

OpenSIPS Summit - Keynotes

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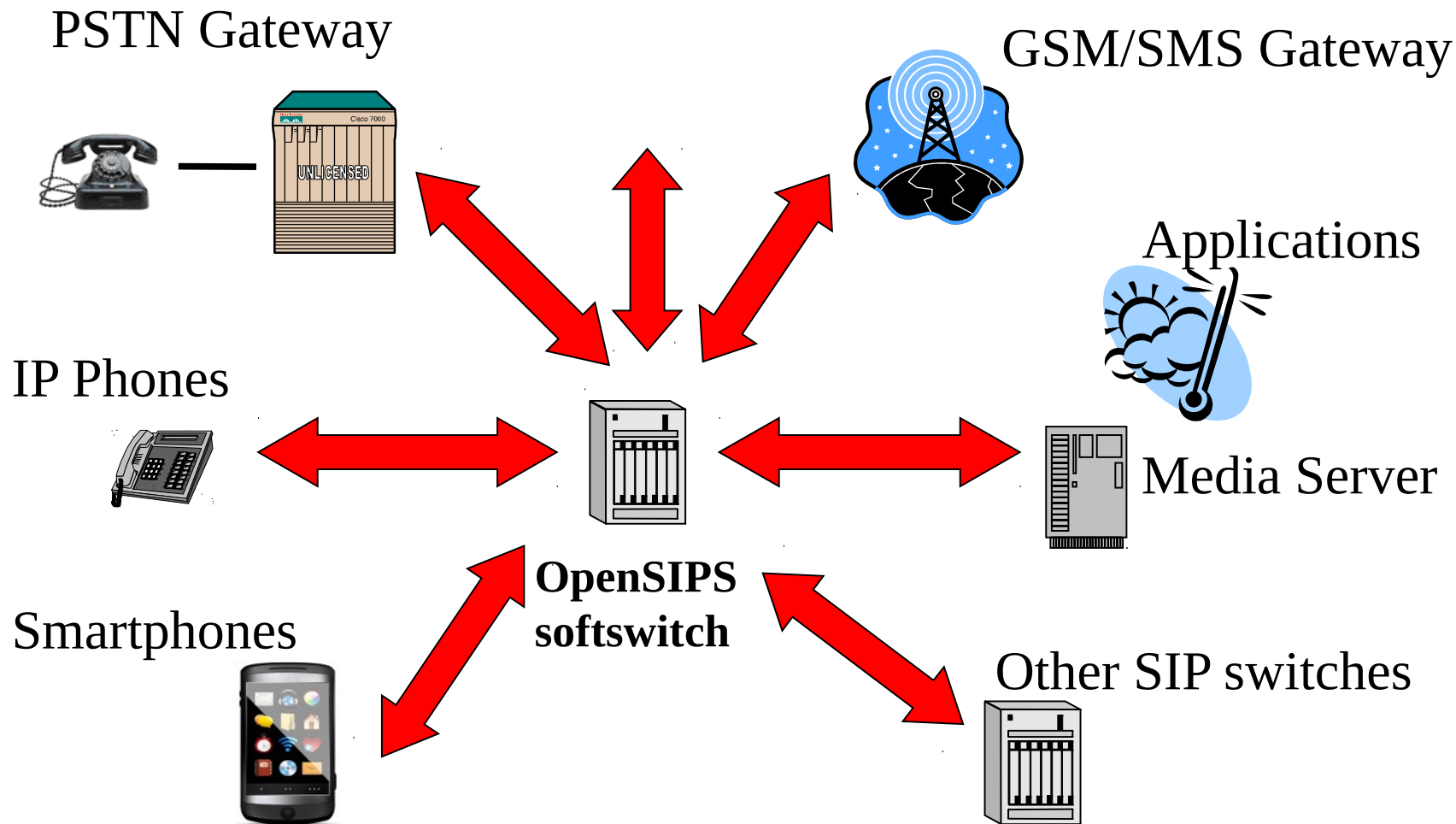
www.vampcommunications.com

Michael Tindall

About OpenSIPS

What OpenSIPS is ?

- primarily a SIP proxy
- multi purpose proxy
- doing voice, video, presence, IM and other
- signaling only, no media



Why OpenSIPS ?

- High throughput (calls, cps, registrations)
- Flexibility for routing and integration
- Effective application building (134 modules)

More reasons ?

- Traffic / load intensive (cps, parallel calls)
- Complex logic (routing / integration)

OpenSIPS project

- Open Source, GPL
- Tens of contributions
- Community of thousands
- OpenSIPS Software Foundation
- Heavily accepted and used by industry

OpenSIPS knowledge transfer

- Documentation & manuals
- Advanced tutorials
- Webinars
- Mailing list, IRC channel
- Ebootcamp training
- Certification program

OpenSIPS 1.11

1.11 major release

- 1.11 stable release on 8th of May
- 1.11 is the new LTS
- 1.9 is no longer maintained
- 1.8 (former LTS) and 1.10 to still be maintained for ~ 4 months (until 1.12)

Memory Manager

- A new high-performance Memory Manger which boosts the multi-threading capabilities with +100% .
- Can generate reports on patterns of memory usage (size and fragments)
- Based on previous reports, can do memory warm-up on startup (controlled fragmentation)

Optimizations

- TM – a new implementation for timers to allow parallel processing (multi-process based timers); in previous implementation, the TM timers may easily become a bottle neck leading to a global performance degradation;
- TCP – partitioning of the TCP manager in order to boost the handling of very large number of dynamic TCP conn ; the end-user TCP connections (short lifetime, very dynamic, high cps, high traffic) may raise serious challenges in handling.

Enhancements

- Modules – global parameters moved as function parameters for better flexibility
- Script – a new “for-each” statement to iterate sets
- Script – functions may have missing parameters, like *function(p1,p2,,,p3)*
- Persistent state (on restart and reload) for destinations in Dynamic Routing, Dispatcher and Load-Balancer modules

Registration replication

- Relies on the Binary INternal Interface (BIN) for inter OpenSIPS communication
- User Location module replicates in realtime the registrations and their state to other OpenSIPS instances
- Full registration replication on other OpenSIPS instances

Script Helper

- Helps to start in an easy way with the OpenSIPS scripting (the learning curve gets milder)
- Transparent handling of SIP sequential requests
- Automatic dialog support



Call Center

- Call queuing in OpenSIPS (signaling only)
- Inbound call center – multiple queues, sets of agents, skills, priorities
- Integration with Media Server via the B2BUA engine
- To be used in combination with DID (DR module), external IVRs, external dialers.

Demo to follow !

MI Json

- First MI backend to provided structured output
- It required complex changes in the MI core

B2B SCA

- Shared Call Appearance support in conjunction with the B2B engine.

Future plans

Quality based routing

- New module on top of routing engines that uses list of gateways/destinations (like Dynamic Routing, Dispatcher)
- Collect on the fly information about the call's quality (ASR, PDD, ACD, etc)
- Reorder in realtime the used gateways to remove poor quality gateways or to prioritize good quality gateways
- Complex but flexible system of thresholds (multiple levels), alerts and actions.

Routing Data Partitioning

- Partition = a standalone set of routing data that can be separately managed
- Data partitioning allows using same module for multiple different scopes
- Partitions are completely separated (in DB and memory), can be individually reloaded
- Targeted modules : Dynamic Routing, Dispatcher, DialPlan

Fraud detection

- Fraud detection based on calling profiles
- A profile consists of time intervals, number of calls per interval, parallel calls, gray listed destinations
- A subscriber / trunk may get assigned a profile (to detect out of the ordinary calling patterns)
- The modules does detection and reporting (via events), but no action

SIP compression

- Simple SIP-wise traffic compacting :
 - Headers with short names
 - Combine headers with same name
 - Filter out unwanted headers
- Compress the non-routing information (header and body) from a SIP message → a new body
- Reduces bandwidth, minimizes MTU related issues, avoids unnecessary SIP parsing

Async I/Os

- Support for async operations from script.
- Initial support limited to external interactions – REST queries, exec() calls.
- Requires TM support and scripting enhancements.

Transport protocols

- API and module to dynamically provision the TCP/TLS connections (rate, bandwidth, re-usage policy, TCP parameters, SSL certificates)
- Cloud / Amazon better support – more control over advertising or fake interfaces

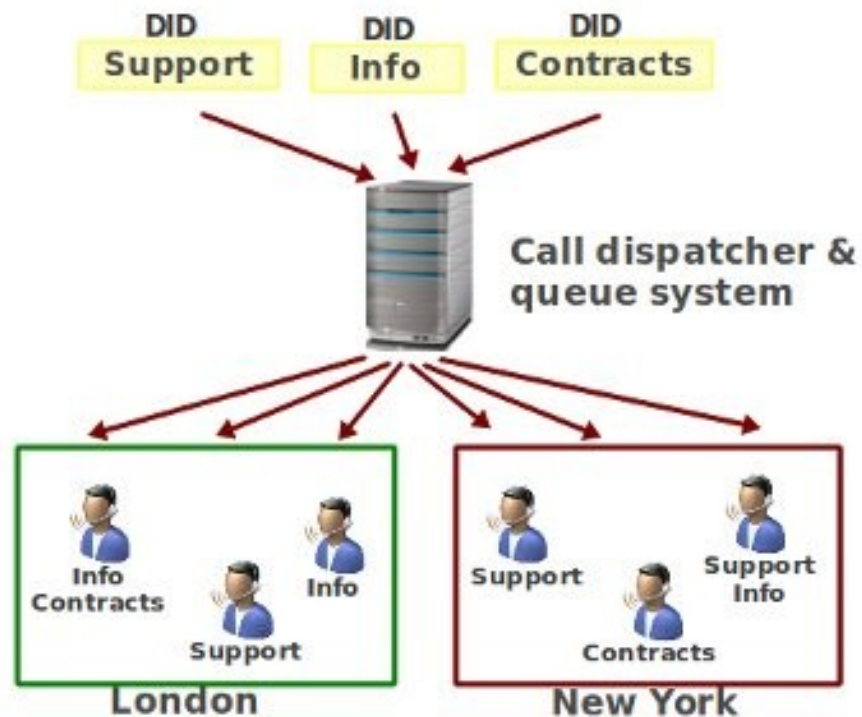
Call Center demo

Helps to move from...



and get to...





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Questions are welcome