
OPEN UNIFIED
COMMUNICATION
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Building SIP platforms
that scales into the future
Kamailio/SER 10 years
Berlin Sept 2, 2011
Olle E. Johansson * oej@edvina.net * Twitter oej
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Where are we?
A status report.
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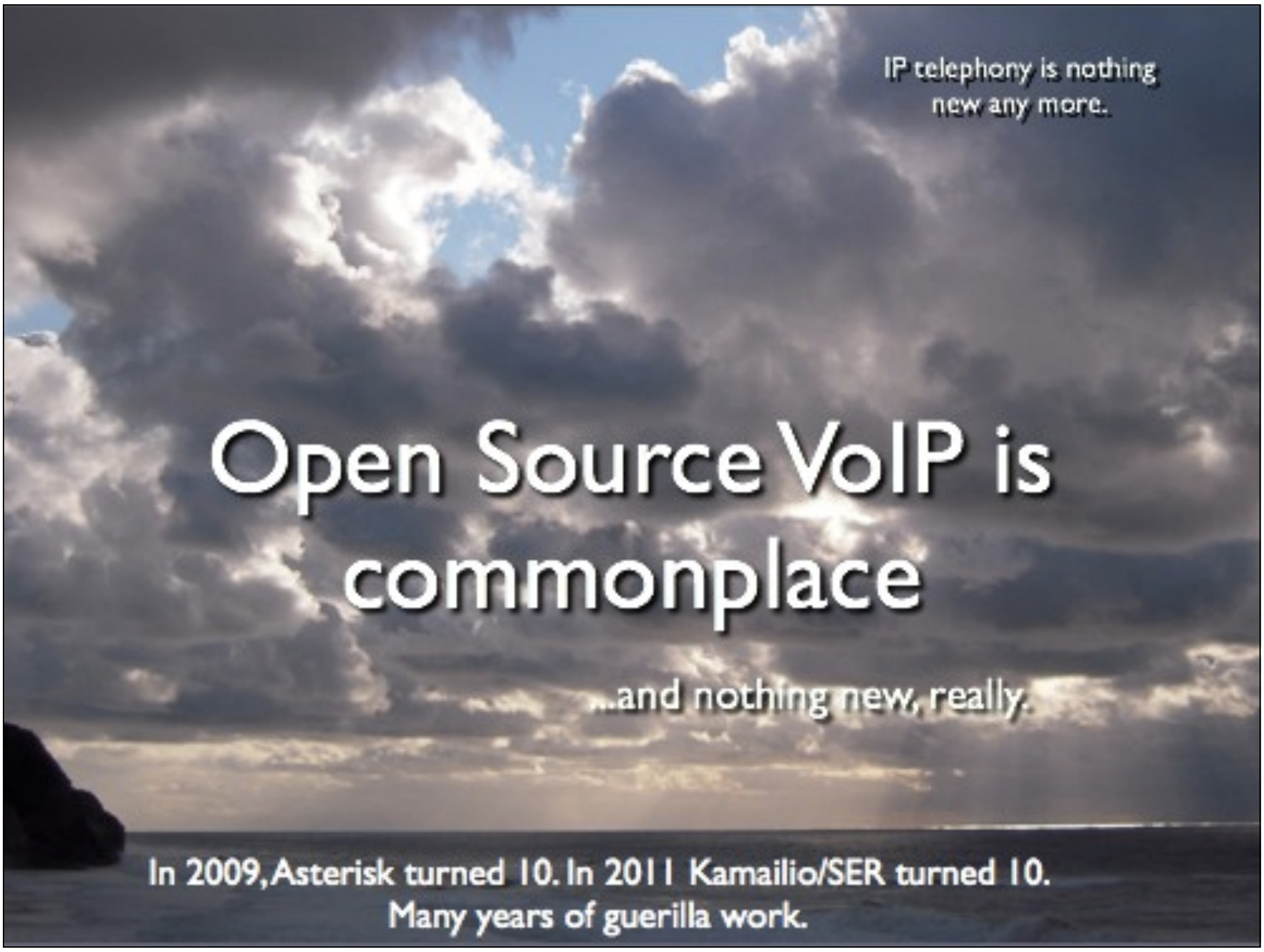
IP telephony is nothing new any more.
Open Source VoIP is commonplace
...and nothing new, really.
In 2009, Asterisk turned 10. In 2011 Kamailio/SER turned 10.
Many years of guerilla work.


Open Communication with SIP wins.
No one invests in any other VoIP protocol any more.
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Everyone talks about
Unified Communication
But who knows what it is and
where the wind is blowing...
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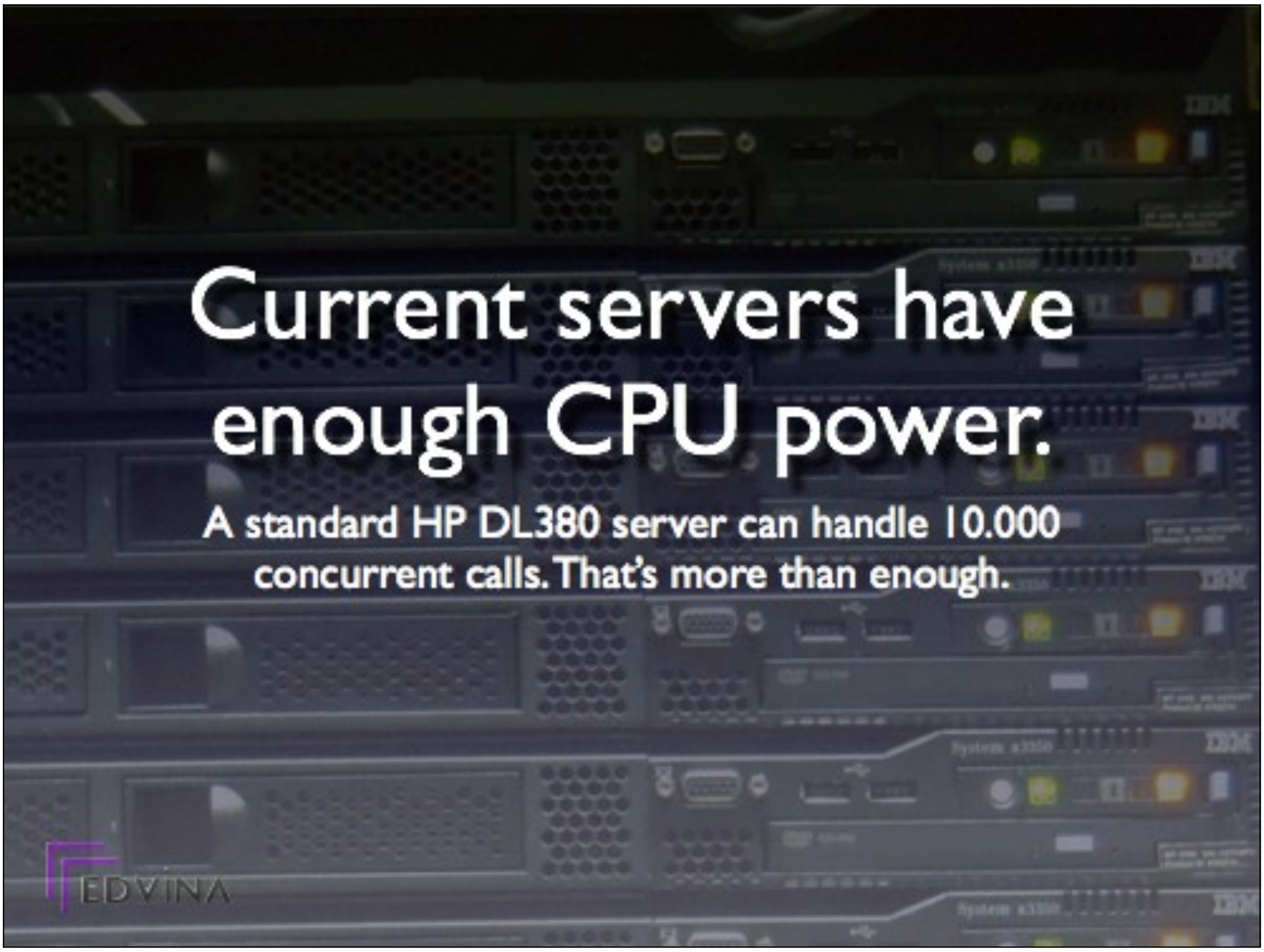
Current servers have
enough CPU power.
A standard HP DL380 server can handle 10.000
concurrent calls. That's more than enough.
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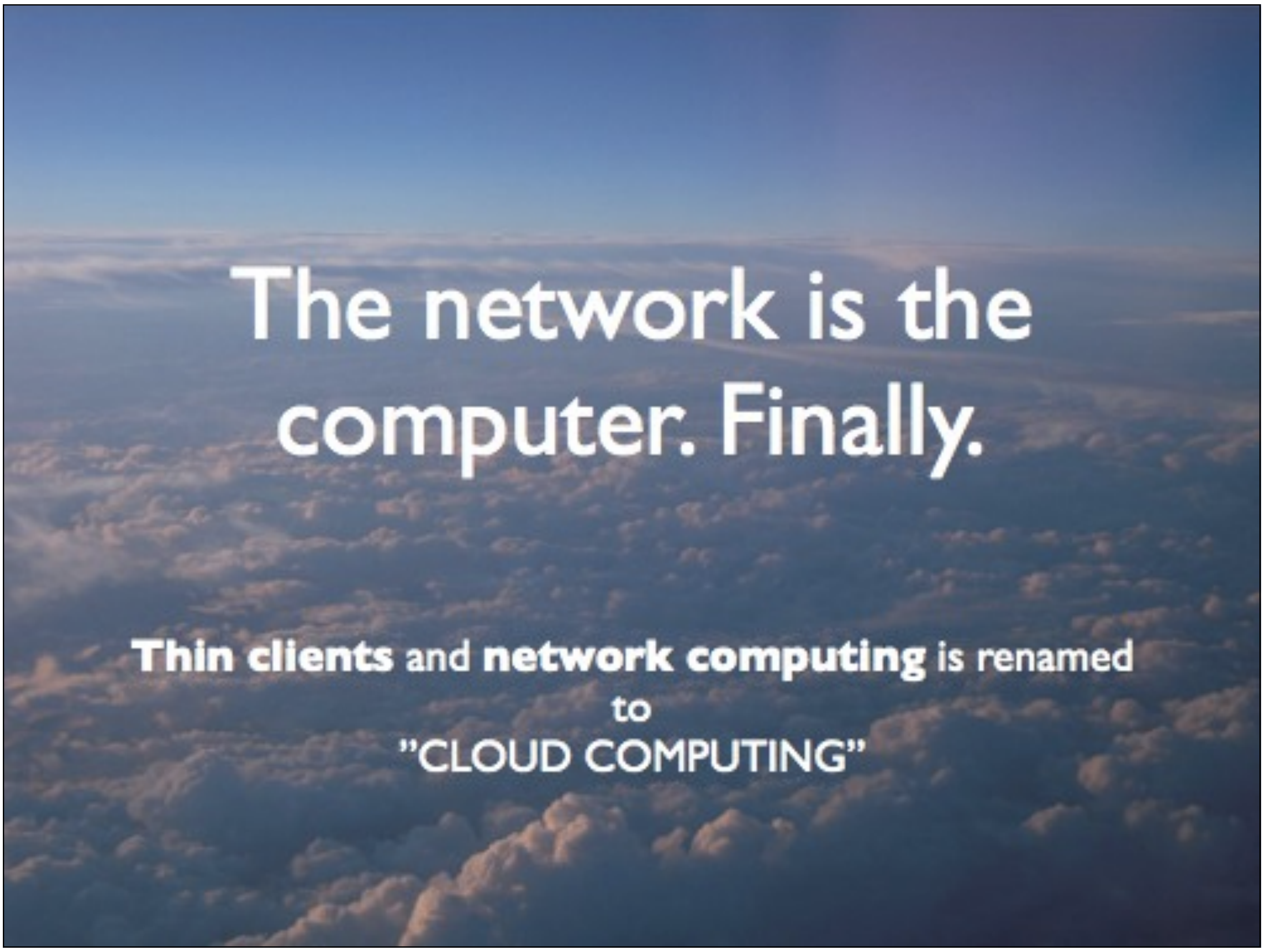
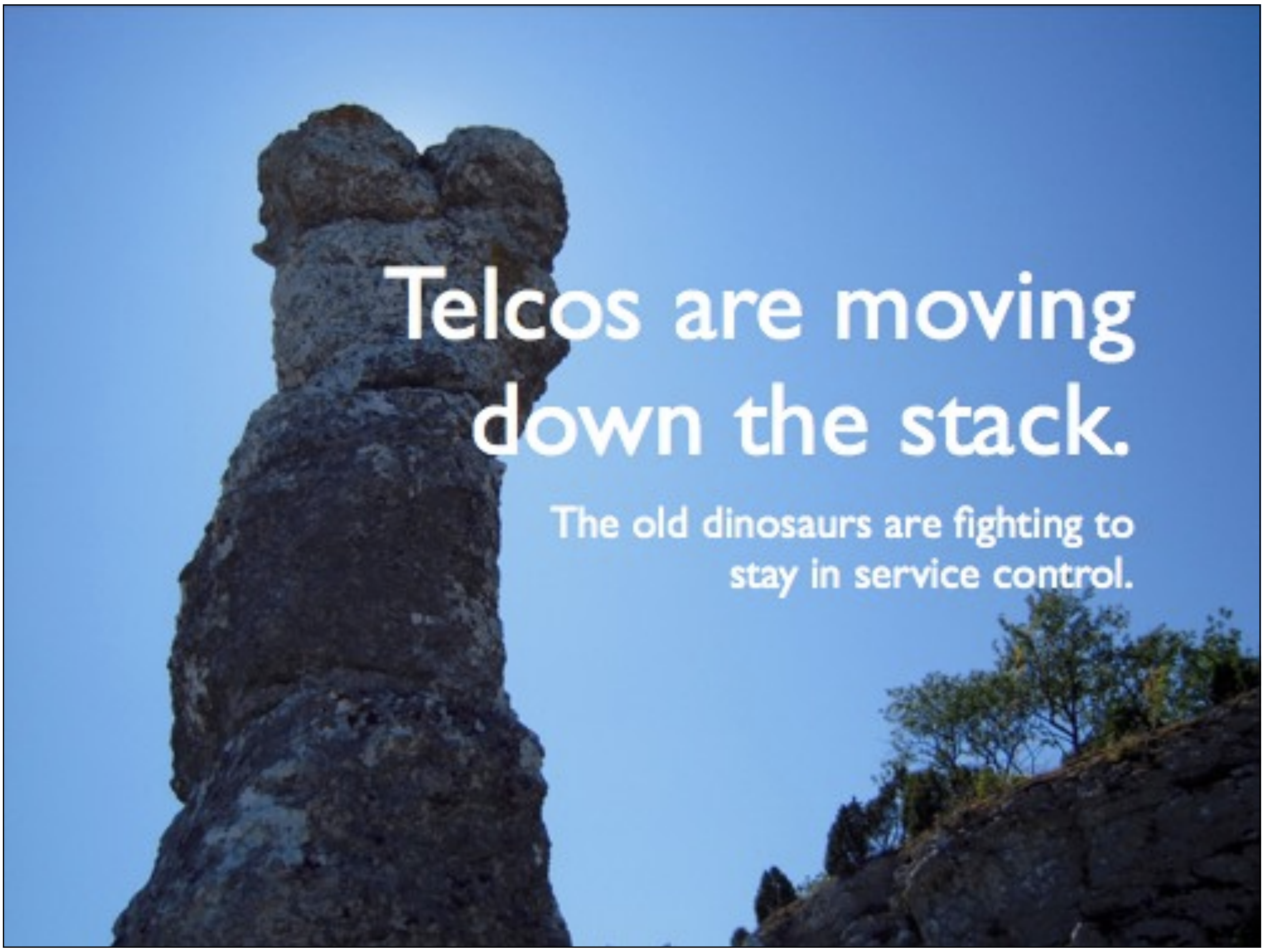
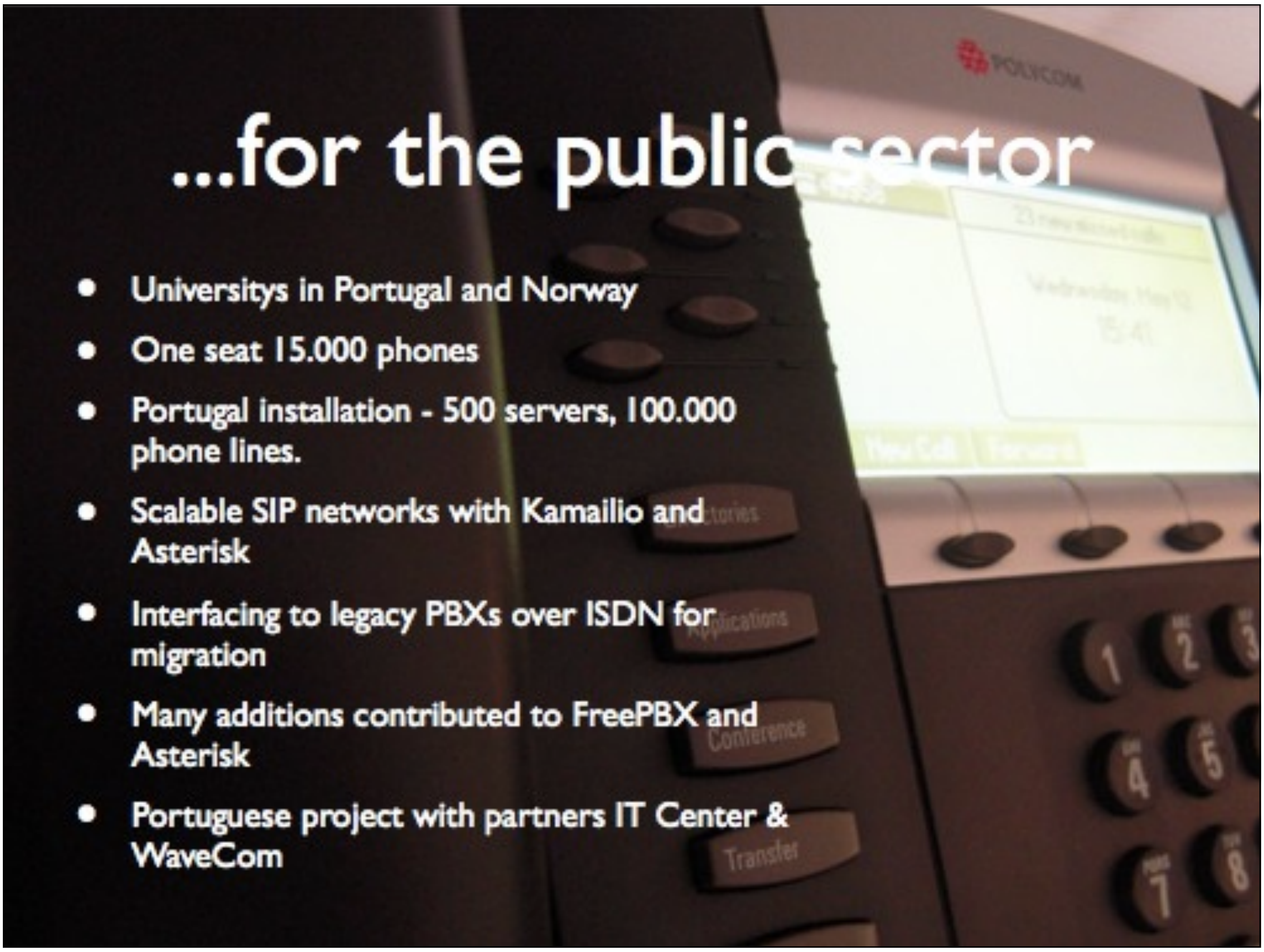

The network is the computer. Finally.
Thin clients and **network computing** is renamed to
"CLOUD COMPUTING"


Telcos are moving down the stack.
The old dinosaurs are fighting to stay in service control.


Case studies
Open Unified Communication is reality. Today.


OUC for callcenters
Customer with existing call center software adopting it to Asterisk
From 50 to 500 agents
From 50 to 1.500 concurrent calls
Immediate failover if server or application crashes
Delivered as a service (cloud) or as an application


...for the public sector
Universitys in Portugal and Norway
One seat 15.000 phones
Portugal installation - 500 servers, 100.000 phone lines.
Scalable SIP networks with Kamailio and Asterisk
Interfacing to legacy PBXs over ISDN for migration
Many additions contributed to FreePBX and Asterisk
Portuguese project with partners IT Center & WaveCom


...for a regional body
Replacing 15 pbxs with 5000 phones
Schools, hospitals, dentists, daycare, offices
Adding distributed presence to Asterisk (assisted by Kamailio)
Project with Edvina partner TeleKompetanse in Oslo

...and for Service providers

- Kamailio in the core
- Asterisk for feature services and PSTN handling
- Scalable platforms for 1.000-1.000.000 phones
- Many users in this sector
- Many additions contributed to the Asterisk SIP channels over the years

What's pushing us forward?

#1 :The Internet.

- The Internet is truly always available
- The networks are getting better
- IP Telephony over 3g works today
- 4g will get there in 10 years time. HD video anyone?

#2: Open Standards making it possible

- The TCP/IP protocol suite
- SIP
- XMPP
- Unicode
- Freely available codecs

#3: Open Source

- FreeSwitch, Asterisk, Kamailio, SIP-router, ejabberd, Linux, FreeBSD, Adhearsion
- The application stack is available without license fees (I won't say for free)
- Quick adaption to your business possible, you have the source and an open market available
- **Innovation** is pushing these platforms forward

#4: Voice interfaces

- Speech recognition and synthesis
- Natural interfaces for services
- Price/channel has gone down

#5: Commodity hardware

- Standard PC servers can run 10.000 audio channels - over 5.000 calls. Today.
- Investment/call is going down

#6: API's

- Programmer interfaces to telephony are freely available
- Lowers cost of implementation
- Asterisk AGI/AMI, Adhearsion, FreeSwitch libraries, Kamailio MI, LUA and Python
- Service providers should run these
  - *You don't need your own PBX to add voice to your apps!*

#7: Unified, federated identity and authorization

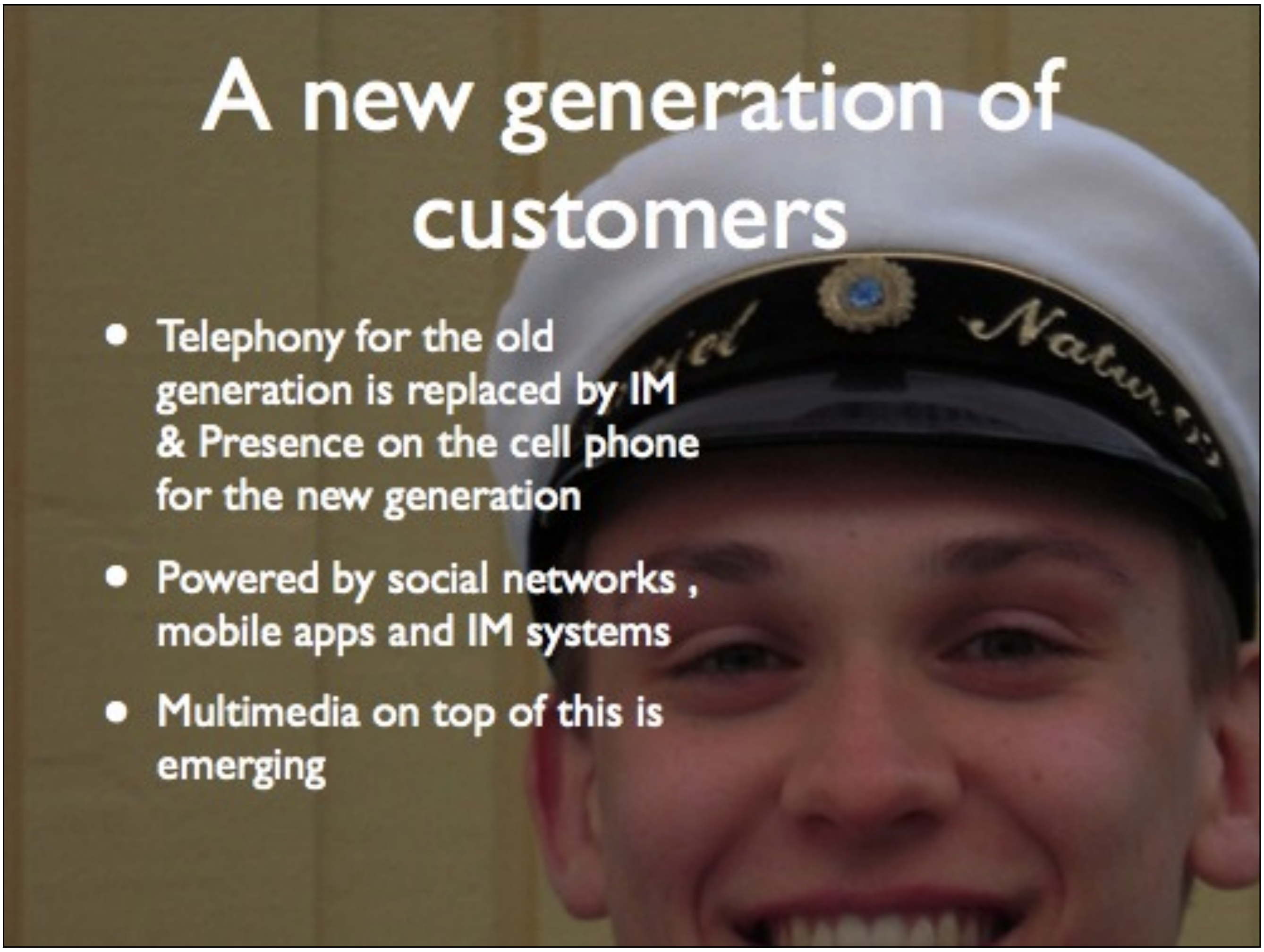
- LDAP
- OpenID
- SAML 2.0
- Oauth

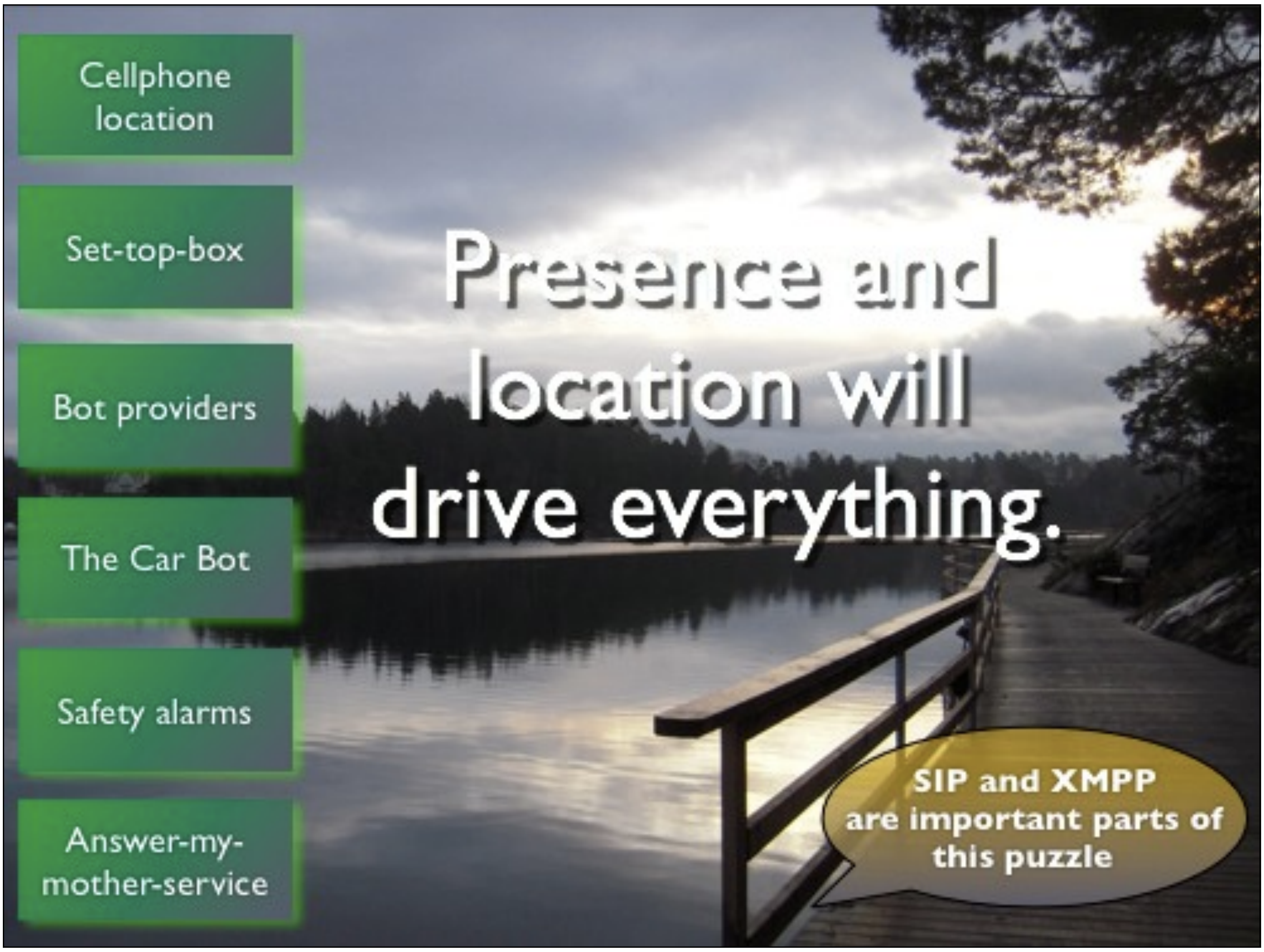
#8: New codecs, built for IP networks

- OPUS!

!#9. Security requirements

- Sadly, too few customers require security
- We might have to follow Gemeinshaft 4 philosophy:
  We know better even if the customers don't


A new generation of customers
Telephony for the old generation is replaced by IM & Presence on the cell phone for the new generation
Powered by social networks , mobile apps and IM systems
Multimedia on top of this is emerging

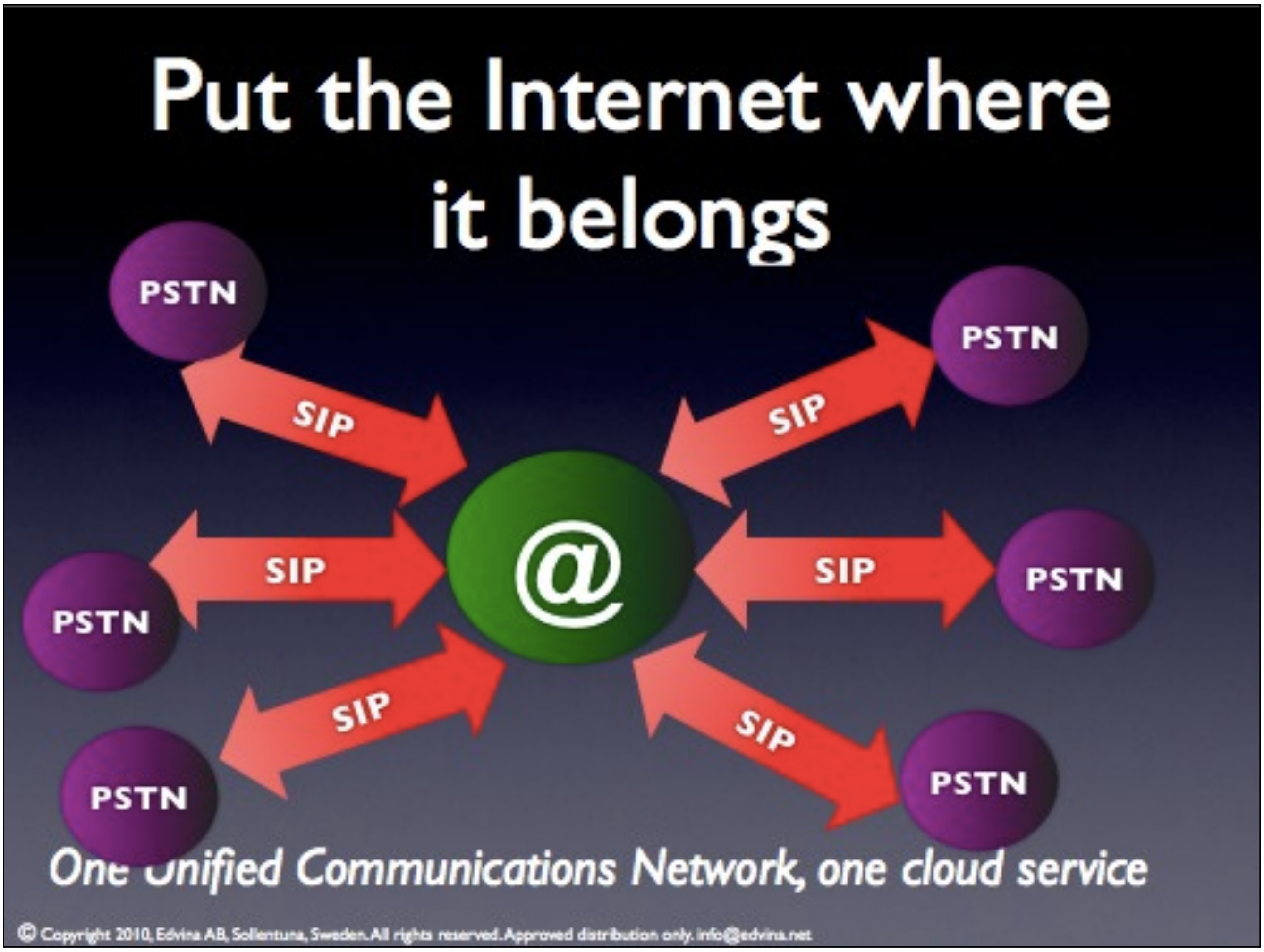

Cellphone location
Set-top-box
Bot providers
The Car Bot
Safety alarms
Answer-my-mother-service
Presence and location will drive everything.
SIP and XMPP are important parts of this puzzle

Without the Internet you are on an isolated island.

So how do we get away from it?

Why are we building with PSTN focus?

Isolated islands of SIP!


Put the Internet where it belongs
PSTN
SIP
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SIP
@
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PSTN
One Unified Communications Network, one cloud service
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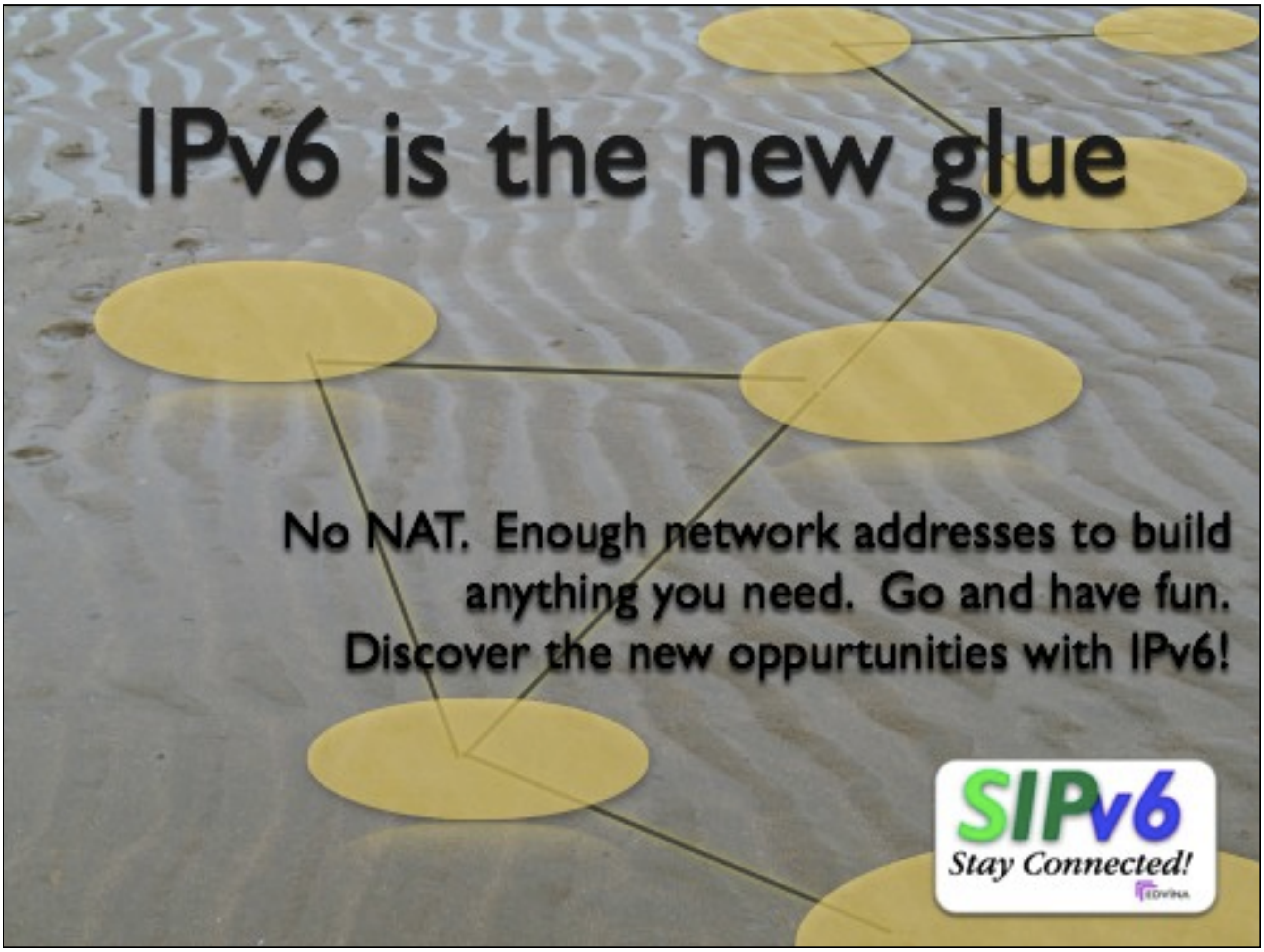
IPv6 is the new glue
No NAT. Enough network addresses to build anything you need. Go and have fun. Discover the new oppurtunities with IPv6!
SIPv6
Stay Connected!

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1. Use Open Network Protocols

TCP/IP * SIP * XMPP

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2. Open Source

COOPERATIVE SOFTWARE

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@

3. Unification

One address that rule them all!

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4. Integrity and Security

BUILDING TRUST FOR NEW SOLUTIONS

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5. **Climate** Friendliness

VIDEO * SYSTEM MANAGEMENT

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6. Social Responsibility

Building and connecting to a network for everyone.

OPEN SOURCE = AVAILABILITY FOR THE 3RD WORLD

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7. Everything is and should be building blocks

EVERYTHING SHOULD HAVE AN AN OPEN API

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SIPv6
Stay Connected!
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8. Keep an open network

IPv6 NOW

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9. Underestimate yourself

You just don't know about the future

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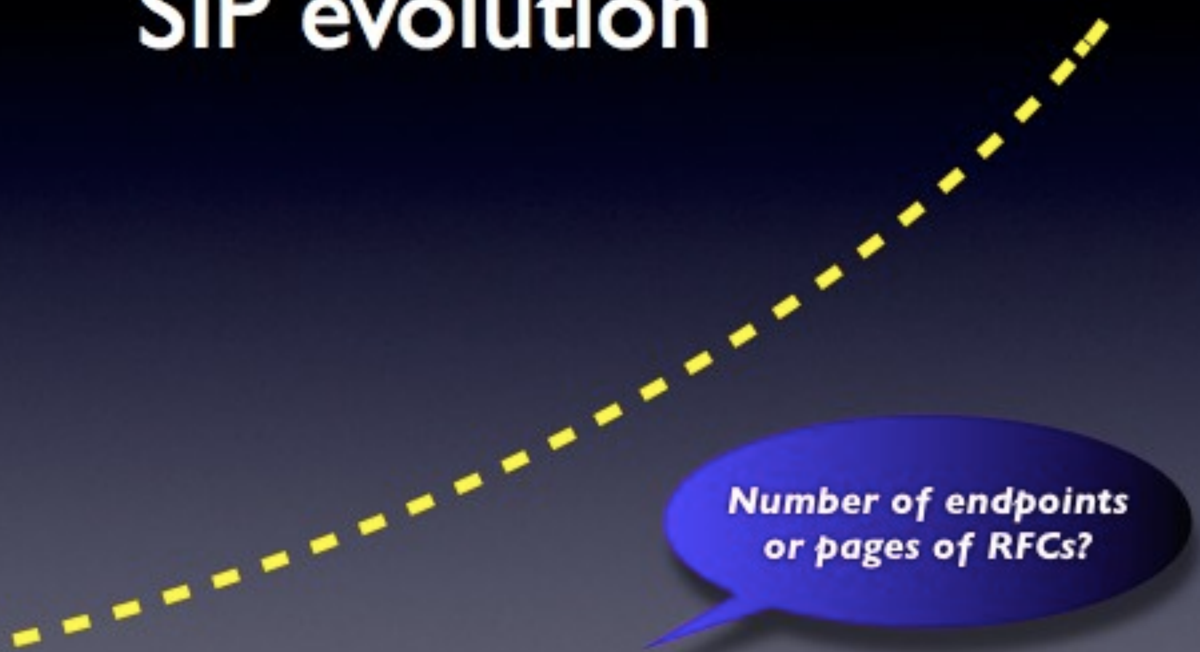
10. Get a new mindset

The new telephony platform is not about telephony.

SIP evolution



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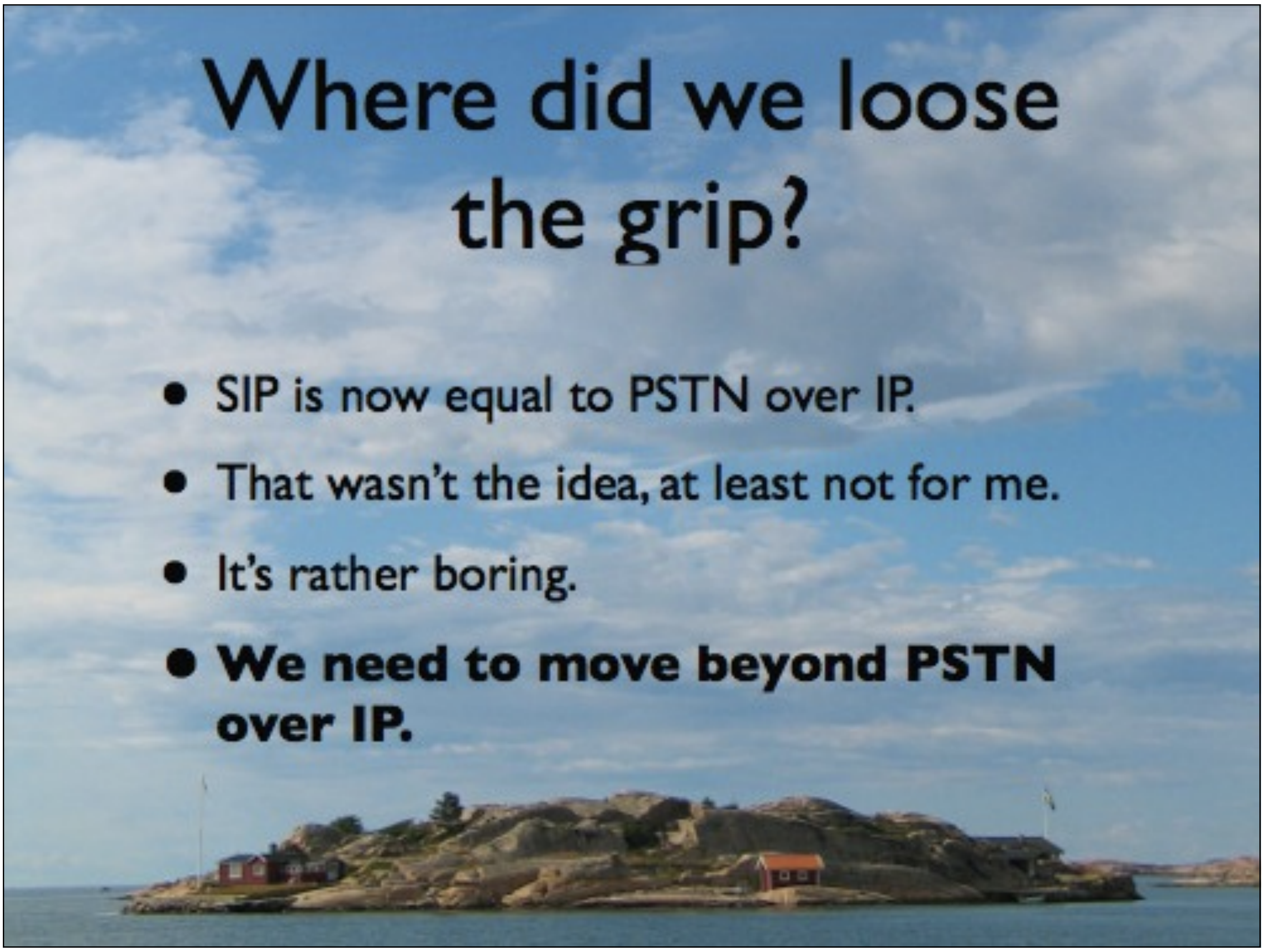
Where did we loose the grip?
SIP is now equal to PSTN over IP.
That wasn't the idea, at least not for me.
It's rather boring.
We need to move beyond PSTN over IP.


Remember?
freeworlddialup.com (dead)
iptel.org free service (still running)
IAXtel (dead)

Do we have enough power to change?

- Can we break the one site-syndrom?
- Can we build an open and secure federation?
- Let's discuss this in the breaks and tonight.

Where is the IETF

- Seems like the inventors of SIP are now working with RTCweb, trying to fix their errors
- SIP seems to be dominated by PSTN people
- ***We need to do something about this, the gap between implementations and IETFs work is far too wide.***

Kamailio's role in my world

- Kamailio - sip-router - ser - operates the base for the platform I am describing here
- Me and my partners have over 600 proxys running in enterprises and public sector
- For me, it's been rock solid with no security issues. (Quite boring from a hacking point of view ;-)
- It fits right in - security, IPv6, presence, multimedia calls and more
- **Thank you, Team SIP-router!**

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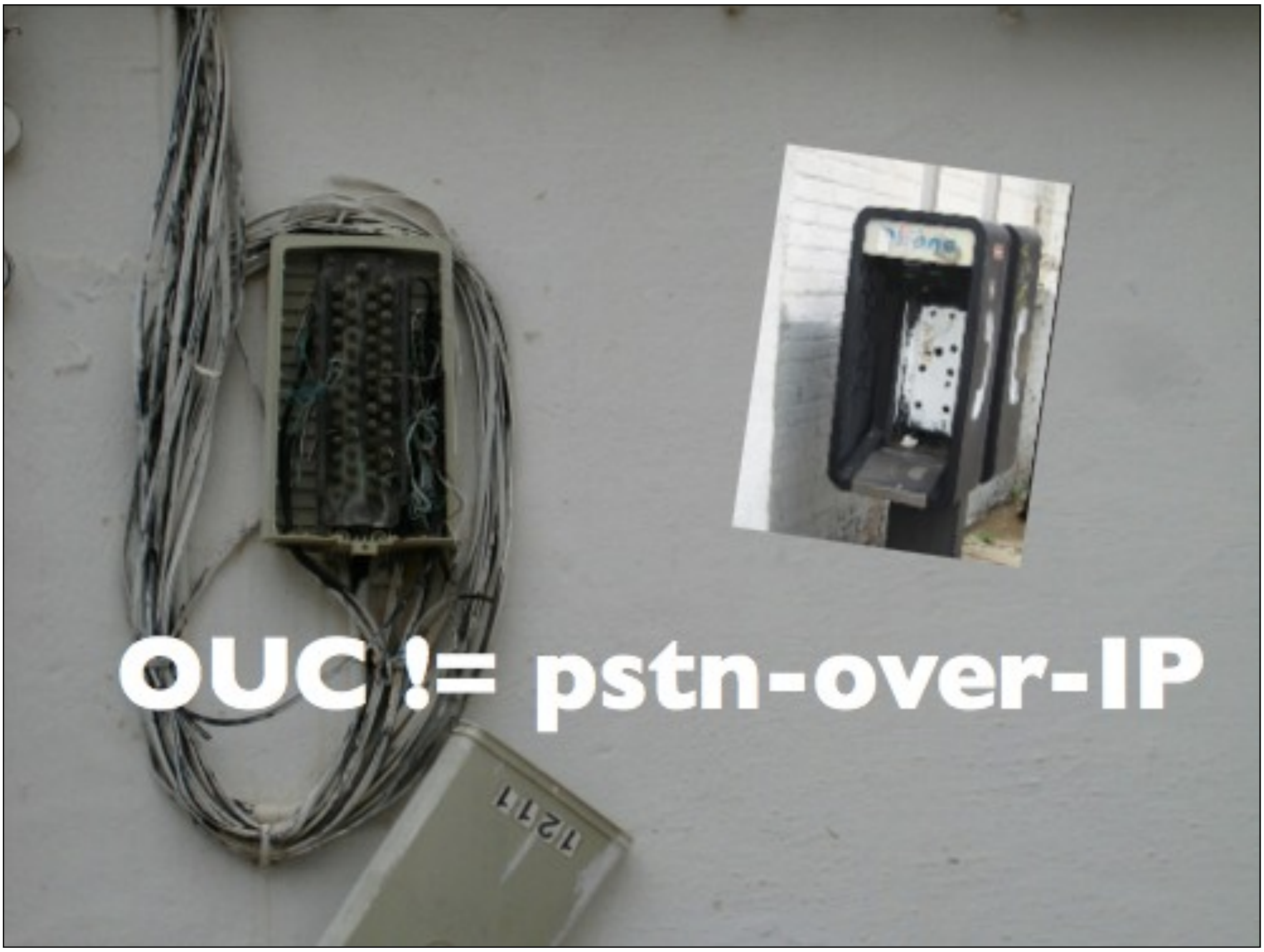
...And please remember at least two things from this presentation:


IPv6 needs to be on your agenda.
Cloud services not running on IPv6 will not be fully reachable from anywhere and anytime if it's not connected to the IPv6 Internet.
SIPv6
Stay Connected!


OUC != pstn-over-IP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Open Unified Communication
Connecting Internet Users in real time.
Desigual Soul
voip2-core1