What is freeswitch

an introduction
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Simple list for a start

- A communications platform

- A library of Telephony related functions (VoIP and TDM)

- An IVR platform

- A SoftSwitch

- Accidently even a PBX

- A communications infrastructure to build complex telephony applications

Examples of FS based Applications

- A Mediaserver

- A Back to Back User Agent

- A Session Border Controller

- A call center automatic call distrbution system

- A corporate PBX

- An application server (VoiceMail, Conferencing, IVR)

- A central office voice routing SoftSwitch

- A basic ISUP STP or SEP

- A protocol translation engine

Scalability highlights

- 2000 sip channels with media tested on single system

- 10000+ without media

- Both these on dual woodcrest hardware, no transcoding involved

- Current in production example system is switching 75 million minutes per month
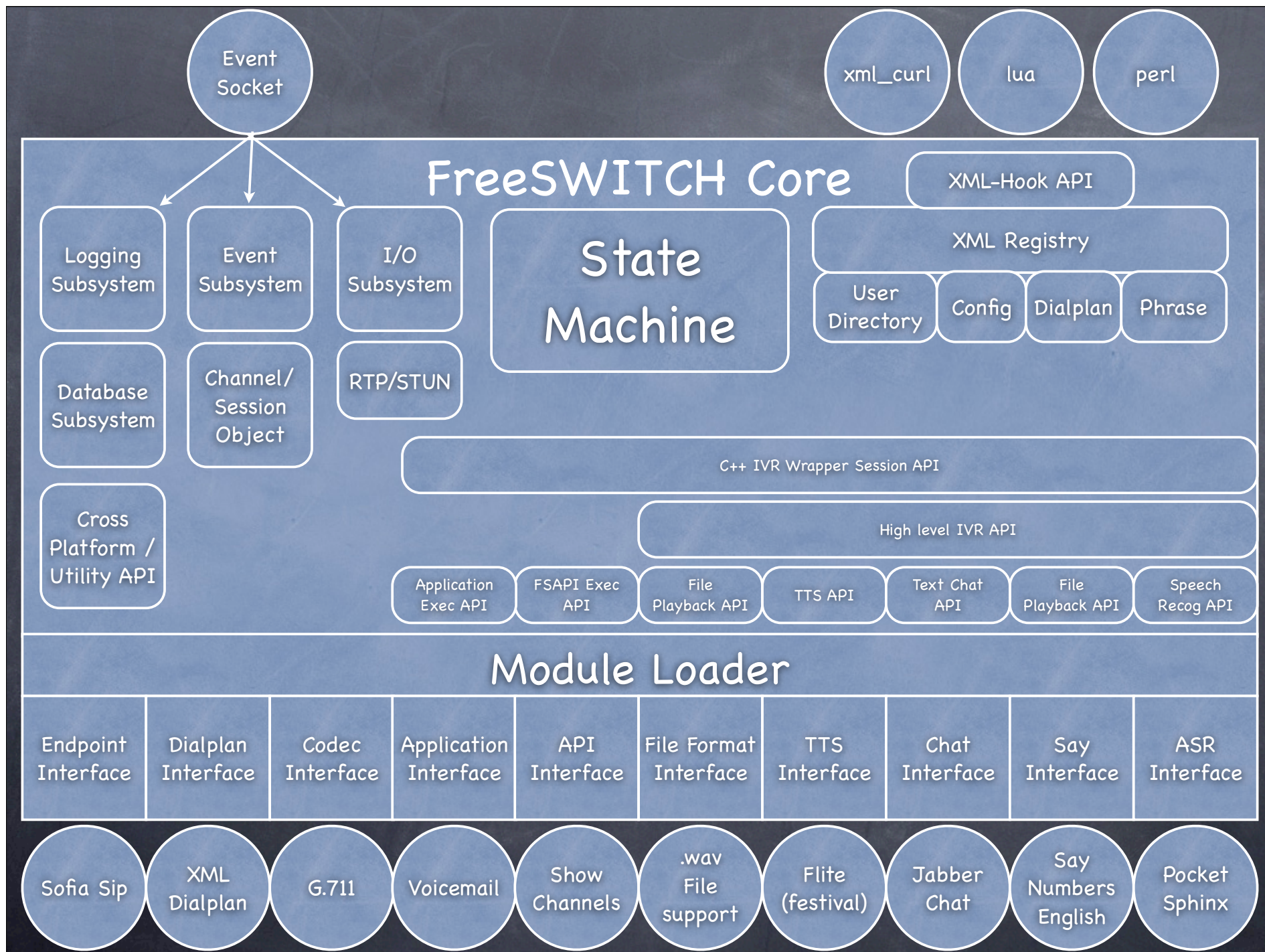
Capabilities

- SIP over UDP/TCP/TLS

- SRTP (since today)

- GoogleTalk

- Limited IAX2 and H.323 support

- Wideband and Ultra-wideband support

- Voice Activity Detection, CNG and discontinuous transmission (significantly lowers bandwidth consumption per call)

Basic internal design

- Session State Machine

- Session messaging system

- Common user directory

- Extensible (defined API)

- Eventing subsystem

- Logging subsystem

- Layered objectlike API

- Modular (modules independent of core system)

Modular Architecture

- Applications
- ASR/TTS
- API
- File Formats
- Codecs
- Dialplan

- Endpoints
- Event Handlers
- Languages
- Loggers
- Say interface
- XML Interface

Ways you can interface

- XML-RPC

- Event Socket

- Embedded languages

- Modules

- Databases (ODBC all over the place)

- CDR engine

- XML Interface

Conferencing

- Wideband, VAD, Discontinuous transmission

- Individual channel control for volume, gain, VAD level

- Adjustable relationships between conference members, i.e. selectively ignoring other members

- Soundfile and txt2speech integration for full conference or member to member communication

- Extensive conference controlvia easy accessible API calls

- full access to all events via freeswitch event socket system

- An example for using API and eventing can be found on the demo Web interface on freeswitch homepage, http://conference.freeswitch.org/

VoiceMail

- Email integration

- Podcast integration

- RSS integration

- Fully Multi Lingual

- Good example for utilization of all the different IVR features in Freeswitch

Embedded Languages

- Lua

- JavaScript

- Python

- Java

- Perl