



September 2-3, 2020



# Last Year In Review

the updates of the ecosystem

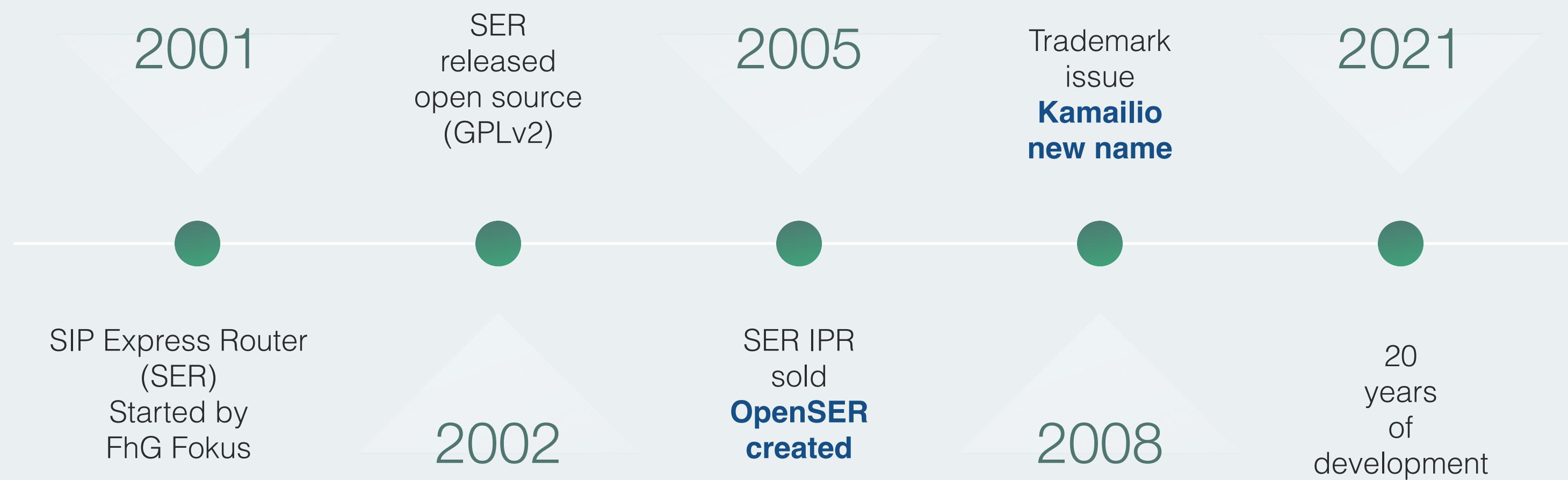
- Kamilio World Online, September 2-3, 2020 -

Daniel-Constantin Mierla  Co-Founder Kamilio Project  [daniel@asipto.com](mailto:daniel@asipto.com)



- ▶ Originally from Romania, living in Berlin, Germany
- ▶ Computer science software engineer - Polytechnics University Bucharest (2001)
- ▶ Researcher in RTC at Fraunhofer Fokus Institute, Berlin, Germany (2002-2005)
- ▶ Co-founder, main coordinator and lead developer of Kamailio, an open source SIP Server
- ▶ Professional consultancy for SIP, VoIP, Kamailio and all RTC at asipto.com
- ▶ Involved in open source real time communications since 2002
- ▶ Working with open standard protocols, mainly from IETF, GSMA/3GPP/ITU
- ▶ C software developer - mainly VoIP server side infrastructure
- ▶ Co-organizer of Kamailio World Conference, FOSDEM RTC DevRoom
- ▶ Speaking and promoting OSS RTC at world wide events





### nowadays

- over 50 yearly active developers
- used by large rtc companies (millions of customers, billions of minutes per month)



[www.kamailio.org](http://www.kamailio.org)  
@kamailio

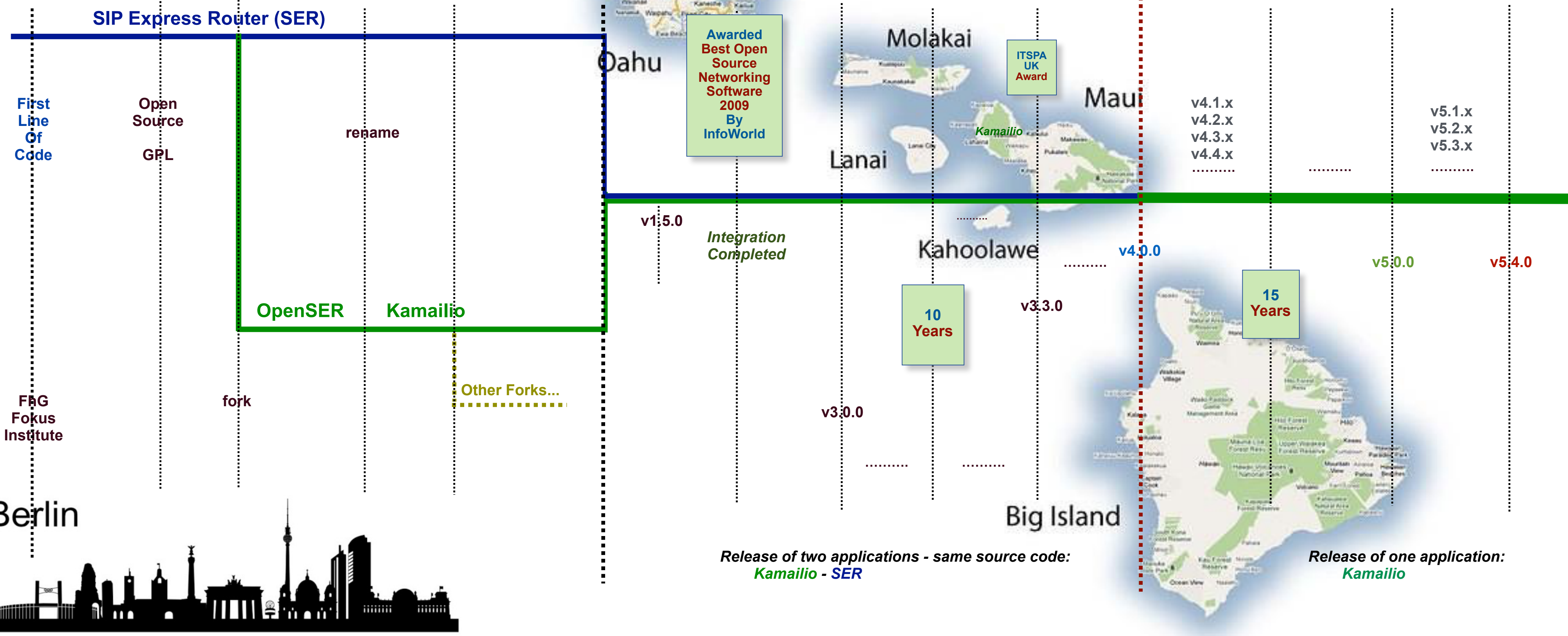


[www.kamailioworld.com](http://www.kamailioworld.com)  
@kamailioworld



Let's Speak SIP = E Kama'ilio SIP

Sep 2001 2002 Jun 2005 Jul 2008 Aug 2008 Nov 2008 Oct 2009 Jan 2010 Sep 2011 Jun 2012 Mar 2013 Sep 2016 Mar 2017 Jul 2020





## **New In Kamailio**

2019 - 2020

## V5.3.X - NEW MODULES

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- \* Major release v5.3.x - out in November 2019
  - \* `app_lua_sr` - legacy API for embedded Lua
  - \* `lost` - HELD (RFC6155) and LOST (RFC5222) location-based routing
  - \* `kemix` - KEMI specific extensions - many getter and setter functions
  - \* `rtp_media_server` - embedded media services
  - \* `secfilter` - rules to allow/deny traffic based on user agent, ip address, domain, country, ...
  - \* `xhttp_prom` - export metrics for a Prometheus monitoring platform



<https://www.kamailio.org/w/kamailio-v5-3-0-release-notes/>

## V5.3.X - NEW FEATURES

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- \* new command line parameter for more flexibility on containerised environments
- \* support for HA Proxy protocol (use behind HTTP load balancers)
- \* dynamic management for dispatcher (load balancer) routing records
- \* siptrace tacking per message, transaction or dialog
- \* support for libssl 1.1
- \* rtpengine can play media in the RTP stream
- \* rtpengine can forward the RTP streams
- \* execute event routes on RPC commands
- \* millisecond accuracy for async route execution
- \* active calls reports using filters via dialog RPC commands
- \* new exports to KEMI

<https://www.kamailio.org/w/kamailio-v5-3-0-release-notes/>





## V5.4.0 - NEW MODULES

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- \* Major release v5.4.x - out in July 2020
  - \* **dlgs** - track dialogs in stateless mode and provide corresponding statistics
  - \* **kafka** - connector to Kafka server
  - \* **pv\_headers** - flexible SIP header management with variables, simplifying configuration file
  - \* **secsipid** - implementation of STIR and SHAKEN IETF extensions, see RFC 8224 and RFC 8588 for details
  - \* **systemdops** - facilitate integration with systemd

<https://www.kamailio.org/w/kamailio-v5-4-0-release-notes/>



## V5.4.0 - NEW FEATURES

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- \* support for custom log engine - print log messages in structured JSON format
- \* options to load modules and set module parameters via command line
- \* ability to associate names to listen socket and use for routing rules
- \* keepalive done by usrloc to all registered contacts, with round trip measurement
- \* many new classes of variables - \$xavu(...), \$xavi(...), ...
- \* ability to insert DNS records in cache at startup
- \* functions to encode/decode Contact address, to hide it behind server address
- \* added in-memory-only mode for presentity records
- \* tls enhancements: new variables, fine control on checking the peer certificate
- \* more control for siptrace auto-mirroring to sip uri, homer or to database
- \* event route execution on sipdump processing
- \* extensions to IMS/VoLTE extensions (ipsec, ...)



<https://www.kamailio.org/w/kamailio-v5-4-0-release-notes/>

## V5.5.0 - NEW IN DEVELOPMENT BRANCH

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- \* To be released in 2021 - new additions in the last 2 months
  - \* option to store sip traffic in pcap files via sipdump
    - \* done also for TLS, but showing up as UDP for simplicity, with extra header metadata
  - \* event route to allow deciding what packets are mirrored by siptrace
    - \* rules based on IP addresses or headers content
  - \* support for histogram metrics for xhttp\_prom (prometheus)
  - \* option to preserve contact user for topology stripping (topos)
  - \* rework of sip parser to use static map for standard headers
  - \* accounting records with local generated tags



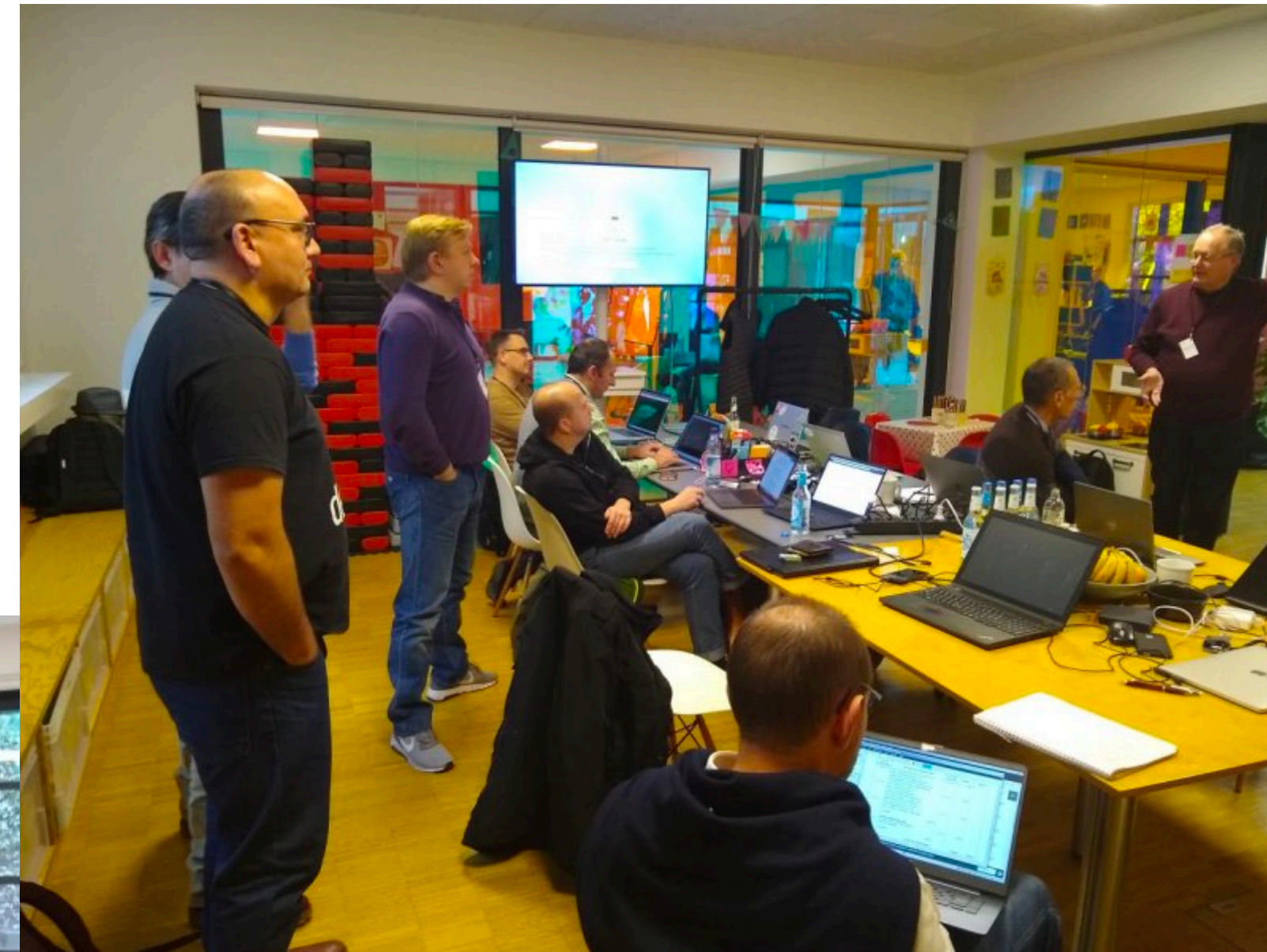


# The Ecosystem

2019 - 2020

# Kamailio Development Meeting

November 2019, Dusseldorf  
@sipgate  
2nd edition



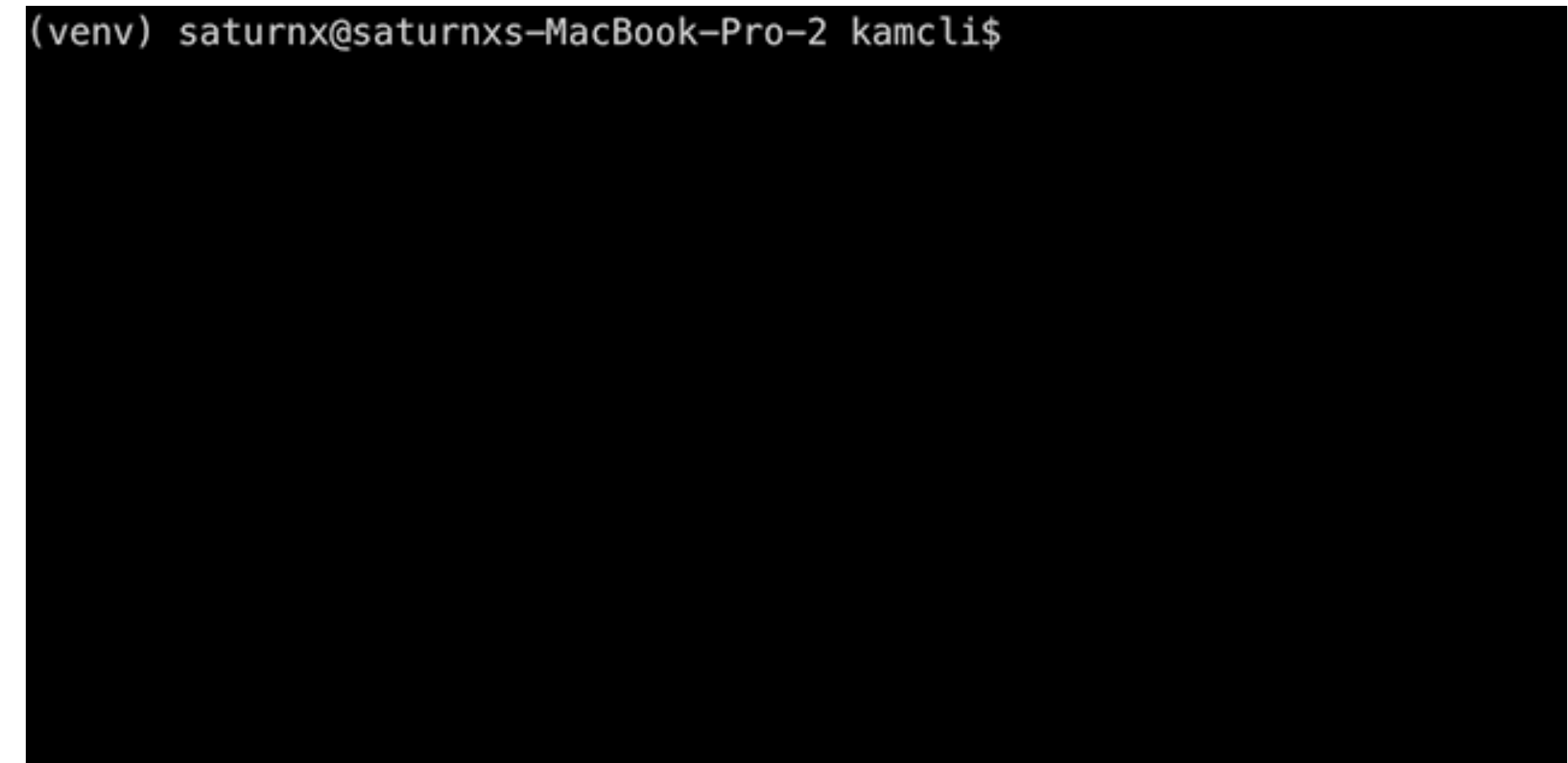
photos by skalatan.de

# KAMCLI - KAMAILIO COMMAND LINE INTERFACE TOOL

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<https://github.com/kamailio/kamcli>

- \* Alternative to kamctl
  - \* Most of the subcommands are the same like for kamctl
  - \* ie., you can replace kamcli with kamctl in many of the examples
  - \* Over the times should replace completely kamctl
- \* Written in Python3
  - \* Allows better input validation
  - \* More options for format the output
- \* Modular design using the Click framework
- \* New subcommands can be added by just placing a Python file in kamcli/commands/ folder
  - \* Enables easier management of custom database tables or control commands
- \* Interacts with Kamailio via jsonrpcs module
- \* Fancy features such as interactive shell with auto-completion, persistent history, completion suggestions, cli syntax highlighting, usual shell key bindings for navigation, ...



```
(venv) saturnx@saturnxs-MacBook-Pro-2 kamcli$
```



## **kamcli live demo**

15:00-15:30UTC

Thursday, September 3, 2020

# SecSIPIDx Project

<https://github.com/asipto/secsipidx>

## Components:

- `secsipid`: Go library - common functions
- `csecsipid`: C library - wrapper code to build dynamic or static library and .h include files
- `secsipidx`: `main.go` - CLI tool and HTTP API server for checking or building SIP identity

Secure SIP Identity Extensions - IETF STIR and SHAKEN

41 commits   1 branch   0 packages   0 releases   1 contributor   GPL-2.0

Branch: master   New pull request   Find file   Clone or download

File/Folder	Description	Last Commit
<code>miconda</code>	README.md: updated to-do list - the https server mode implemented	Latest commit 18500a4 26 days ago
<code>csecsipid</code>	csecsipid: include local file to get rid of cgo warning	last month
<code>secsipid</code>	secsipid: propagate origid via parameter	last month
<code>.gitignore</code>	.gitignore: skip binary app	2 months ago
<code>LICENSE</code>	Initial commit	2 months ago
<code>README.md</code>	README.md: updated to-do list - the https server mode implemented	25 days ago
<code>main.go</code>	secsipidx: coherent naming for command line parameters	last month

README.md

## secsipidx

Secure SIP/Telephony Identity Extensions

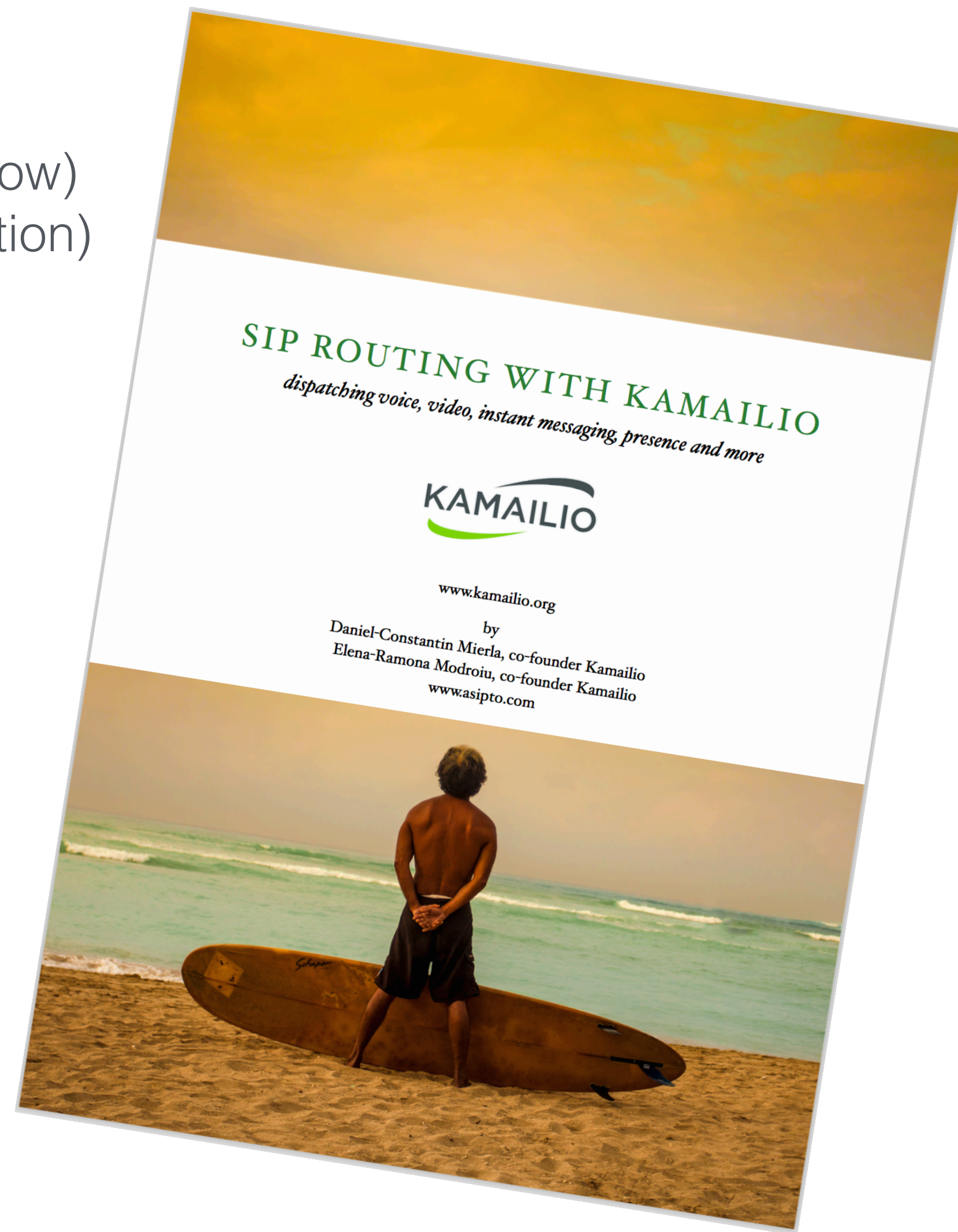
### Overview

Applications and libraries implementing STIR and SHAKEN (RFC8224, RFC8588), used in SIP/VoIP services:

- RFC8224 - <https://tools.ietf.org/html/rfc8224>
- RFC8588 - <https://tools.ietf.org/html/rfc8588>



- content update for v5.3.x (selling now)
- new chapters under work (new edition)



<https://www.asipto.com/sw/kamilio-admin-book/>

• **Website:** <https://www.kamailio.org>

• Development project: <https://github.com/kamailio/kamailio>

• Documentation page: <https://www.kamailio.org/w/documentation/>

• Wiki tutorials: <https://www.kamailio.org/wiki/>

• Bug tracker: <https://github.com/kamailio/kamailio/issues>

• Users mailing list: <https://lists.kamailio.org/cgi-bin/mailman/listinfo/sr-users>

• Realtime channels: IRC: #kamailio (freenode.net) - Matrix: #kamailio (kamailio.dev)

• Business directory: <https://www.kamailio.org/w/business-directory/>

• Download: <https://www.kamailio.org/w/download/> (or OS distro repos)

## Resources





THANK YOU!

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Anniversary Edition 2021

[www.kamailioworld.com](http://www.kamailioworld.com)