



Tips & Tricks for Big Deployment

Study Case at IEE sa

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Profoss

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Brussels, Belgium

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Charles LOPES (IEE sa)



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- About Us
- Why Use Asterisk ?
- Deploying Asterisk at IEE sa
- Top 10 Tips & Tricks



About Us

- NOVACOM

- Company
 - History
 - Activities & Products
- Speaker : Vincent Luba



- IEE

- Company
 - History
 - Activities & Products
- Speaker : Charles Lopes



About NOVACOM

- Our Origins

- Faculté Polytechnique de Mons
- MULTITEL : *Research Center in Telecommunications, Signal and Image Processing*

- NOVACOM

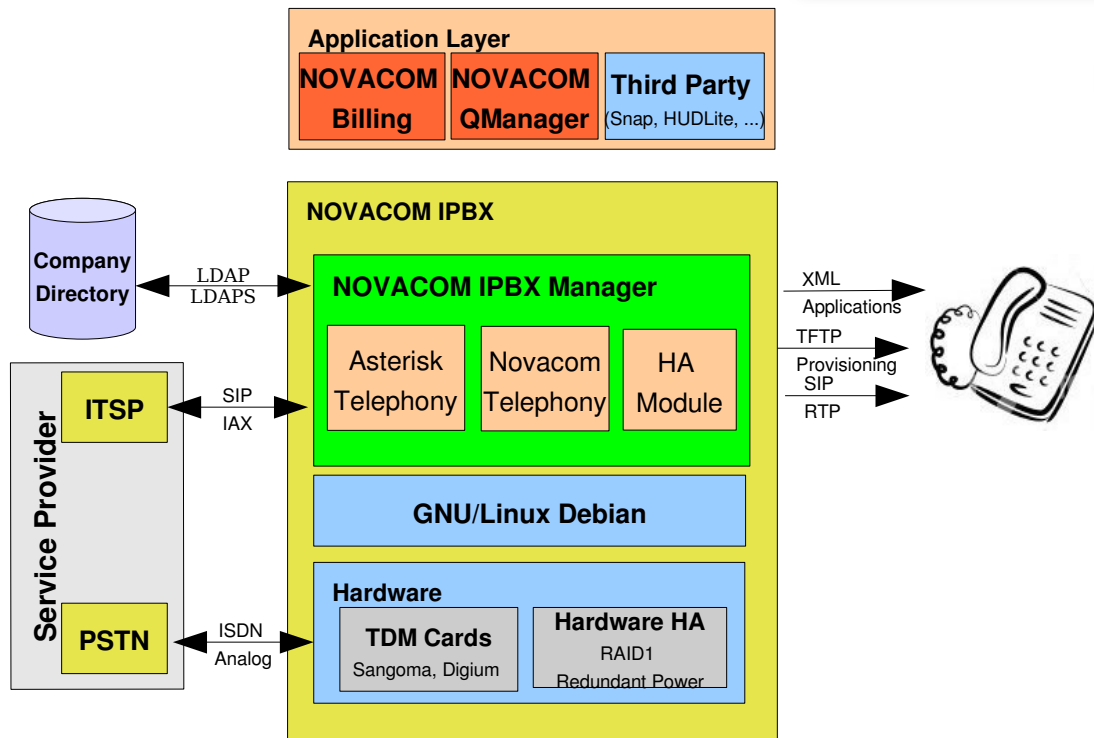
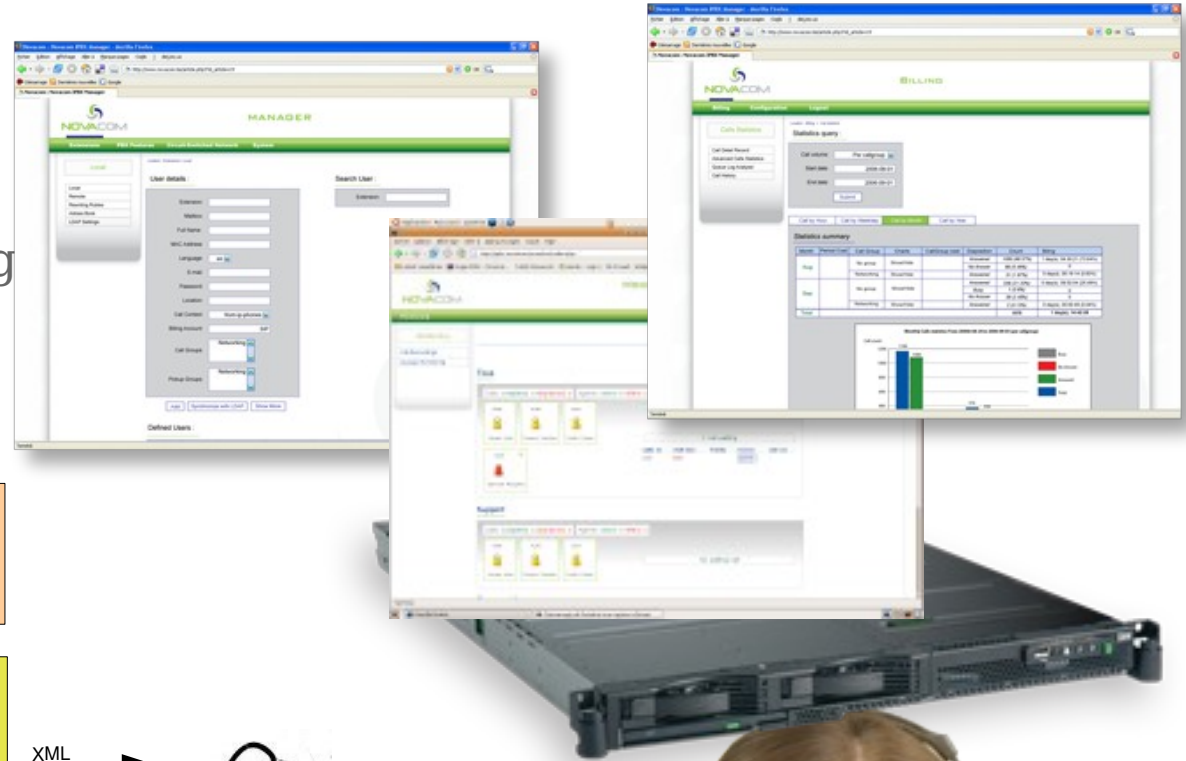
- Founded inside IT-OPTICS : Belgian Open Source Specialist since 2000
- Real Pioneers and True Open Source Believers
- We Offer Turn-Key IP Telephony Solution based on Asterisk and Custom Development



About NOVACOM

- Our Products

- NOVACOM IPBX
- NOVACOM IPBX Manager
- NOVACOM Billing
- NOVACOM QManager



About IEE

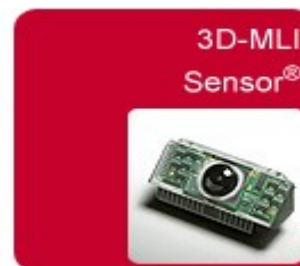
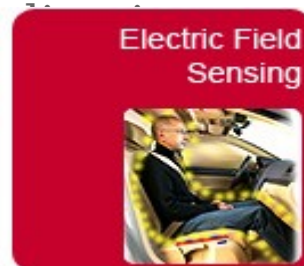
- **Company Profile**

- Founded in 1989 in Luxembourg, main customers are Daimler-Benz & BMW
- 1997 : beginning of the expansion of the company's European Customer base
- 2002 : IEE's expands to USA and Asia

- **Mission**

- To be the innovative sensing system provider in growing market niches.

- **Products Applications**



About IEE

- Multiple locations all around the world

**Luxembourg
Contern**
IEE S.A.
Headquarter/R&D



**Luxembourg
Echternach**
IEE S.A.
Production



**Luxembourg
Findel**
IEE S.A.
Logistic Center



China/Lang Fang
IEE Lang Fang Ltd.
Production



**China
Beijing**
Sales/Technical
Development Center



**Japan
Tokyo**
Representative
office



Korea/Seoul
IEE Sensing Korea Ltd.
Sales/Development/R&D



Germany/Berlin
IEE OptoSense GmbH



Germany/Dresden
IEE Vision Sensing GmbH



Slovakia/Kosice
Production/Testing Facility



USA/Auburn Hills
IEE Sensing Inc.
Sales/R&D



Why Use Asterisk ?

- Why NOVACOM works with Asterisk ?
 - Asterisk for system integrators & developers



Why NOVACOM Works With Asterisk

- Our Motivations

- Belief in Open Source philosophy
- Vertical Integration
- Need For a Complete Solution
- Importance of Standards
- Flexibility & Power
- Cost



Why NOVACOM works with Asterisk

- Started development in 2003
 - A complete appliance
 - Integrated in a global architecture
 - A friendly Graphical User Interface
 - Simple, intuitive but still powerful



Why Use Asterisk ?

- Why IEE needs Asterisk ?
 - Asterisk for Medium Sized Companies
 - Open Source
 - Standards Based
 - Flexible



Why IEE needs Asterisk ?

- Advantages of Open Source ?
 - License Cost
 - Avoiding Vendor Lock-in
 - Ability to Customize and modify
 - Exposure to many real life situation
 - Supported by community vs home grown software



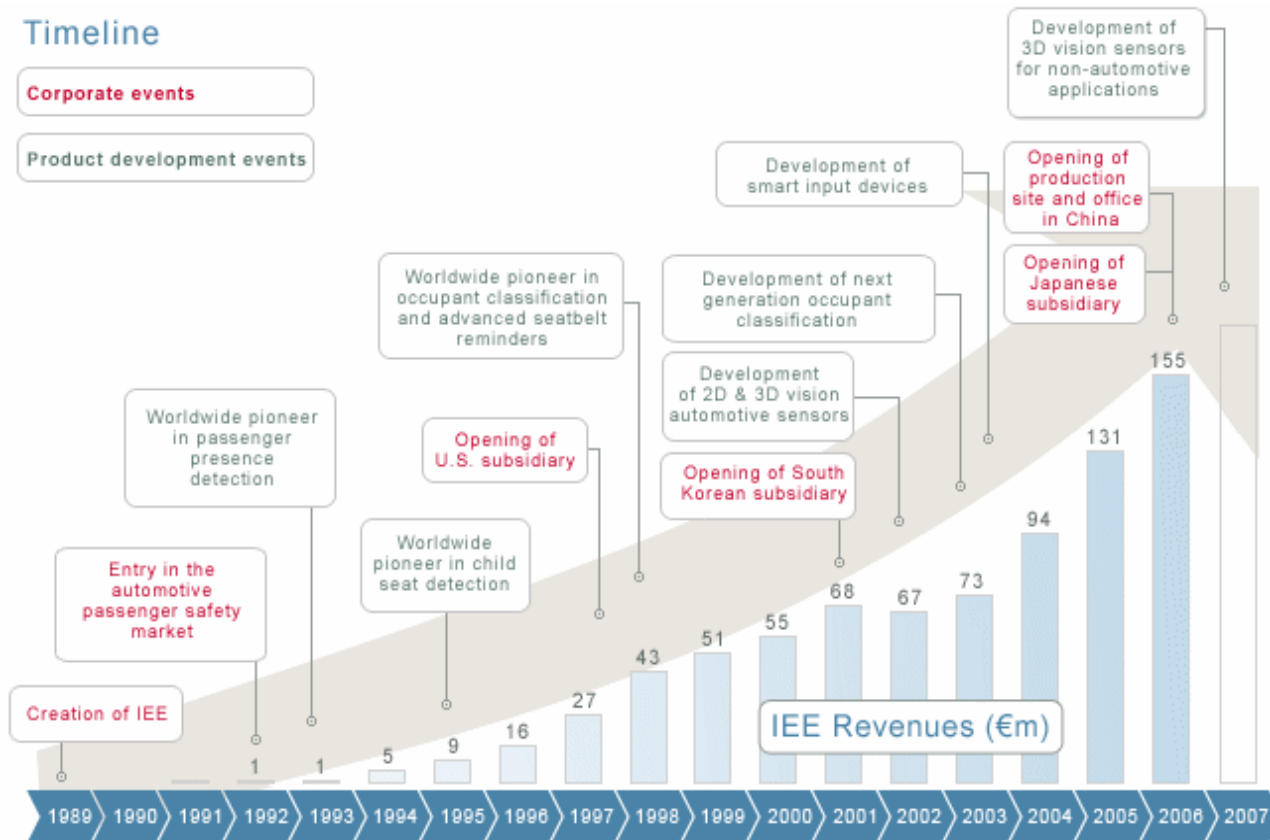
Why IEE needs Asterisk ?

- Why VoIP ?
 - Lower Cost of infrastructure maintenance
 - Uniform wiring
 - Uniform Network Switching
 - Maintained by IT Team
- Why SIP ?
 - Open Standards
 - Avoiding Vendor Lock-in



Why IEE needs Asterisk ?

- Need #1 : Flexible Solution for Fast Growing Company



Why IEE needs Asterisk ?

- Need #2 : Ease of Management
 - Administration by the internal IT Team
 - Centralized Management in Contern, LU



Why IEE needs Asterisk ?

- Need #3 : Mobility
 - Whithin a site : Production Hall
 - Between sites :
 - Regular Seat in Contern, LU
 - Weekly Meeting in Findel, LU
 - Temporary Relocation in Echternach, LU



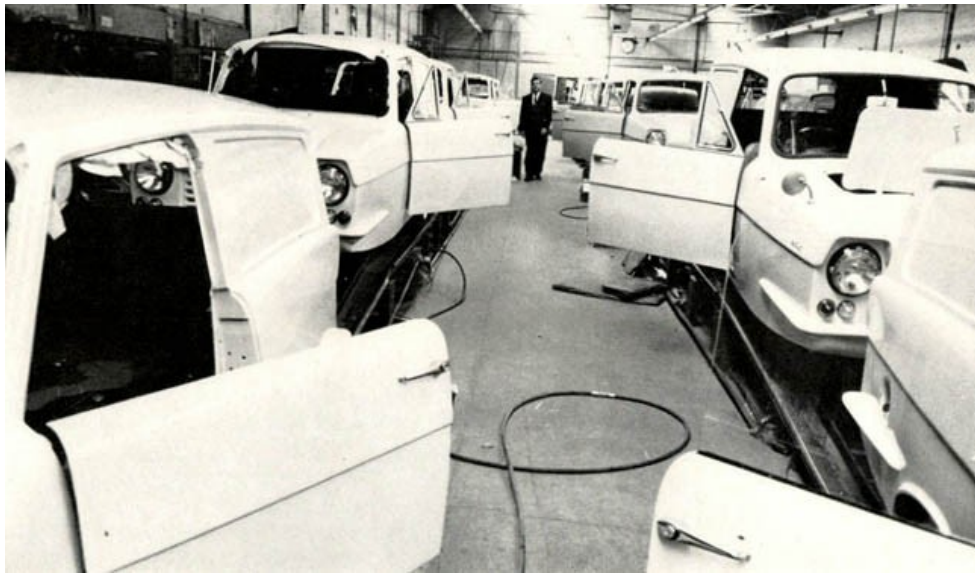
Why IEE needs Asterisk ?

- Need #4 : Call Conferencing and Long Distance Calls
 - AM (CET) : Europe + Asia- Korea
 - PM (CET) : Europe + USA



Why IEE needs Asterisk ?

- Need #5 : Corporate-Wide Solution
 - Hardware
 - Numbering Plan
 - Telephony Features
 - Operational Procedure
 - Centralized Management



Why IEE needs Asterisk ?

- Need #6 : Open Source solution
 - Company strategy
 - Total control over solution
 - Low license fees



Deploying Asterisk at IEE sa

- IP Telephony Network Topology at IEE
 - Contern Premises Description
 - Global Network
- Deployment Phases
 - Preparation
 - Migration
 - Expansion



Deployment Phases

- **Pilot**

- 02-2006 : Project Preparation
- 04-2006 : Deployment @ Contern (LU) (400 ext)
- 07-2007 : Mobility with DECT technology (40 ext)

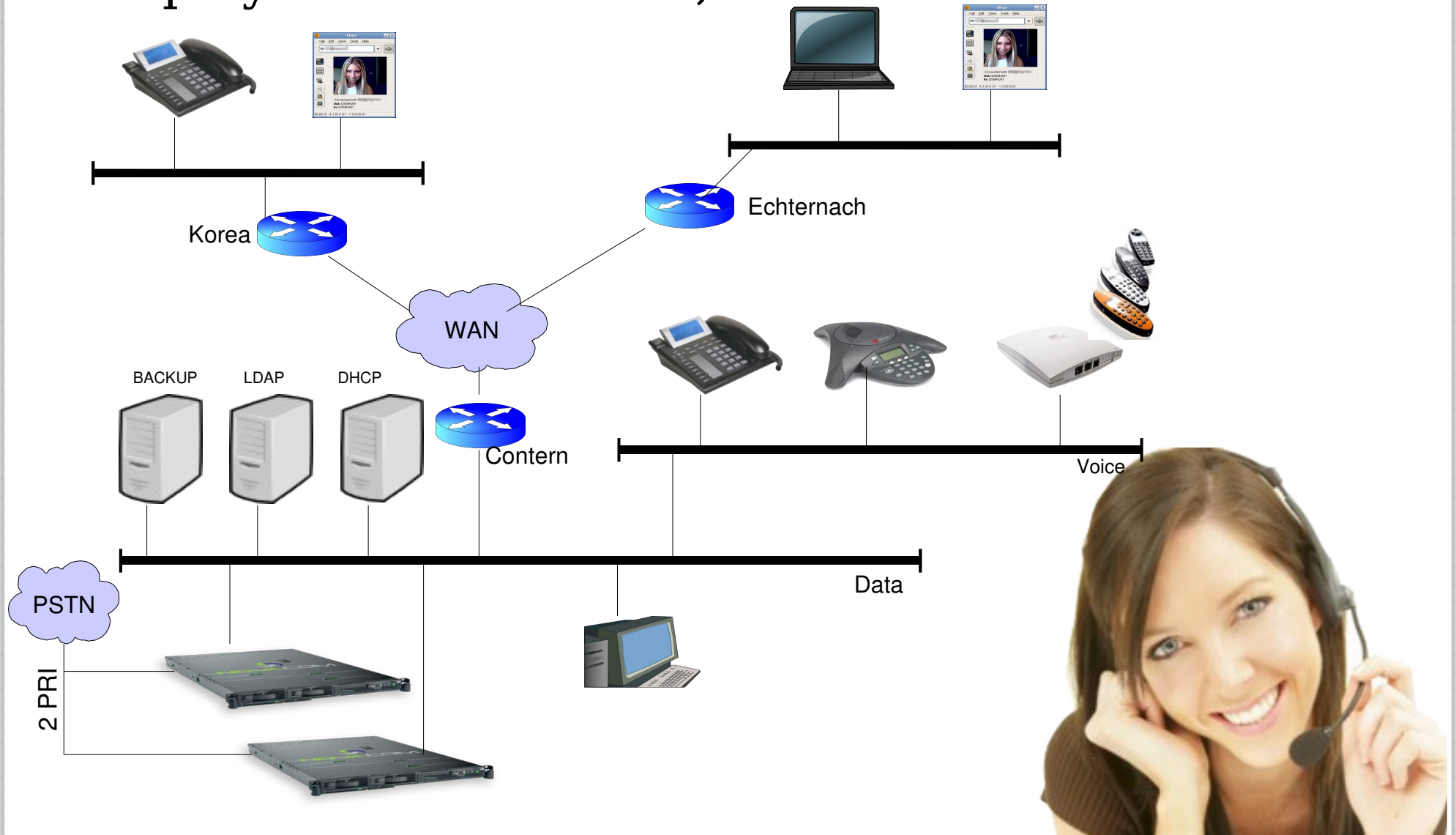
- **Expansion**

- 08-2006 : Deployment @ Dresden (DE) (50 ext)
- 06-2007 : Deployment @ Auburn Hills (USA) (100 ext)
- 09-2007 : Deployment @ LangFang (CN) (50 ext)
- 10-2007 : Deployment @ Beijing (CN) (50 ext)



IP Telephony at IEE

- Deployment at Contern, LU



Deployment Phase #1 : Preparation

- Get IT Team Ready
 - For both customer and provider
 - Identify the needs : make them simple
 - Identify constraints
 - Have a long term perspective
 - Define transition phases :
 - Numbering plans
 - Features implementation



Deployment Phase #1 : Preparation

- LDAP Integration : Why LDAP ?
 - Reusable Source of Information (Display Name, E-mail Address)
 - Integration into the existing Identity Management infrastructure
 - A simple interface easy to program
 - Access to IPBX information to other systems
 - A way for third party applications to feed information to IPBX



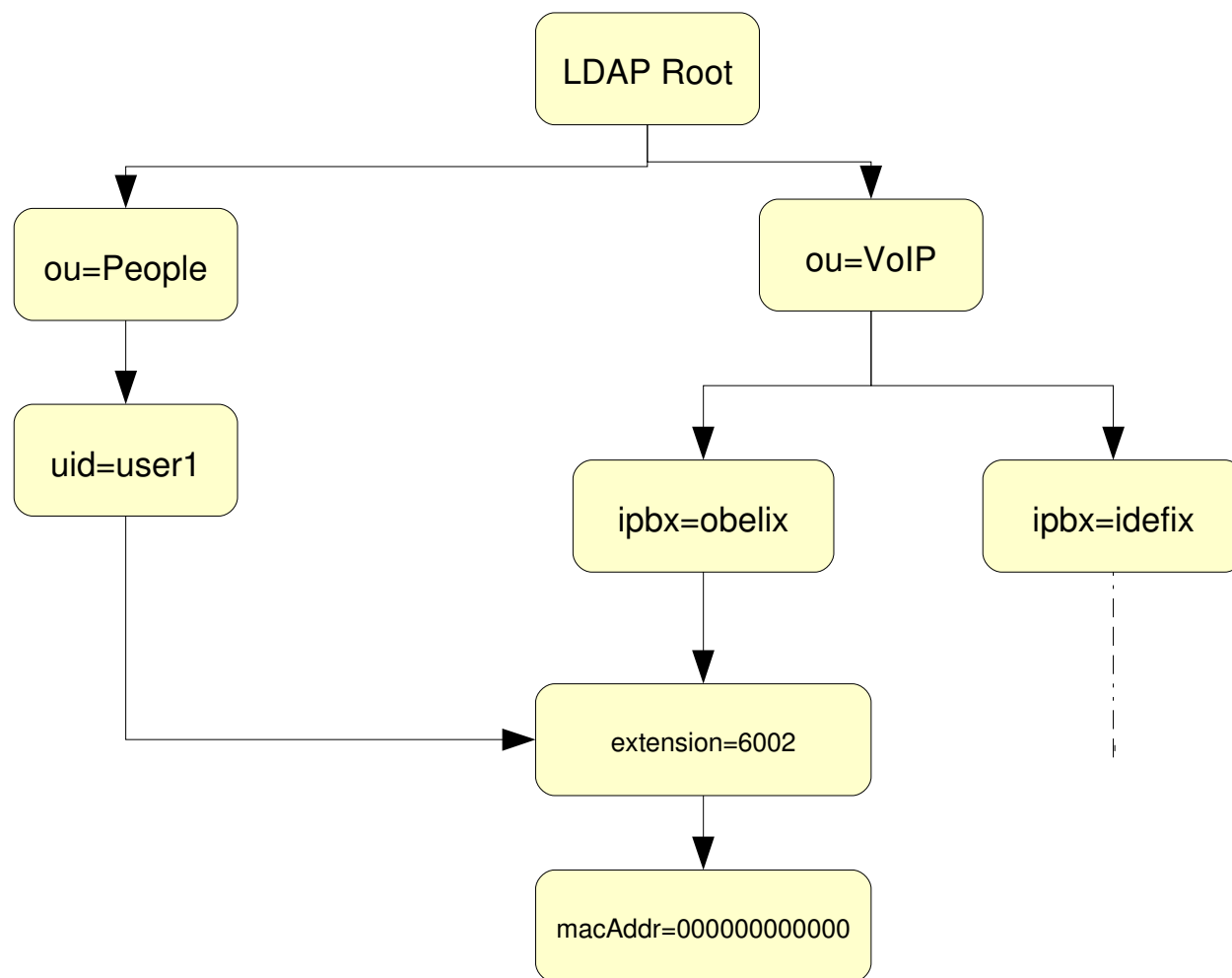
Deployment Phase #1 : Preparation

- LDAP Integration : Implementation
 - IPBX Web interface authentication source
 - Information flows from LDAP into Novacom IPBX
 - User information for IPBX system (existing class inetOrgPerson)
 - Device information for provisioning (class novacomDevice)
 - Extension information (class novacomExtension)
 - Context information (classe novacomContext)



Deployment Phase #1 : Preparation

- LDAP Integration : Implementation



Deployment Phase #2 : Migration

- Scripting is your friend : Your Swiss Army Knife
 - bar code scanner
 - bash
 - DNS spoofing
 - DHCP
 - lynx
 - labeler
 - ...



Deployment Phase #2 : Migration

- Scripting is your friend
 - Configure NOVACOM IPBX
 - Generic Data
 - Fill-in LDAP Directory
 - Read IP Phones MAC Addresses
 - Associate MAC Addresses To Extension and People
 - Deploy IP Phones
 - Get IP Phones provisioned
 - Label IP Phones
 - Make Them Available to End Users



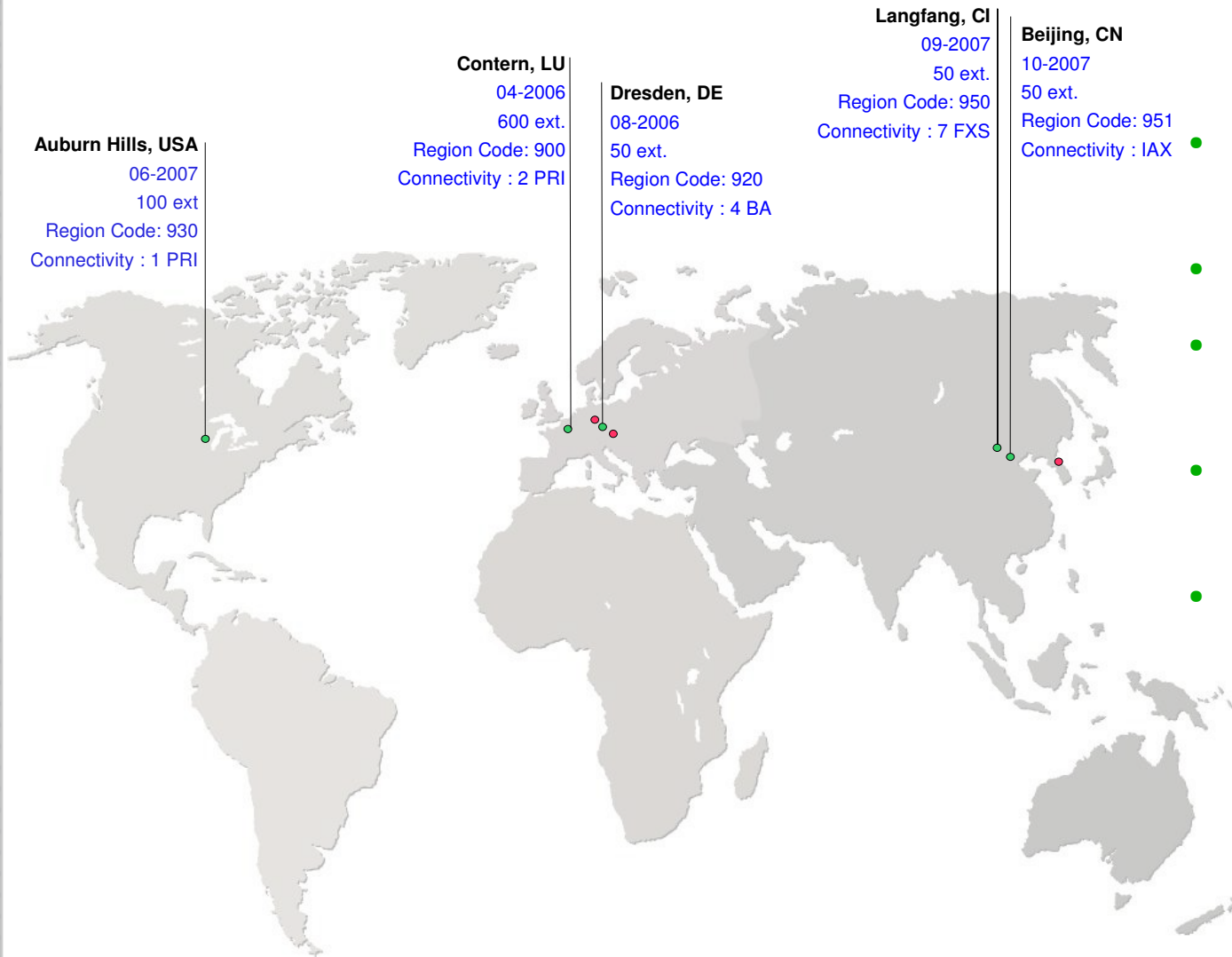
Deployment Phase #2 : Migration

- Get End-Users Ready
 - Simple
 - Soft & pleasant
 - Train correspondent



Deployment Phase #3 : Expansion

- Global Network Deployment



- Inter-sites IAX Trunking
- Regional Code
- Free long distance calls
- Unique LDAP Directory
- Remote Administration



Deployment Phase #3 : Expansion

- Expansion requirements
 - Software Uniformity
 - Hardware Uniformity : Logistic & Maintenance
 - Access to Support Service
 - Multiple Timezones



Checking List

- For a „Standalone“ Asterisk System
 - Bandwidth Management
 - Is Your LAN VoIP-Ready ?
 - Required codecs ? Are they supported by Asterisk and Phones
 - What TDM Lines Are You Using ?
 - Analog, BRA, PRA
 - Are ITSPs an option ?
 - Faxes Are Critical
 - Is T.38 Required ?
 - What If Reception Fails and Sender Gets an OK (ECM) ?



Checking List

- For a Global Deployment
 - Comply to local specifics
 - Country Specific Hardware Certification
 - Numbering Plans and Number Length (ie Luxembourg)
 - Access Special Services (AT&T conferencing bridge)
 - Great „Firewall“ Of China
 - Spanning over timezones and Access to Provider Services
 - Can you be your own ITSP ?



Tips & Tricks

- Our Top 10 Tips & Tricks
 - Organisation
 - #1 Good Communication With IT Team
 - #2 Get to know exact needs
 - #3 Keep long term perspective



Tips & Tricks

- Our Top 10 Tips & Tricks
 - Migration
 - #4 Do Batch Work
 - #5 Make it simple : for admins and users
 - #6 Make it progressive with milestones
 - #7 Get ready to assemble hundreds of IP phones



Tips & Tricks

- Our Top 10 Tips & Tricks
 - Maintenance
 - #8 Centralized Configuration: Avoid multiple inputs
 - #9 Have your deployment uniform
 - #10 Take timezones into account



THE END

