

Kamailio: 20 years of Open Source SIP

IIT RTC 2022: WebRTC and Real-Time Applications Track

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“I think, fundamentally, open source does tend to be more stable software. It's the right way to do things.”

Linus Torvalds

Kama-what?

kah-mah-illie-oh

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- Member of Kamilio Project
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What is Kamailio?

Kamailio

Open Source SIP Server

- successor of former OpenSER and SER
- TCP/UDP/SCTP
- Secure communication via TLS
- WebSocket support
- IPv4/IPv6
- IMS extensions for VoLTE
- And much, much more...



Kamailio can be...

- SIP proxy server
- SIP registrar server
- SIP location server
- SIP application server
- SIP dispatcher server
- SIP Websocket server



250

Modules

5000+

CPS on single node

300,000+

Registrations on single node (4GB Ram)

20 years of history...

2001

First Line of Code Written

2002

June 2005

July 2008

August 2008

November 2008

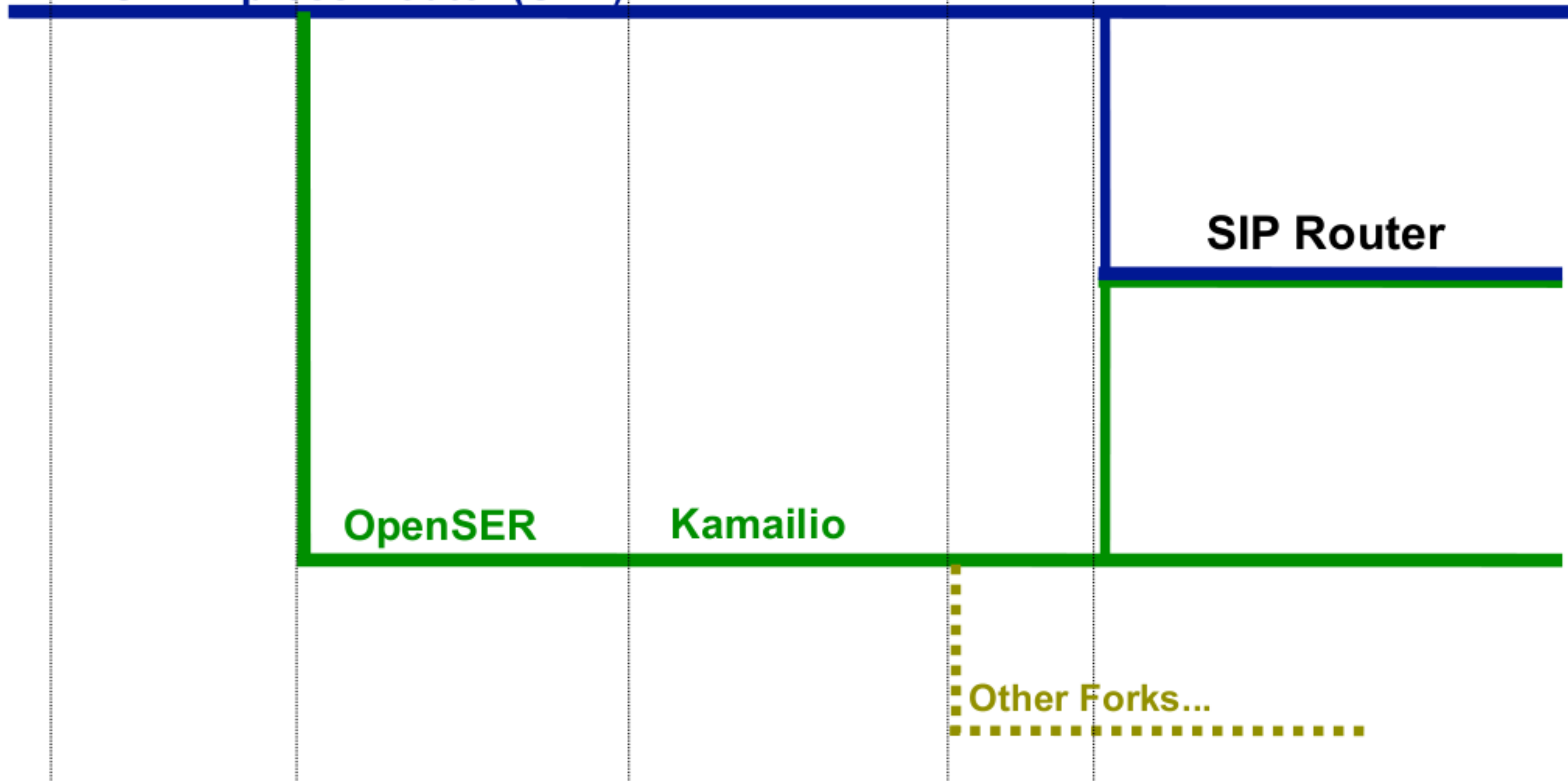
SIP Express Router (SER)

SIP Router

OpenSER

Kamailio

Other Forks...



Kamailio History

- 2001
 - First line of code
 - Development boosted by newcomers/students from FOKUS
- 2002
 - SER (SIP Express Router) released (GPL)
- 2004
 - SER in use by many ISPs. Commercial services begin.

- 2005
 - SIP Router Project started
- 2005
 - OpenSER forked by Daniel Mierla, Ramona Modroiu, Bogdan Iancu
- 2006
 - Next Generation SER
- 2008
 - Trademark issues, OpenSER renamed Kamailio
 - Another fork: OpenSIPS
- 2010
 - Kamailio/OpenSER released 3.0.0
 - First version based on SIP Router Project
- 2012
 - SER integration process complete

The background features a series of overlapping, wavy, dark blue shapes that create a sense of depth and movement. The word "Today" is written in a clean, white, sans-serif font, positioned on the left side of the image.

Today



5.6

Released 2022

With WebRTC?

Kamailio with WebRTC?

We play well with others

- Websockets support incredible stable
- Great bridge to PSTN or SIP
- Bridge IPv6 to IPv4
- NAT Handling
- Bridge SRTP to RTP/SRTP ;)
- STIR / Shaken
- Load Balancing / High Availability

KEMI

KEMI

- JavaScript
- Lua
- Python
- Python3
- Ruby
- Squirrel

KEMI Benefits

- Documentation of the scripting language
- More data types and operations, coherence in behaviour
- Knowledge base and examples to learn the scripting language
- Extensive testing of the scripting language
- Development of the scripting language
- Large set of extensions
- Debugging tools
- Specialized editors
- Additional scalability mechanisms (threads, coroutines, ...)
- Reloading without restart

Questions?

Visit <https://kamailio.org>