

DENIC ENUM tag

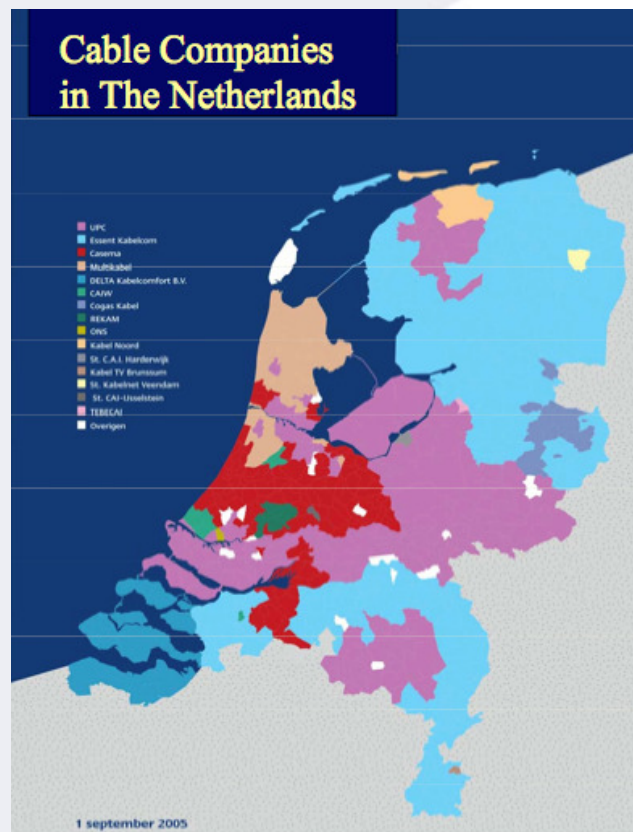
# Dutch Cable SIP Exchange the benefits

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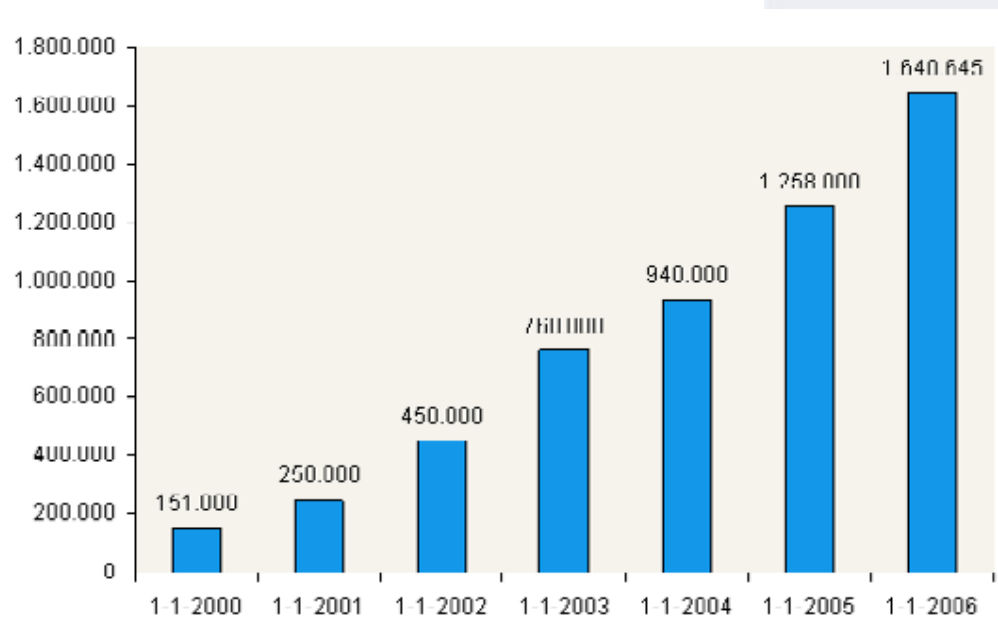
Sikko de Graaf - CAIW Diensten, The Netherlands

## Subscribers per cable company x 1000

<b>UPC</b>	<b>2.286</b>
<b>Essent</b>	<b>1.672</b>
<b>Casema</b>	<b>1.344</b>
<b>Multikabel</b>	<b>315</b>
<b>CAIW</b>	<b>135</b>
<b>Others</b>	<b>439</b>
<b>Total</b>	<b>6.191 (app 90% of all households)</b>

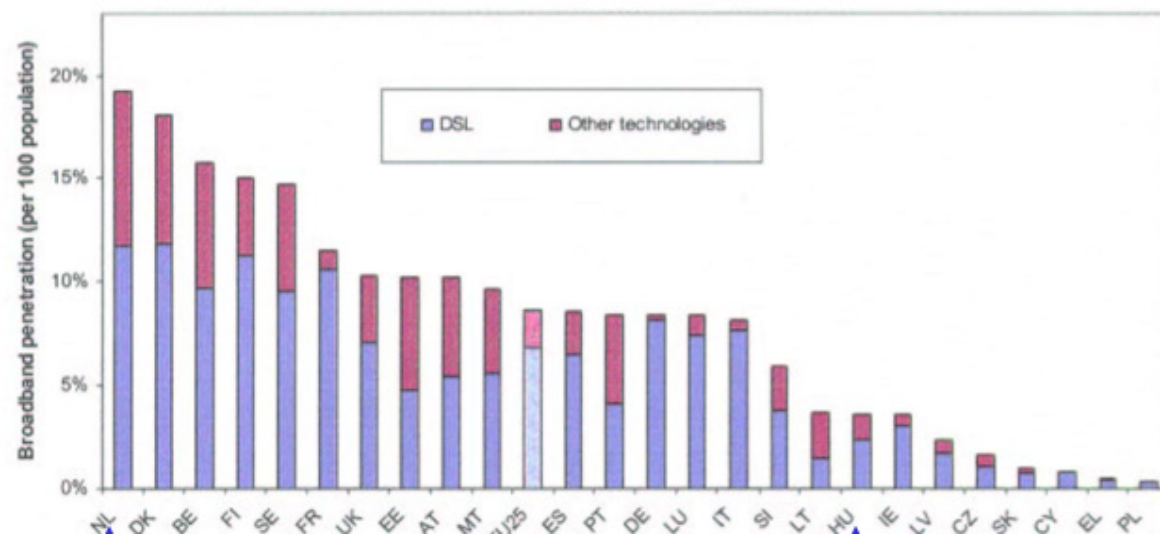


## Cable Broadband customers 1.700.000



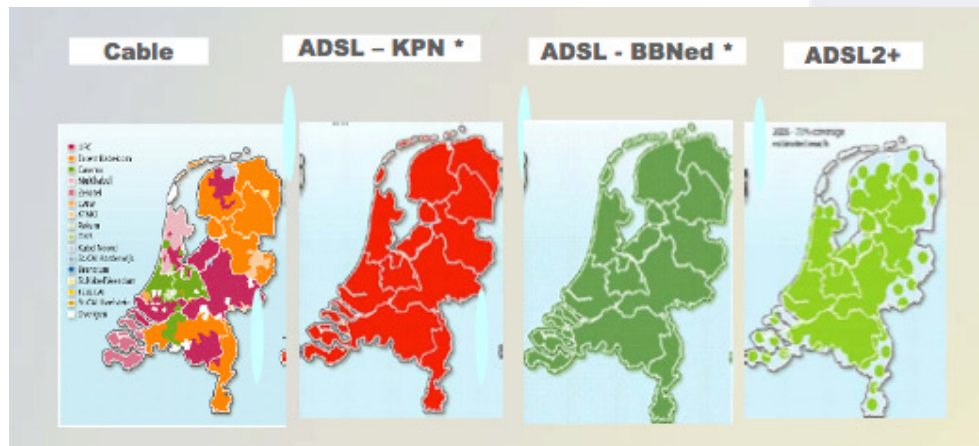
## Dutch Cable facts & figures

- **Broadband market very competitive**
- **Highest penetration broadband**
- **Tough but innovative environment**



# Dutch Cable facts & figures

## Existing Broadband infrastructures each covering the Netherlands



### Digital Telephony Dutch Cable industry. (Voip)

- **Fast growing market**
  - **Growth 2005 from 200.000 to 435.000 subs**
  - **Estimated growth 2006 with +500.000**
  - **End 2006 1.000.000 subs digital telephony**
- 
- **5 Cable companies vs Dutch Telecom (KPN)**
  - **UPC/Essent/Casema/Multikabel/CAIW**



## 2005 initial phase & trends

- **SIP is becoming the standard**
  - Hardware/software
- **Flat fee calling trends**
- **On-net calling for free between Cable operators**
- **First publications carrier Enum**
  
- **JCC , dutch joint cable initiative**
- **Q3 2005 start of project**

- **Taskforce Joint Cable**
- **Research**
- **Technical specifications**
- **Request For Information**



### Specifications

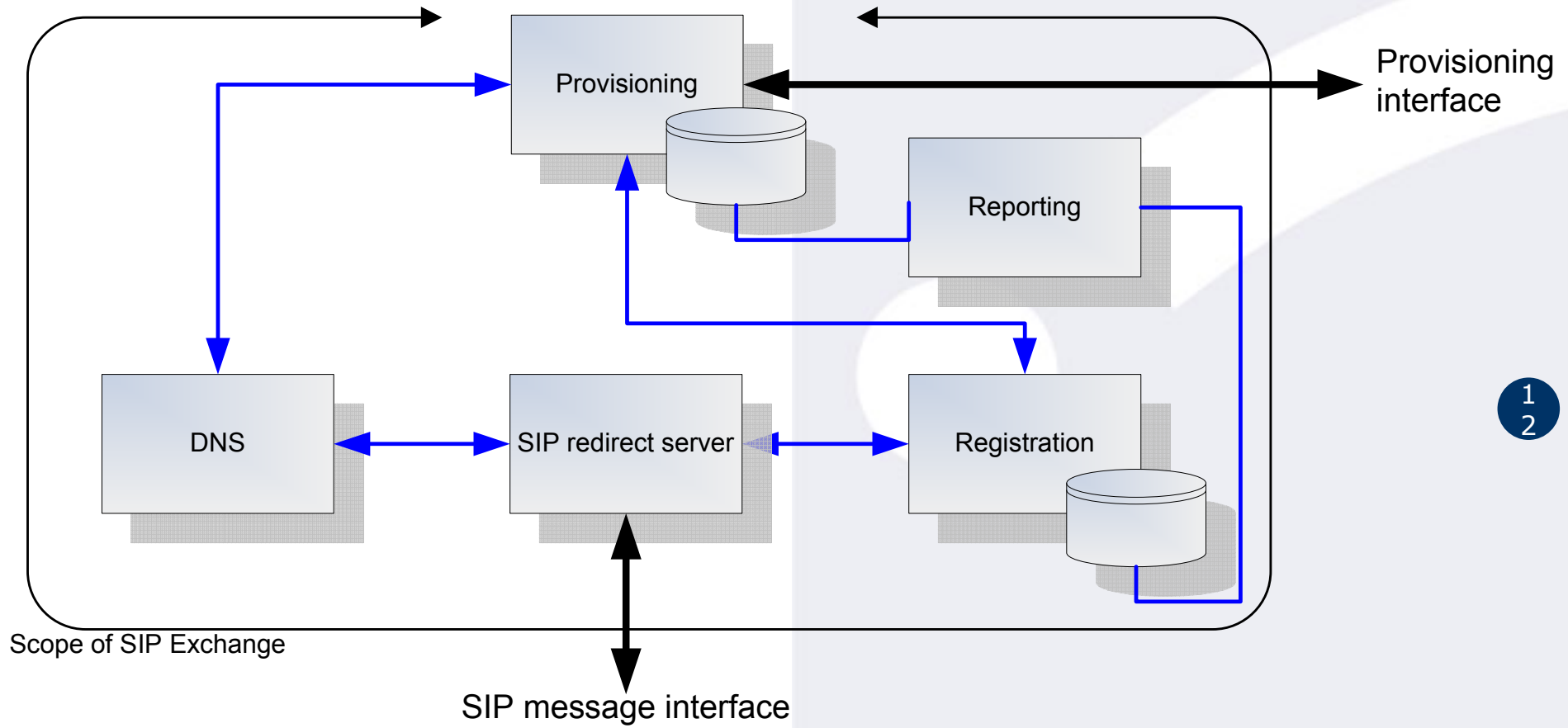
- **Carrier Enum for number translation**
- **SIP as standard, support for most common codec's**
- **Multi operator environment, with automatic provisioning**
- **De-centralised traffic of codecs data**
- **Support for roaming and/or peering**
- **Secure and redundant service**
- **Scalability > 1.000.000 subs**
- **Cable industry standards; packet cable multi media**
- **QoS support**

## Research

- **What's on the market?**
- **AMS-IX, dutch regulators (COIN/FIST), Dutch internet domain registration.**
- **Consultation European SIP specialists**
- **Multi operator environment, with automatic provisioning**
- **De-centralised traffic of codec's data**
- **Support for roaming and/or peering**
- **Secure and redundant service**
- **Scalability > 1.000.000 subs**
- **Cable industry standards; packet cable multi media**
- **QoS support**

- **Research results: no turn key solution available**
- **Looking for partners**
- **AMS-IX location of exchange**
- **RFI**
  - Xconnect / Kayote networks

# SIPexchange basics





# Basic provisioning

Provisioning process operator A



Provisioning process operator B



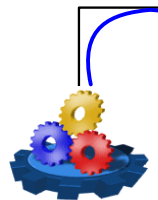
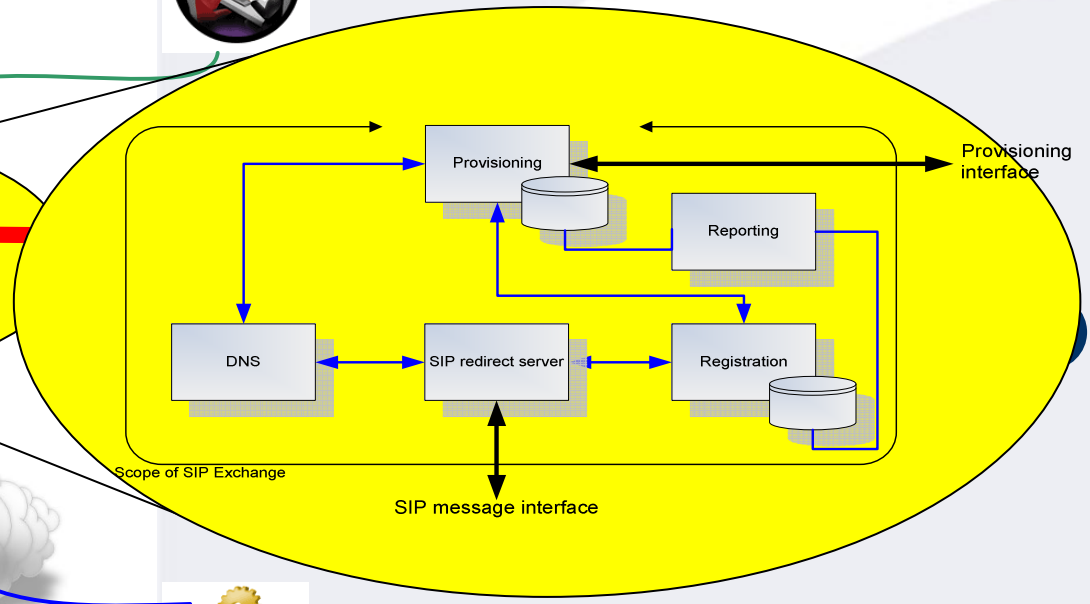
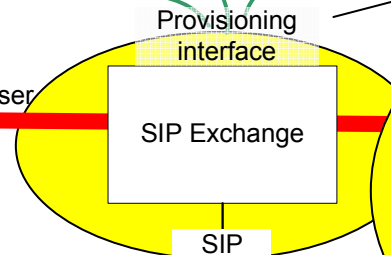
Provisioning process operator n



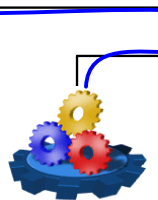
Provisioning process:  
Add, change or terminate user

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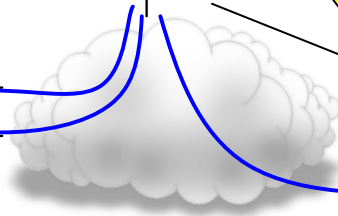
Operational process:  
Setup call



SIP Proxy operator A

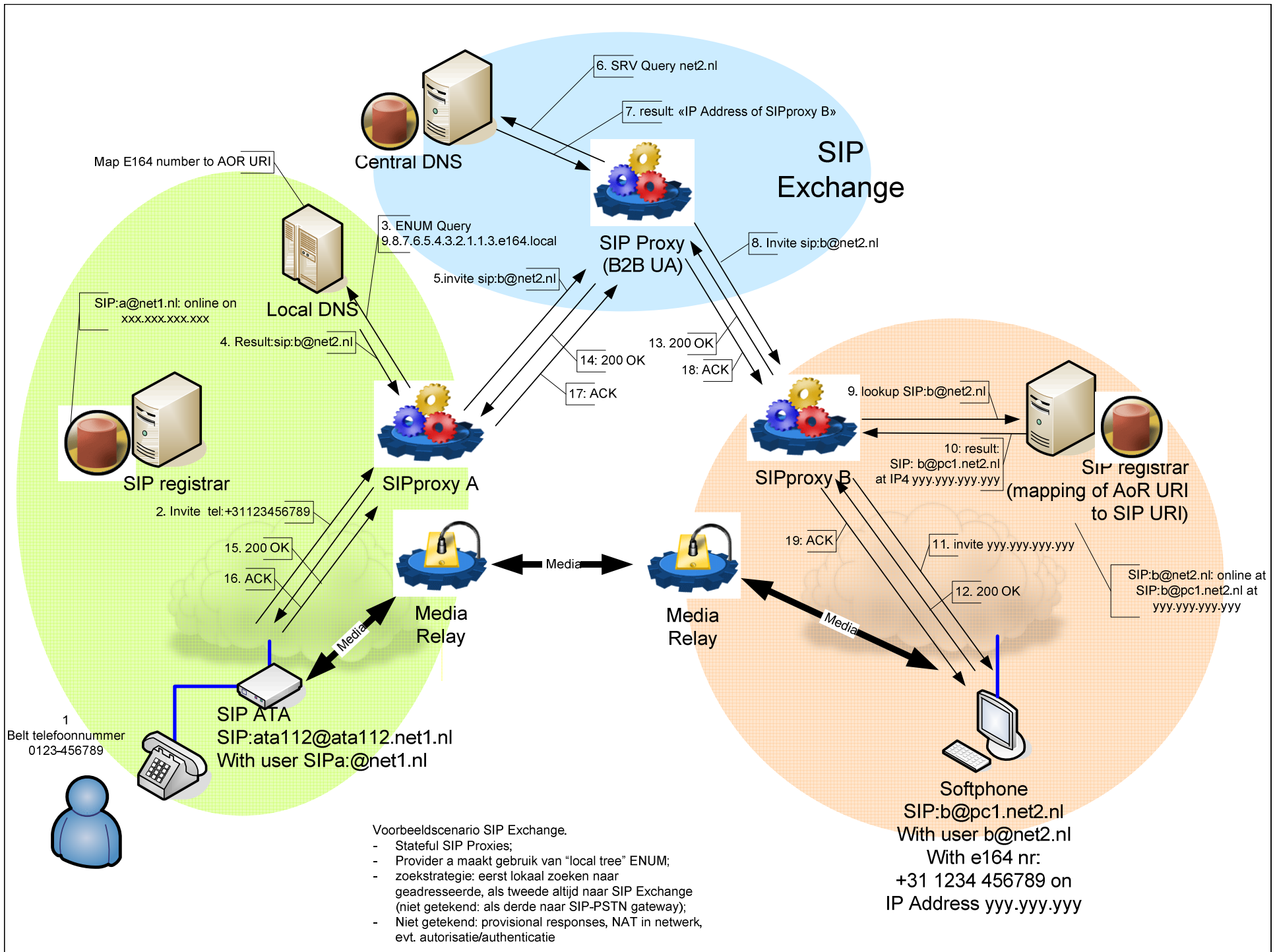


SIP Proxy operator B



SIP Proxy operator n





Voorbeeldscenario SIP Exchange.

- Stateful SIP Proxies;
- Provider a maakt gebruik van "local tree" ENUM;
- zoekstrategie: eerst lokaal zoeken naar geadresseerde, als tweede altijd naar SIP Exchange (niet getekend: als derde naar SIP-PSTN gateway);
- Niet getekend: provisional responses, NAT in netwerk, evt. autorisatie/authenticatie

Networkdiagram SIP Exchange  
 version 0.3 Concept  
 Ed Zwinkels  
 27 february 2006

# Sip Exchange AMS

SIP Exchange Provisioning    SIP Exchange SIP Proxy    SIP Exchange Central Directory

BGP AS = xxxxx

SIP Exchange central public space subnet    BGP route reflector server

BGP AS = xxxxx  
 New unpublished AS number

Each operator a Public space subnet    Public space subnet    Public space subnet    Public space subnet    Public space subnet

addressing operator

Session Border Controller function

Operator Edge SIP Proxy/ Protocol gateway    Media Relay (NAT function)

Local directory    Private addressing Operator or public Internet

Softswitch

SBC

Softswitch

Softswitch



- **Succes of digital telephony**
  - >50.000 subs a month
  - Project team resources
- **Mixed SIP solutions at operators**
  - SER / Siemens / Nortel
    - SIEMENS / Nortel SIP for cable solutions 2006/2007 work arounds
    - SIEMENS no ENUM, alternatives (SIP redirect)



## Sipexchange actual status 2007

- **SIPexchange central servers installed on AMS-IX**
- **Proof of concept positive**
  - System has been accepted
- **Preparation next steps and launch**
  - Legal issues
  - Reporting for peering/roaming services
  - Video and Multimedia codec's testing
  - Network architecture, SBC's , local provisioning
  - CAPEX / OPEX issue's



## Sipexchange 2007

- **Full launch for Dutch cable operators**
  - On-net calling between cable operators
  - New extended SIP services for cable customers.
  - All (S)IP solutions TV/Internet/Telephony



- **Full Codec support**
- **Full SIP RFI support**
- **Multiple SIP sessions**
- **All IP strategie**
  
- **New Customer services**
  - Buddy list / Do not Disturb / Presence and much more
  - Fixed Mobile convergence
    - SIP services on mobile hardware
  - Nomadic telephony services
    - Soft phones
    - Micro devices / Stick telephone
  
  - Video telephony
    - Special Interest Groups (elderly, Service Centre)
    - Integrated SIP device DVB setop boxes, sip client on TV



# Sipexchange Benefits



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CAIW Holding  
1 maart 2007

