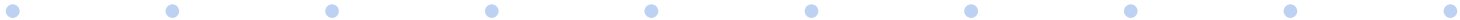
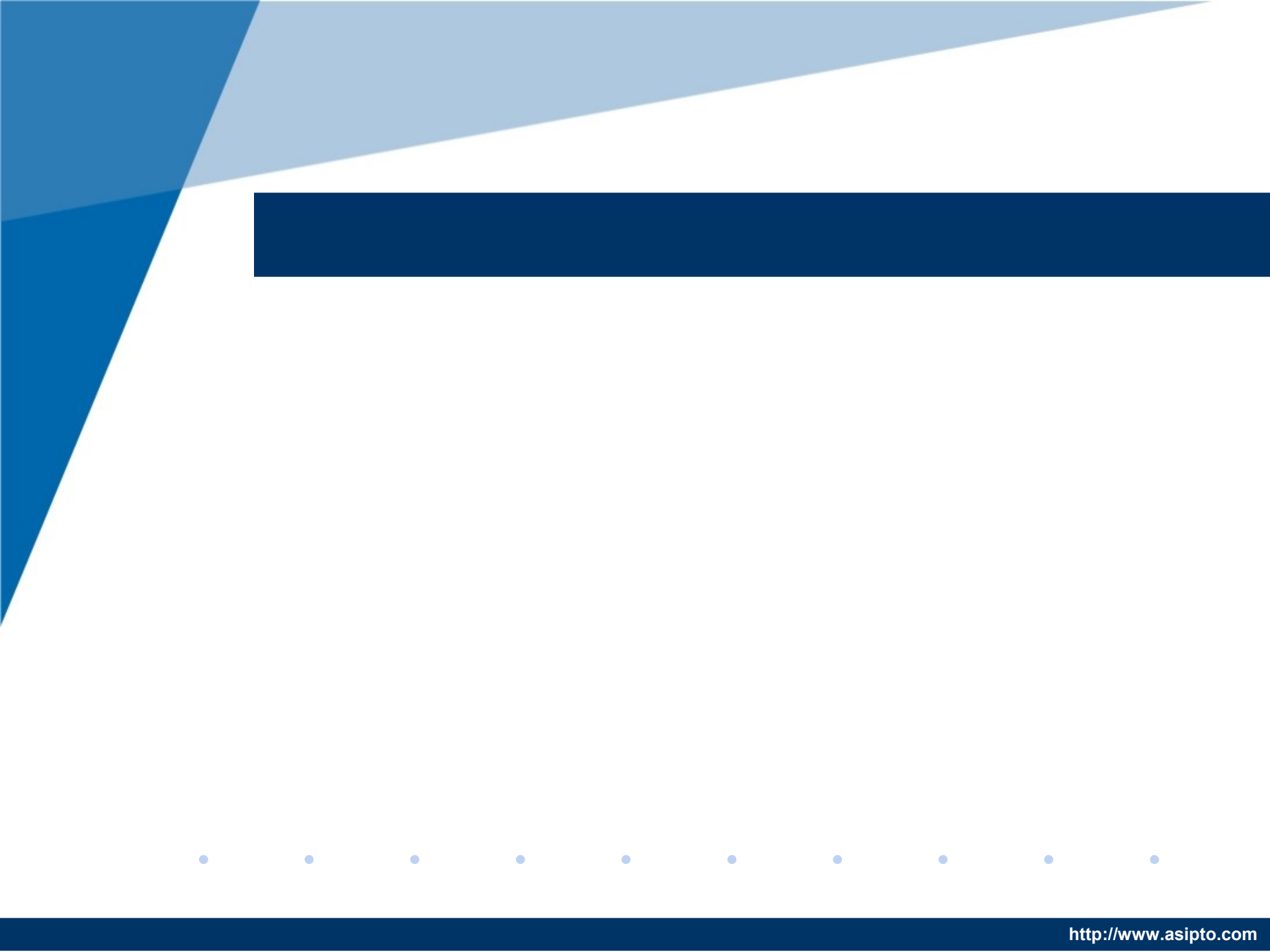


ASTERISK and OPENSER

*blending together for scalability
... or all about wood business*



Daniel-Constantin Mierla
Co-Founder OPENSER
CEO ASIPTO



About OPENSER

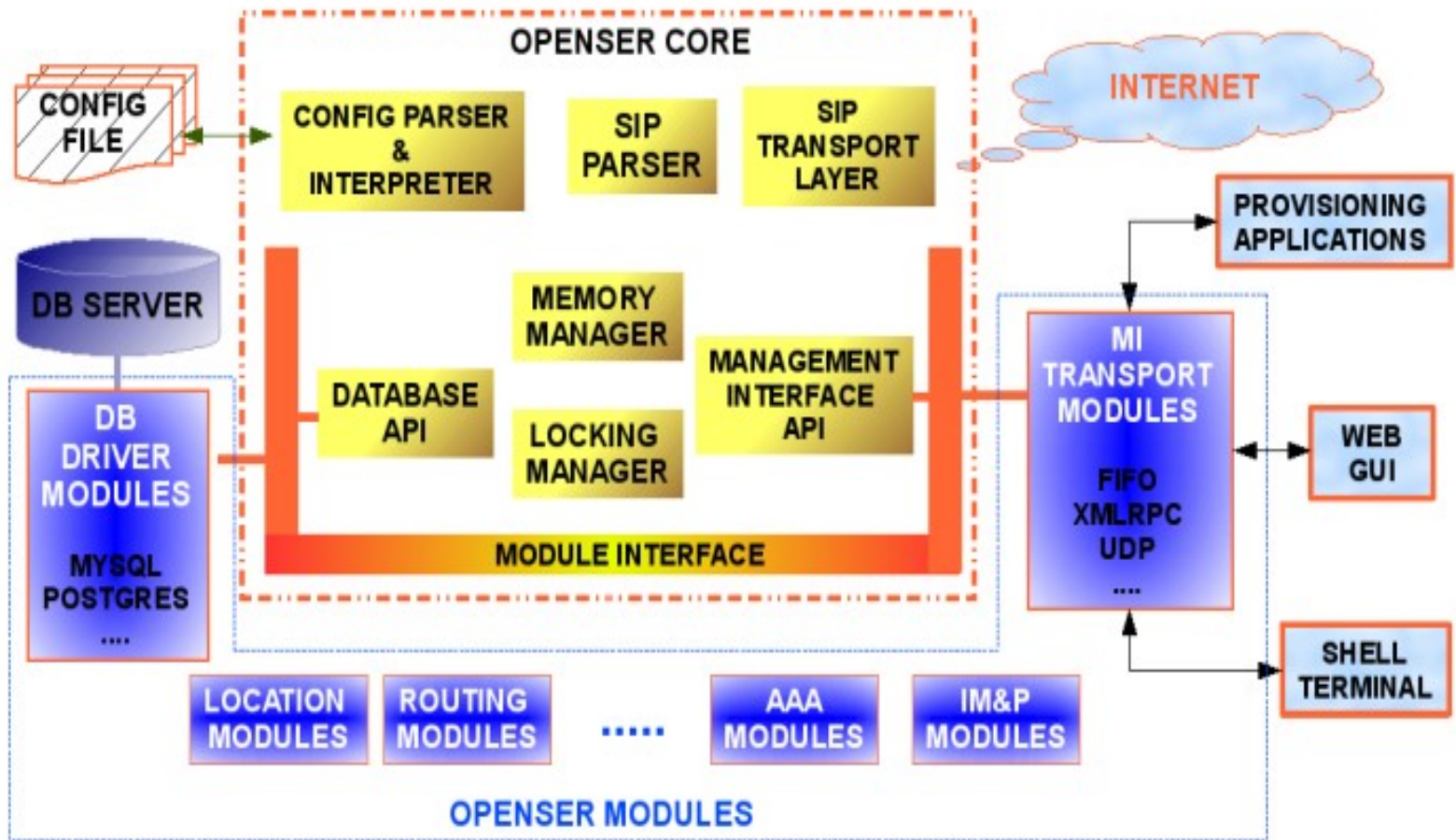
- *SIP SERVER*
 - sip registrar and location server
 - sip redirect server
 - sip proxy server
 - **sip application server**
- *IT IS NOT*
 - Sip phone
 - Sip media server
 - Sip back-to-back user agent
- **IT HANDLES ONLY SIGNALING**



About OPENSER

- **Developed in C**
- **Runs on Linux/Unix-based environments**
- **Modular architecture**
 - Core part for common API
 - Modules for features
- **Distributed development environment**
 - Source tree and trackers hosted by sourceforge.net
 - Servers hosted by different companies
 - Over 25 registered developers around the world
 - Management board of 7 people

OPENSER architecture



About OPENSER

- **Main features**
 - All flavors of SIP server
 - UDP/TCP/TLS/SCTP
 - IPv4 - IPv6
 - **Scripting-like routing language**
 - NAPTR, SRV, DNS failover
 - NAT traversal on server
 - ENUM
 - Call Processing Language
 - SNMP
 - Perl Programming Interface
 - Java Programming Interface

About OPENSER

- **Main features**
 - **AAA**
 - **Multiple database backends: mysql, postgres, oracle, BerkeleyDB, text, unixodbc, RADIUS, LDAP**
 - **Load balancing**
 - **Least cost routing**
 - **IP blacklisting**
 - **Extensible routing language**
 - **Gateway to sms and xmpp**
 - **SIP session timers**
 - **SIMPLE presence server and presence user agent**
 - *Check out: over 80 modules*

The business around

- **Deliver GOODS**



Selling wood-based goods

- **We have SIP**



Selling wood-based goods

- **We have Asterisk**



Selling wood-based goods

- **A lot to deliver**



Selling wood-based goods

- **We want to sell as much as possible**

ACTUALLY I MEANT
“MORE THAN POSSIBLE”



Selling wood-based goods

- **Here is OpenSER**



Back to sipreality

- It is not **SIMPLEREALITY**

RICH FEATURES

SECURITY

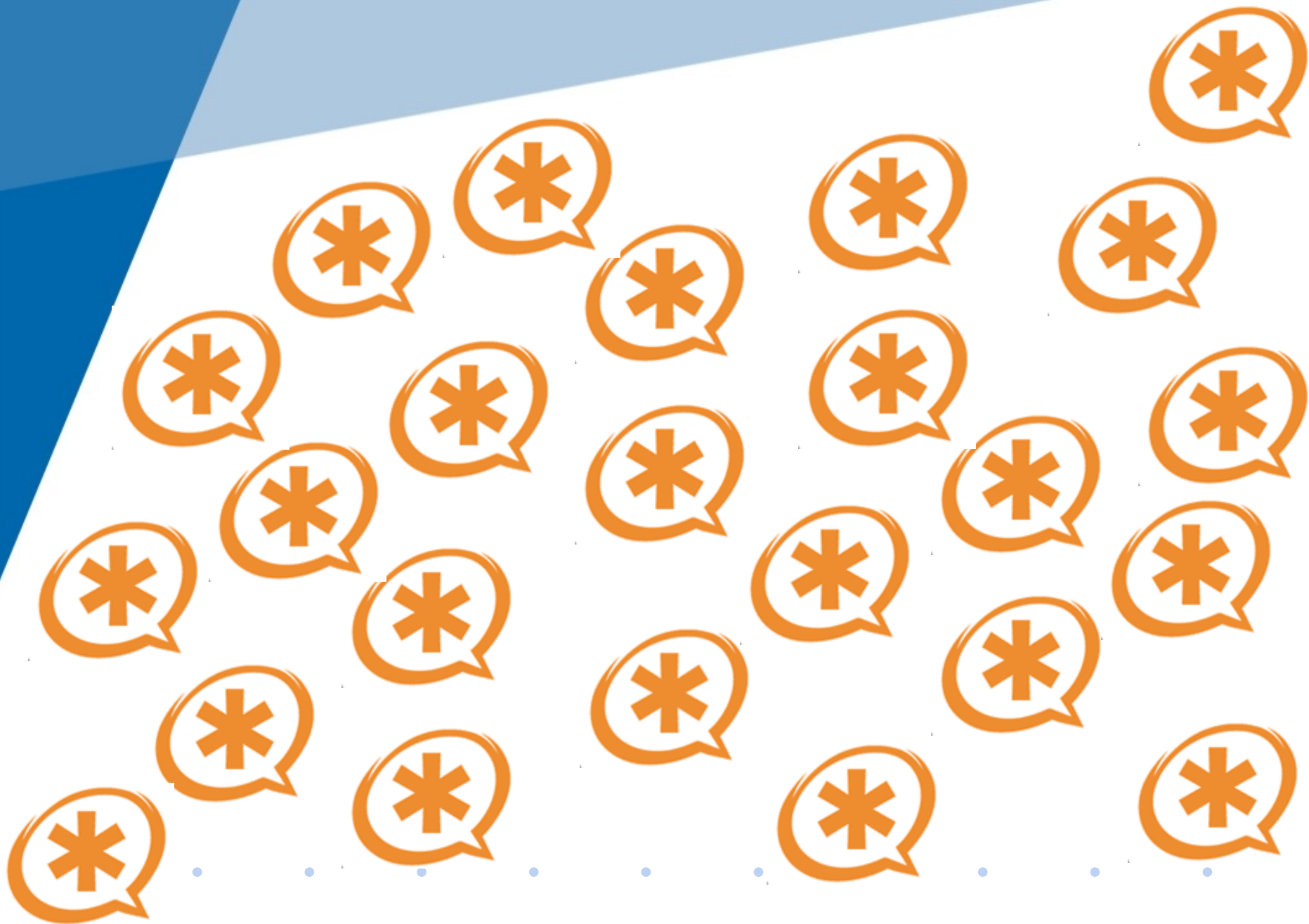
SCALABILITY





RICH FEATURES

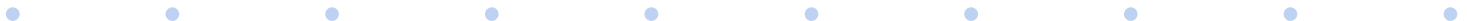




What does OPENSER for YOU?

NOTHING!!!

(proud of that)



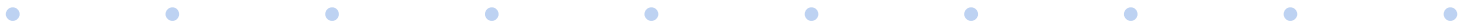
What can YOU do with OPENSER?

A LOT!!!

(it is the good soldier)

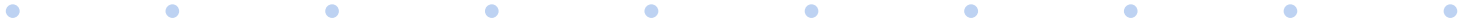
(smart as much as the commander)

{...}





SECURITY



How OPENSER can help YOU?

**IETF
requirement
WWW Digest
(rather poor security)**

Access Control List
- group membership
- string based acl
- binary acl
- your-defined acl

Misc
- anti-flood
- user blacklisting
- call rate control
- unix-like permissions
- osp

IP Auth
- source IP and port
- network address

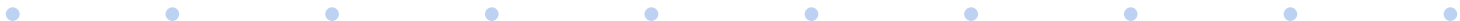
TLS
- secure channel
- protects signaling

IP blacklisting
- destination IP filtering

SRTP
- **ASTERISK? When?**
(we don't care)



SCALABILITY



Have in mind!!!

- *It is a SIP router*
- It does not care about **CALLS!!!**
- It can make **SIP sessions** happen
- It works with **SIP messages**
- It deals with **SIP transactions**
- It does not care about **RTP**
 - **Happy, happy, happy!!!**
 - A good answer all the time: **not our job!**

How OPENSER can help YOU?

Load balancing

- dispatcher module
- routing algorithms: hashing, round robin, random
- destination failover

Traffic handling

- fast parsing
- quick delivery
- low resources usage

Misc

- user location replication
- dns failover

Least cost routing

- source of the call
- destination

Dynamic routing

- scripting language
- direct DB, RADIUS, LDAP access

Carrier routing

- large amount of routing rules
- combining: routing, balancing and blacklisting

Peering

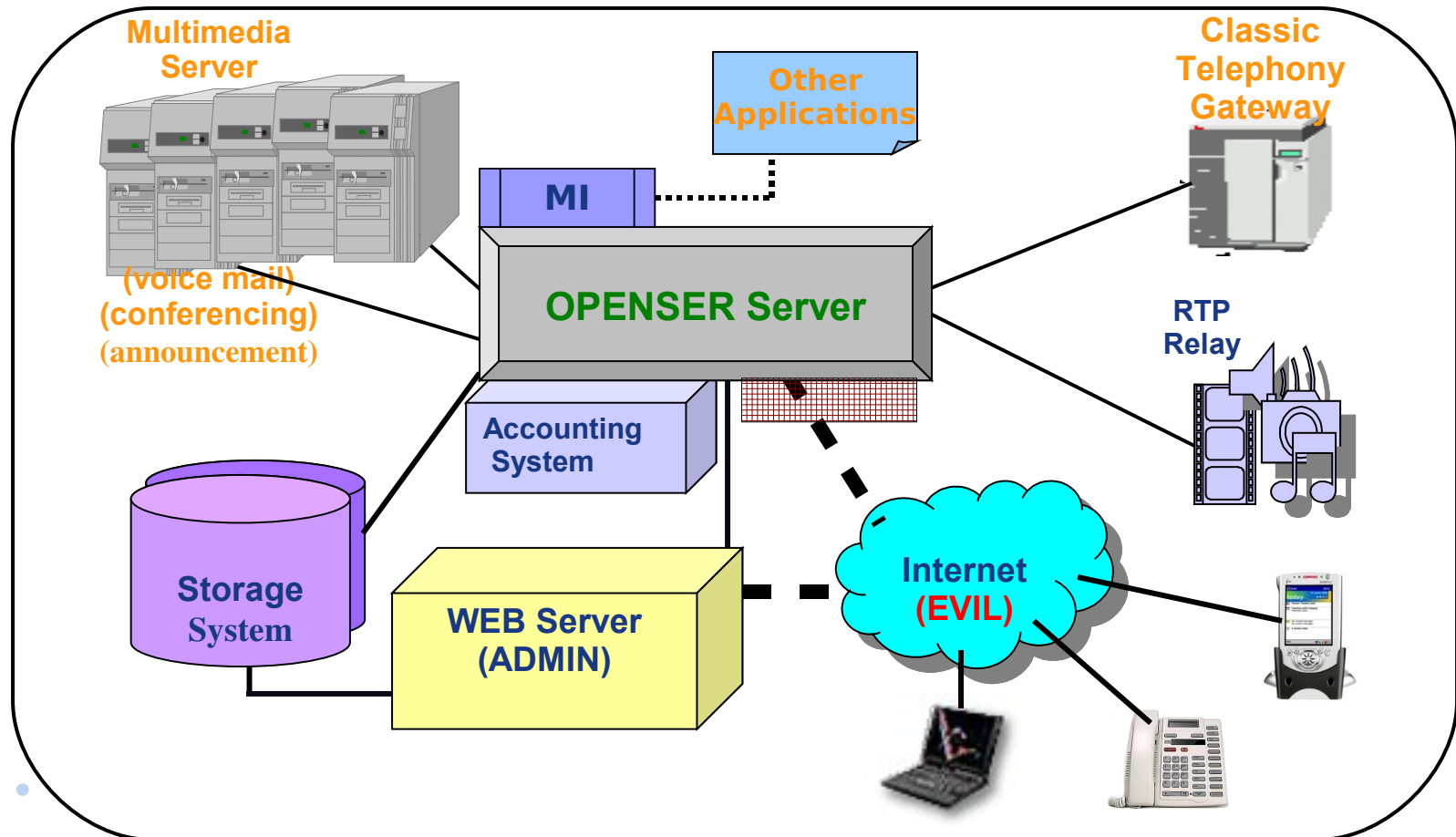
- prefix based routing
- aliasing, osp

Modules

- **auth***
- **avpops**
- **domainpolicy**
- **group**
- **permissions**
- **pike**
- **ratelimit**
- **userblacklist**
- **dispatcher**
- **carrieroute**
- **lcr**
- **exec**
- **perl**



SIP Network Architecture



THANK YOU!

- daniel@asipto.com
- <http://www.asipto.com>
- <http://www.openser.org>



Disclaimer

- Images found with Google Images
- They appeared to be free of any copyright or other limitation – if you know to be otherwise, please contact the author to fix the issues
- Asterisk is a trademark of Digium

