<https://caldavsynchronizer.org>



Sources and Releases:



<https://github.com/aluxnimm/outlookcaldavsynchronizer>

<https://sourceforge.net/projects/outlookcaldavsynchronizer/>

