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Business Partner
IBM Business Partner
Software Solution Center

telefaks* application server for FreeSWITCH „Operator Panel"

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Overview

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- Who we are
- tele**f**aks* application server overview
- New Freeswitch Operator Panel (videos)
- What else is new since ClueCon 2009?

Who we are

- Coming from Asterisk

- On Freeswitch since June 2008

- Transferred all our applications to Freeswitch since then

- Strong focus on

  – Integrating Freeswitch
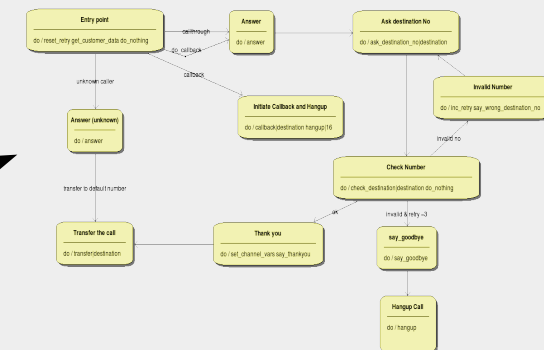 – Ruby and Rails Development
  – Encryption

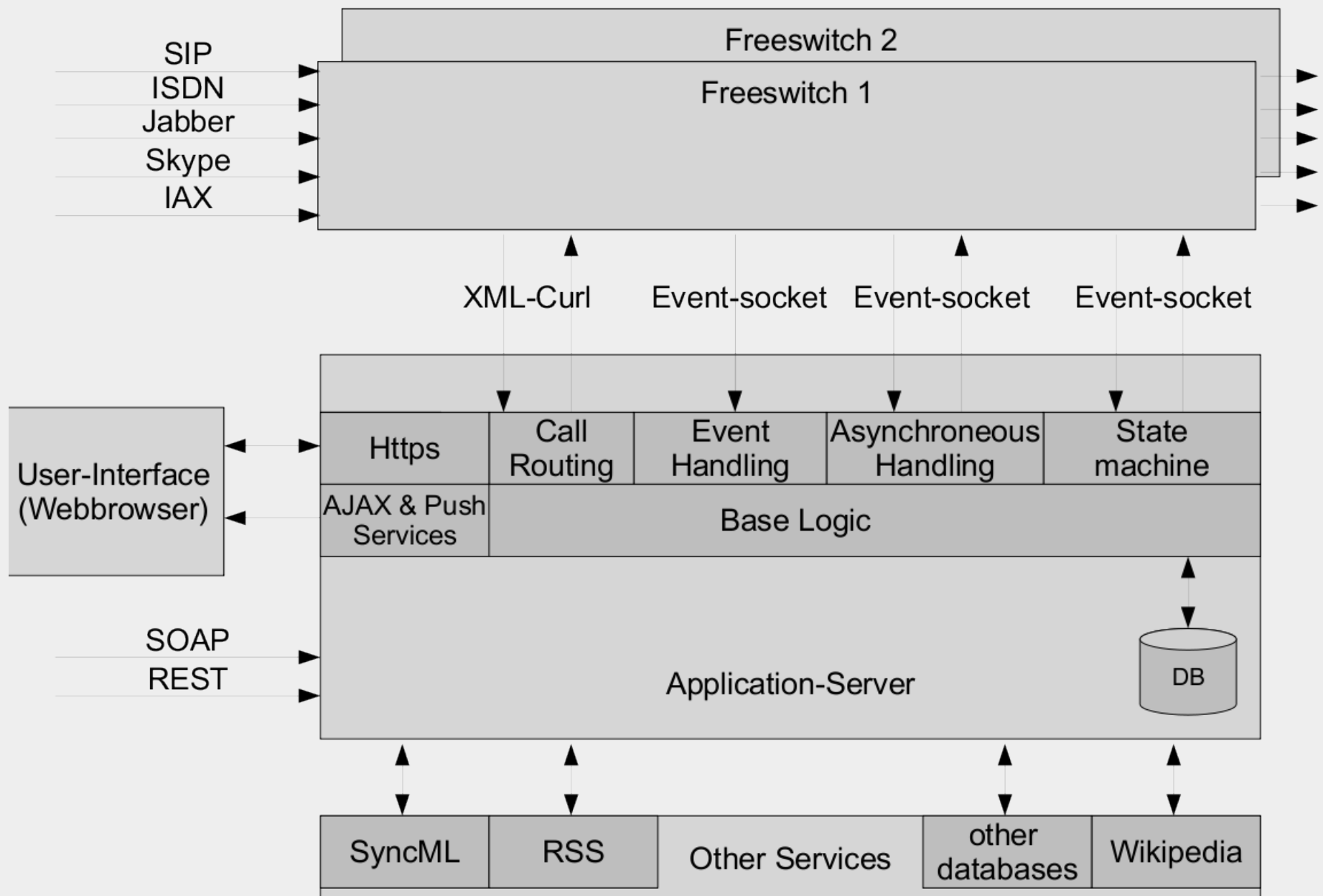# What is the Telefaks* app server?

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- System to manage a number of Freeswitch servers

- Administration GUI

- Can be used to manage large PBX, IVRs and switching networks

- State machine for IVR functionalities and callcenter support

- Asynchroneous call handling

- Realtime interface with web browser (push services)

- Manages customer hierarchies and access control

What ist covers

- Support of multiple Freeswitch servers
- PBX functionalities (is needed almost everywhere)
- Conferencing (setup and „live" management)
- Call Queues
- Callback/dialthru
- IVR State machine with GUI
- Callcenter workflows inside a webbrowser
- TTS and ASR Support
- Encryption of calls (TLS/SRTP)
- Complex routing algorithms for larger networks
- Prepared for billing functionalities
- Custom applications

... more

How it's designed

How our customers use it - Examples

- Redundant SIP routing platform for city carriers

- Worldwide routing platform for call enryption and obfuscation

- PBX for larger companies (e.g. Airlines)

- IVR system for premium rate service providers

- IVR system for distribution of radio programs via phone for worldwide radio station

- Callback and callthrough platform

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Operator Panel

Freeswitch Operator Panel - Overview

- Shows status of active calls, conferences etc.
- Call initiation and diversion via drag & drop
- Show and modify status of extensions

Operator Panel show menu

Internal numbers

Extensions

201 Peter Nokia	202 Peter Laptop	203 PolycomIP560	205 Markus Merit	206 Peter Compaq	207 Peter Asus T	208 Peter Aastra	209 DECT Büro	210 Margit	211 Margit SIP	212 Margit SIP 2	
230 Peter ATA486	231 Susanne ATA4	232 Felix ATA486	233 Eva ATA486-4	241 Bornhorst Zo	242 HJB Twinkle	243 FB Bornhorst	250 David	251 Spautz Lapto	260 Alexander	261 Bornhorst A	270 Harald	271 Harald Lap
280 Philips VP65	281 Philips VP65	300 Fax0	301 Fax1	302 Fax2	303 Fax3	304 Fax4	500 Giovanni	501 Giovanni Lap	510 FXS1	511 FXS2	512 FXS3	513
514 FXS5	515 FXS6	516 FXS7	517 FXS8								

results

Incoming numbers

External (incoming) numbers

My number and my actions

MessageSrc	Message(both)	RecordStart
RecordStop	200	Voicemail
Spy		EmailNotify
SMSNotify	Forward	CLIR
Active	-	-
-	-	-

originate 208 83533200

Operator's Area

My target numbers Edit

06081688533 Telefaks	0171xxxxxx Peter H
0176xxxxxxx BornhorstHa	0549197520 BornhorstFes
0261123456 Müller	0251234567 Meyer
060331234565 Langs	02311654321 Jim
600 Skype_pst	

lookup

No lookup results

Operator's target numbers

My missed numbers Clear

015208890797 (Hans-Juergen	

Operator's missed calls

26824200 Sales	400 Central Tele	83533500 Sales	83533400 FIFO Queue t	83533401 Record a Wav	83533402 Say test	83533403 Speak Test	83533404 Execute a cu	83533405 Speak Wikipe	83533100 Office Inter	83533101 Mobile Inter
26824201 CXO Mein50Pl	401 Margit	83533501 Service1	83533406 Speak heise	83533407 RSS-feeds	83533408 Spy a user	83533409 Speak	83533410 Pizza Demo	83533411 Event Socket	83533103 Mobile 2	83533102 Office 2
83533200 Development	402 Test	26824500 Service2	83533412 Event Socket	83533413 Dialthru wit	83533414 Dial last nu	83533415 Intercom tes				
Conference	CallGroups	Queue/Fifo	Special numbers						Masked numbers	

Trash

Search Area

Freeswitch Operator Panel - Background

- Focussing on supporting a local switchboard operator
- One operator panel instance for each operator's login account
- Operators can have full or limited view on the system based on user rights

- Worldwide
  - USA
  - EMEA
    - Germany
      - Frankfurt
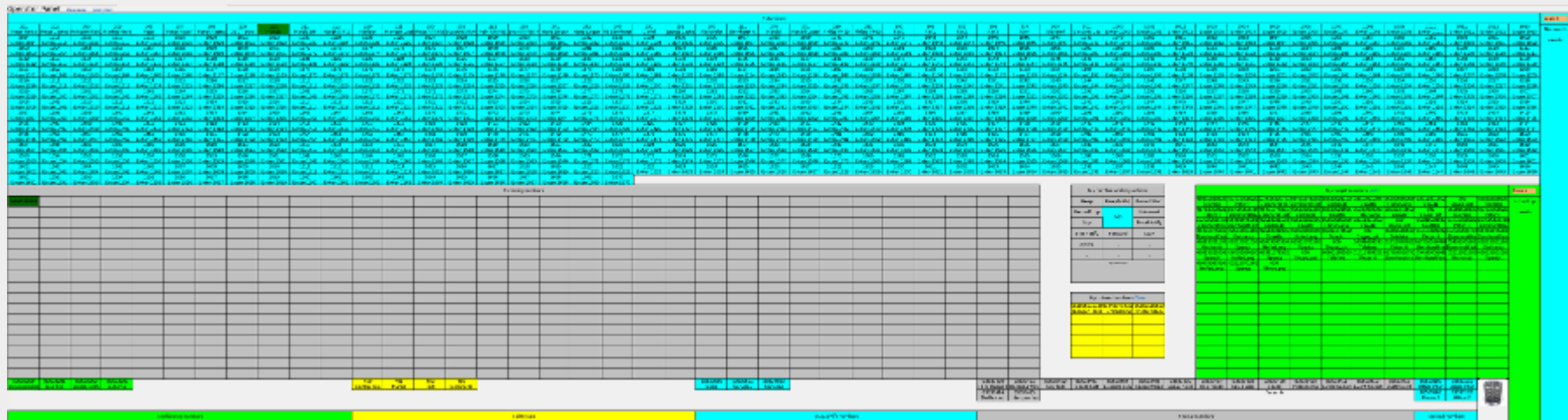   - Administration
        - Services
        - R&D
  - ASIA

e.g. limited view on Frankfurt only

- Individual settings per operator (size of panel, target numbers, individual commands etc.)
- Just HTML and AJAX - runs in a web browser

Freeswitch Operator Panel - Large installations (1)

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- Example
  - Operator panel horizontally on a dual screen monitor (3840x1200)
  - More than 700 extensions

- Operator panel vertically on a dual screen monitor (1920x2100)

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Videos

Freeswitch Operator Panel - Internal call

- Plot
  - Extension 203 calls extension 200
  - Both extensions go to ringing state (red)
  - 200 picks up (green)
  - 203 is bridged (green)
  - 203 hangs up (aqua)
  - 200 is unbridged (aqua)

Video link:

001--203-200.avi

Freeswitch Operator Panel - Incoming call to call group

- Plot
  - External number calls in with caller id name (lookup table)
  - External number shown on panel with name (Lookup database), is ringing (red)
  - Ringing on 3 extensions (call group) (red)
  - 200 picks up (green)
  - External number bridged (green)
  - 200 hangs up (aqua)
  - External number deleted

Video link:

002--0176-06081-200.avi

Freeswitch Operator Panel - Initiating an internal call

- Initiating an internal call from 200 to 208 by drag & drop
- Plot:
  - Number 200 is dragged to 208
  - 200 is ringing (red)
  - 200 picks up (green)
  - Both phones are in ringing state (red)
  - 208 answers
  - Both phones are in active state (green)
  - 208 hangs up (aqua)
  - 200 is unbridged (aqua)

Video link:

003--200-208.avi

Freeswitch Operator Panel - Handling missed calls

- Plot:
  - External number calls in with caller id name (lookup table)
  - Nobody takes the call (missed call for 200 and other call group members)
  - External number is recorded and shown as missed call
  - Dragging to „my messages" shows call dates
  - Dragging to „200" initiates callback

Video link:

004--0152-06081-hangup-callback.avi

Freeswitch Operator Panel - Conference management

- Plot:
  - 200 dragged to the conference (conference initated, 1 member)
  - 203 dragged to the conference (2 members)
  - 208 dragged to the conference (3 members)
  - 200 dragged to the trash (2 members left)
  - 208 dragged to the trash (1 member left)
  - 203 dragged to the trash (conference ends)

Video link:

005--Conference_add_delete.avi

Freeswitch Operator Panel - Intercept a call

- Plot:
  - External number calls in
  - Phones of the related call group are ringing
  - Dragging a ringing phone to my phone number (200) intercepts the call
  - (dragging the incoming number field works also)

Video link:

006-0152-Intercept210--200.avi

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- Plot:
  - External number calls in
  - Operator 200 takes the call
  - External number whishes to be fowarded to another phone 208
  - Dragging the operator's phone number (200) to 208 transfers the call
  - (dragging the incoming number field works also)

Video link:

007--0152-200-208-200.avi

Freeswitch Operator Panel –
Forward a call to a searched extension

- Plot:
  - External number calls in
  - Operator 200 takes the call
  - External number whishes to be fowarded to another person
  - As destination number is unknown, operator searches **extension** by name
  - Dragging the operator's phone number (200) to the result field transfers the call
  - Transfer to an external number searched in the **lookup table** works also

Video link:

008--0152-200-search-241-lookup.avi

Freeswitch Operator Panel -
Show call duration

- Showing call duration can be switched on or off
- Plot:
  - Operator's number 200 is dropped to 208
  - Call is connected
  - Both extensions show their individual call duration

Video link:

009--200-208-call-duration.avi

Freeswitch Operator Panel - Conference and call groups

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- Plot:
  - Operator's number 200 is dragged to the conference (conference initated, 1 member)
  - Conference shows conference duration
  - Call group 403 is dragged to the conference (add another 3 members)
  - Show 'confrence members' in info field by drag & drop
  - 208 dragged to the trash
  - Show 'confrence members' in info field by drag & drop
  - Conference is dragged to the trash (conference ends)

Video link:

010--conference-call-groups.avi

What else is new since ClueCon 2009 (1)

- Performance
  - Built-in load balancer for managing freeswitch **clusters**
- New PBX features
  - **Call Groups** (multiple level hunt groups with „shuffle", „oldest destination", „recursion", individual ring time etc.)
  - **new VM handling** („on", „off", „time based", „absent message", „TTS absent messages")
  - **Email and SMS notifications** on missed calls
  - **lookup** functionalities to CRM database + city/country lookup as fallback
  - **white/blacklist** per Directory entry - can override global blacklist
  - **Early media** messages per endpoint
  - Global short numbers
  - **Intercom** for large groups

What else is new since ClueCon 2009 (2)

- Call routing enhancements
  - **ENUM** handling inside application server
  - more sofia **profiles** for better NAT and VPN handling
  - many more fields for identifiying call scenarios + individual routing flags
  - more complex rewriting of destination numbers
  - 3 stage **blacklists** / whitelist
    - global (inbound,outbound, both)
    - exchange access profile (e.g. international, domestic, local)
    - individual number ranges per extension
  - Click-to-dial, TTS notifications via http requests

What else is new since ClueCon 2009 (3)

- Phone management (currently Snom, Polycom in preparation)
    - auto-**provisioning** of phones via DHCP
    - send SIP events to registered phones (e.g. „reboot")
- **Skype** integration with inbound and outbound name/number mapping
- Inbound/outbound fax (T.30, T.38) with **Callweaver**
- System features
    - **Mailing**-System
    - **SMS**-System
    - Scheduled and periodic **job management**

Thank you!

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