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The IP Telephony Cookbook Project

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IP Telephony Cookbook Project

- **Motivations:**

- TERENA started an investigation into IP Telephony in September 2001

- **First output:**

- Suggestions were made to coordinate the creation of a cookbook with recommendations for setting up IP telephony solutions at campus and university level

- **Second output:**

- Two meetings were organized by TERENA:
 - March 2002, TERENA workshop on IP Telephony, TERENA premises, Amsterdam, The Netherlands
 - June 2002, VoIP meeting at TERENA Networking Conference 2002, University of Limerick, Limerick, Ireland



Objectives of the project

- **Provide overview, information and guidelines for:**
 - Basics of IP telephony (protocols, basic and advanced services);
 - Technologies (hardware/software) available today
 - Trends for the near future;
 - How to build a IP Telephony infrastructure;
 - Regulatory and legal aspects;
 - Information about past and present IP telephony projects in Europe.



IP Telephony Cookbook structure

1. Introduction

Target audience

Scope

Contents

HOW-TO read (for readers who do not want to read the all cookbook in order to find what they need)

2. Technology Background

Components (endpoints, server, gateways)

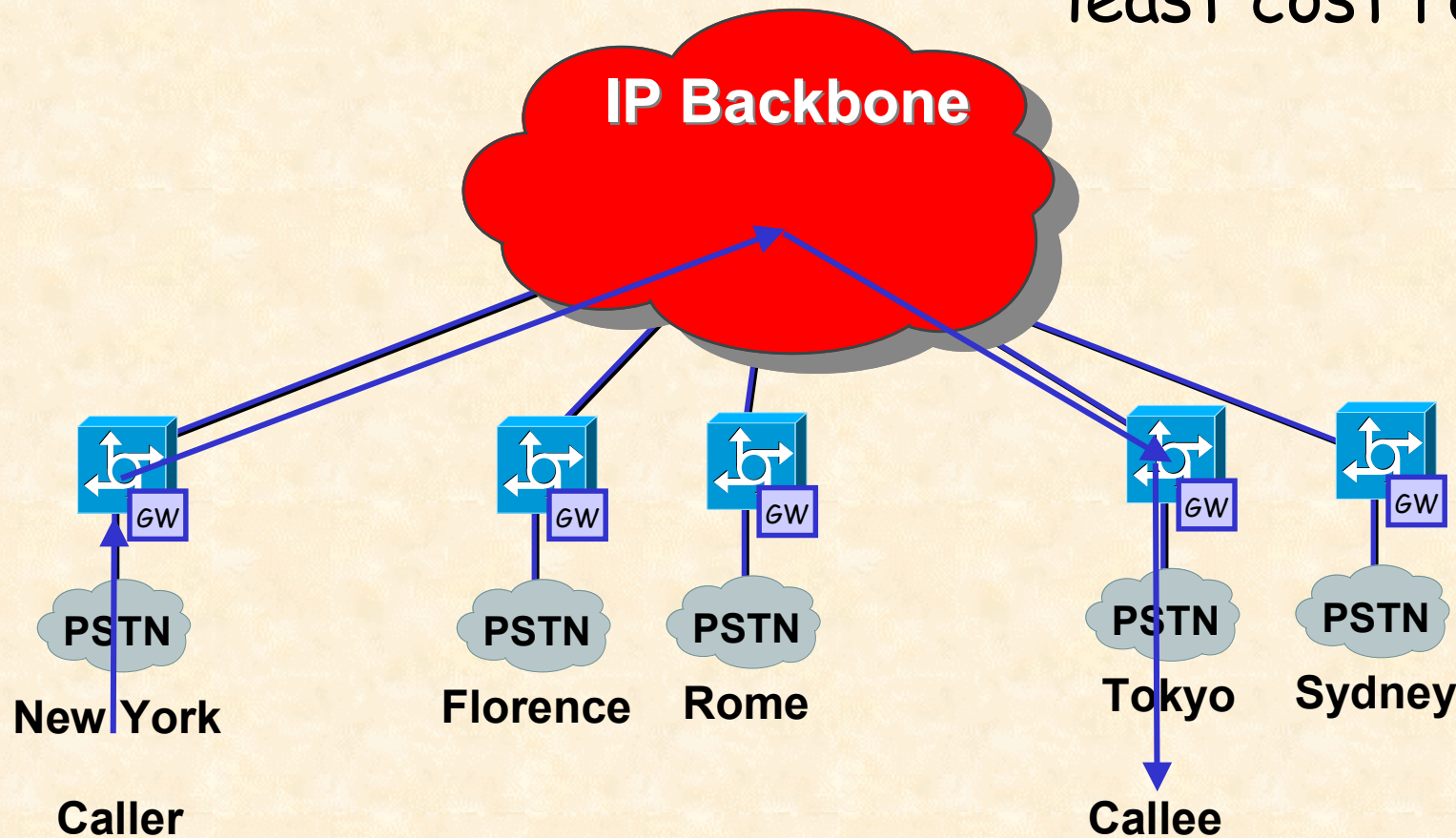
Protocols (H.323, SIP and so on...)



IP Telephony Cookbook structure

3. IP Telephony Scenarios

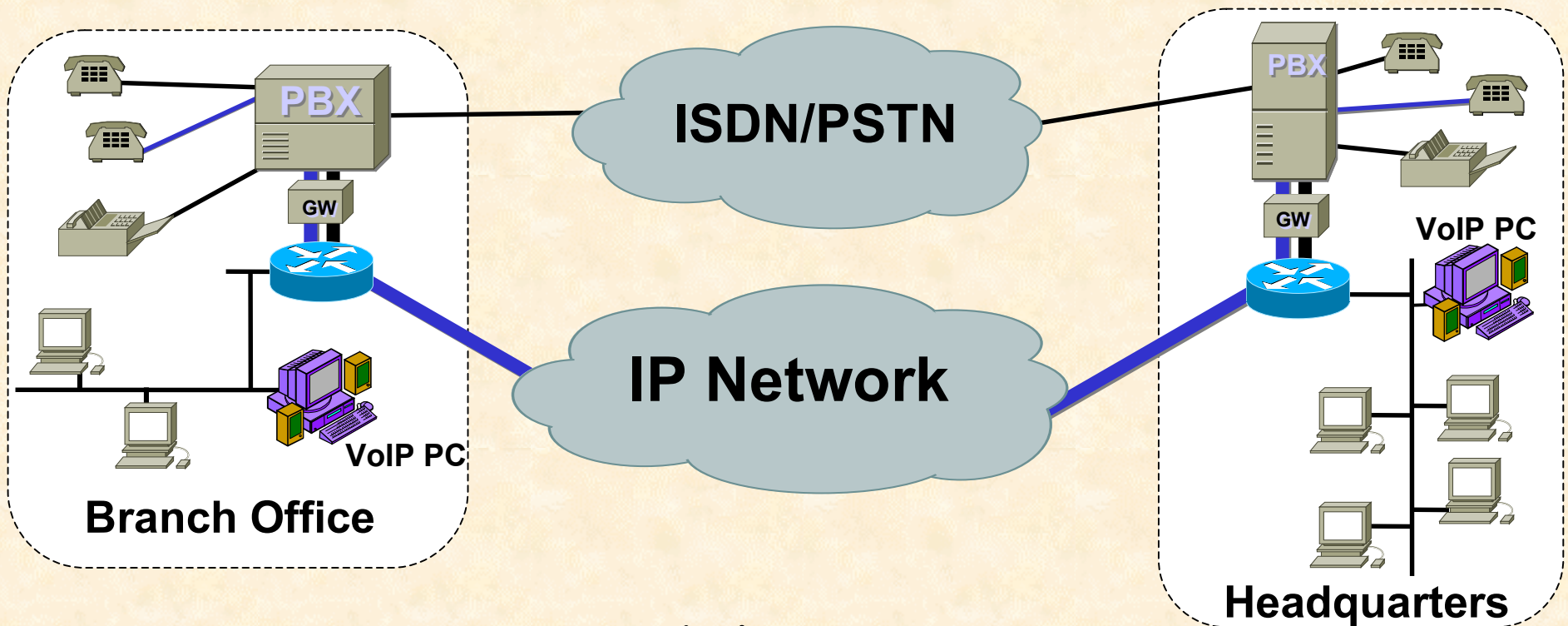
Long-distance
least cost routing?





IP Telephony Cookbook structure

3. IP Telephony Scenarios

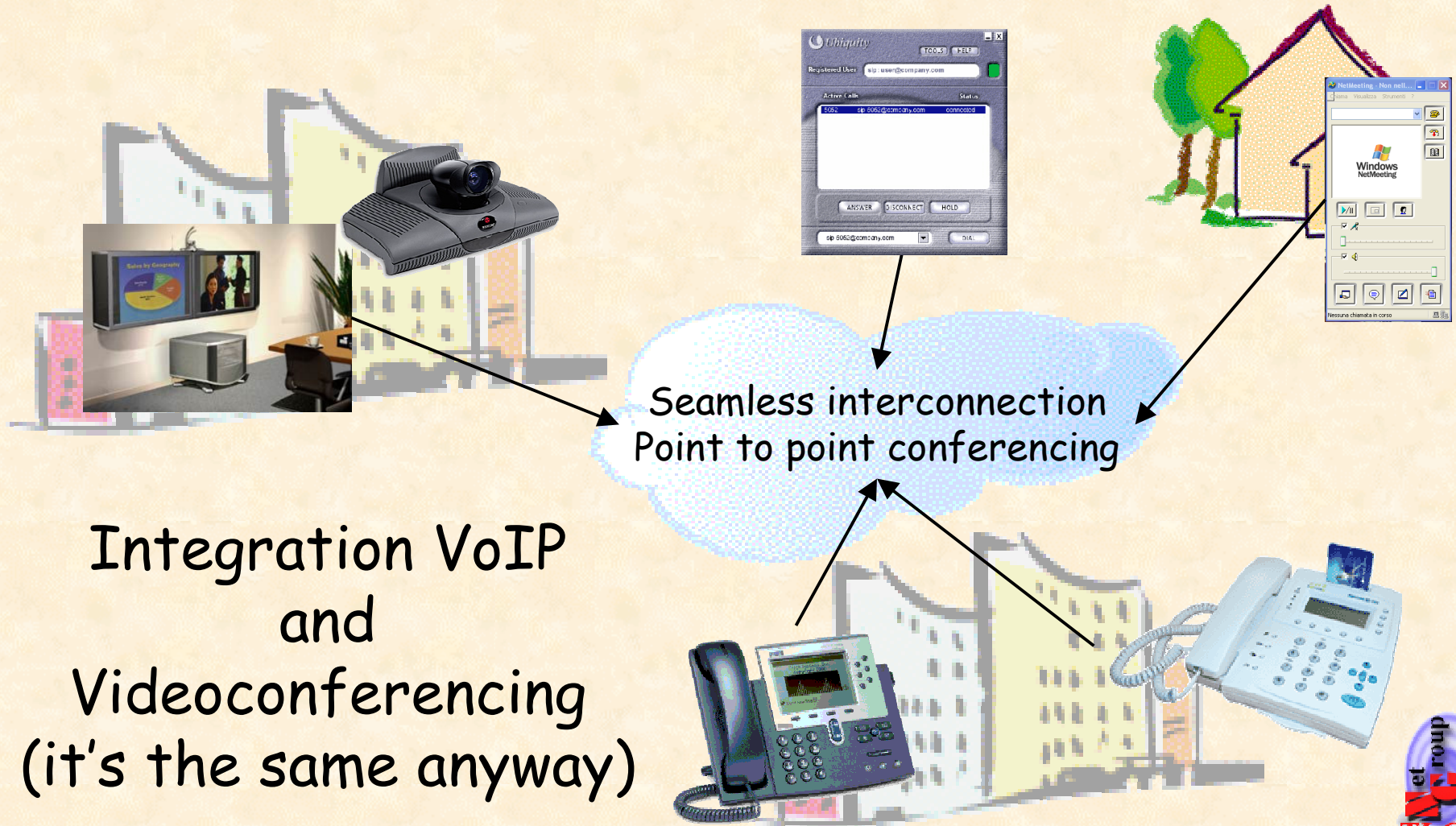


Integration with legacy PBX



IP Telephony Cookbook structure

3. IP Telephony Scenarios



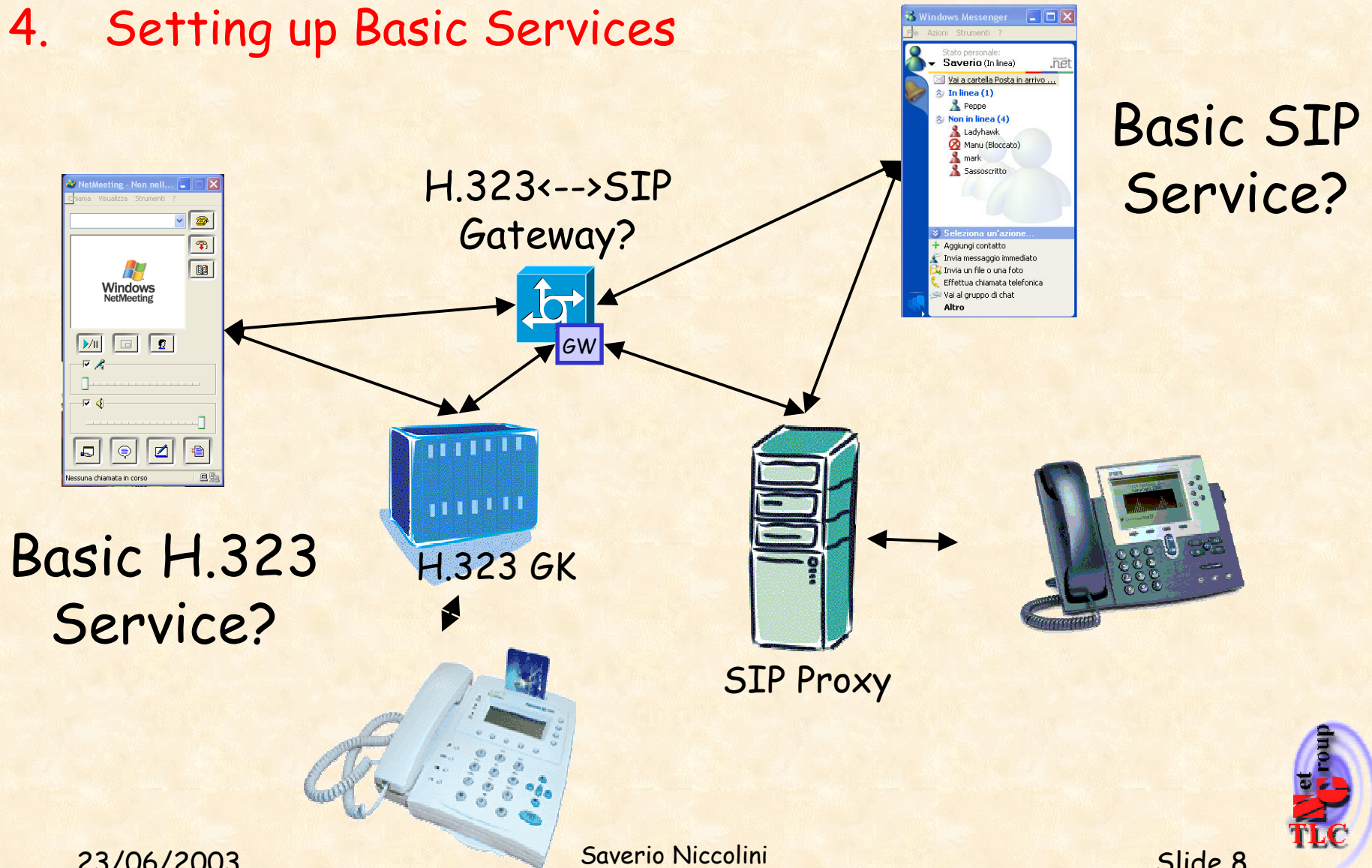
Integration VoIP
and
Videoconferencing
(it's the same anyway)





IP Telephony Cookbook structure

4. Setting up Basic Services





IP Telephony Cookbook structure

5. Setting up Advanced Services (telephony-centric)

- Supplementary services:
 - Call transfer, hold/retrieve, diversion, deflection
 - Call waiting, call completion on busy subscriber
- More complete H.323-SIP-PSTN/ISDN gatewaying
 - Also addressing supplementary services
- Seamless transition to real value-added services...



IP Telephony Cookbook structure

6. Setting up Value-added Services (in addition to pure telephony)

Groups: All [Search]

All - A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

<input type="checkbox"/>	Adam, John			Phone	Office	770.326.9781
<input type="checkbox"/>				E-Mail	Office	jon@val.com
<input type="checkbox"/>	Armour, Kimberly			Phone(Busy)	Office	321.845.5123
<input type="checkbox"/>	Bailey, James			Phone(Leave)	Office	770.326.9780
<input type="checkbox"/>				Pager	Home	235.986.452
<input type="checkbox"/>	Brent, Baxter			Cell (Lunch)	Traveling	128.567.5436
<input type="checkbox"/>	Bhagat, Mina			DND	Office	609.456.8795
<input type="checkbox"/>				Cell	Office	236.569.9845
<input type="checkbox"/>				E-Mail	Office	mina@hm.com
<input type="checkbox"/>	Eckler, Robert			Phone (Busy)	Office	321.587.9651
<input type="checkbox"/>	Edward, Ronald			PDA	Office	921.658.6984
<input type="checkbox"/>	Fuller, Arnold			Pager	Office	678.569.9541
<input type="checkbox"/>	Fletcher, Amy			DND (Busy)	Office	908.653.5487
<input type="checkbox"/>	Gordon, Earl			Phone	Office	770.326.5874
<input type="checkbox"/>	Hearn, Gail			Lunch	Office	531.236.5648

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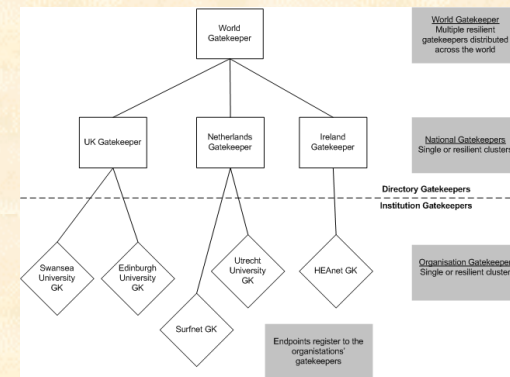
Voice-data integration
Web-based features
(click-to dial, etc.)
Integration of presence
and instant messaging



IP Telephony Cookbook structure

7. Global telephony integration

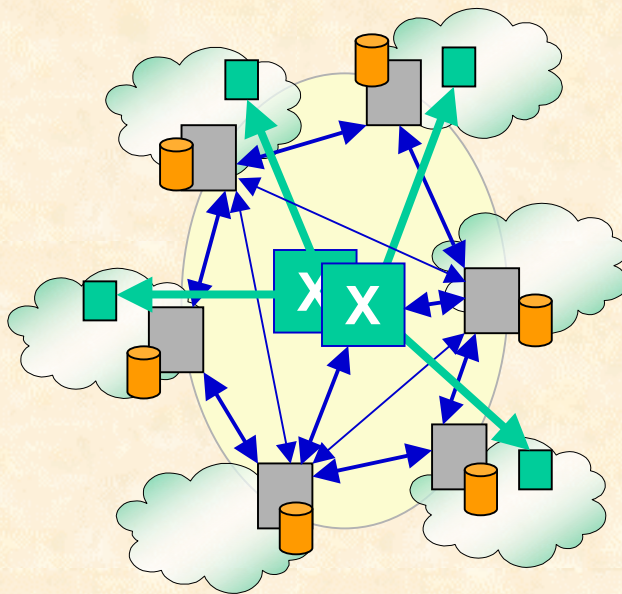
Dial plans for Global Dialing Schemes (GDS) seamless connecting IP world to legacy telephony systems?



World gatekeeper hierarchy ?



Towards decentralized architectures?





IP Telephony Cookbook structure

8. Regulatory / Legal considerations

Regulation of VoIP in Europe and other countries

Legal framework and problems (licensing, unbundling, etc. etc.)

Annex:

A. European IP Telephony Projects

Details about present, past and future IP Telephony project all around Europe

B. IP Telephony Hardware/Software

Hands on IP Telephony:

What is supported

Overall experiences and evaluations about technical features, bugs and interoperability



Deliverables and time plan

1. Introduction
 2. Technology Background
 3. IP Telephony Scenarios
 4. Setting up Basic Services
 5. Setting up Advanced Services
 6. Setting up Value-Added Services
 7. Global telephony integration
 8. Regulatory / Legal considerations
- Annex:
- A. European IP Telephony Projects
 - B. IP Telephony Hardware/Software
- D1 (release date: 1st August 2003)**
- D2 (release date: 1st November 2003)**
- D3 (release date: 1st February 2004)**
- Developed during all the project life (release date: 1st March 2004)**

Release date of the finished cookbook: **1st March 2004**

The documents will be provided in digital format (HTML and/or PDF).
TERENA decided to have the information and deliverables published as soon as these become available.



Partners and contributors

- Three partners (responsible for the results of the cookbook):
 - University of Pisa (Saverio Niccolini, project coordinator)
(Stefano Giordano, Rosario Garroppo)
 - Universität Bremen TZI (Jörg Ott, Stefan Prella)
 - FhG Fokus (Dorgham Sisalem, Jiri Kuthan)
- A number of contributors (volunteering to provide input to the cookbook):
 - CESNET (Sven Ubik)
 - Karl-Franzens-Uni Graz (Margit Brandl)
 - GRNET (Dimitris Daskopoulos)
 - SURFnet (Erik Dobbelsteijn, Egon Verharen)



Project funding information

- Funding to the project is provided by:
 - TERENA (The Netherlands)
 - ARNES (Slovenia)
 - CARNET (Croatia)
 - CYNET (Cyprus)
 - SUNET (Sweden)
 - UKERNA (United Kingdom)
- Funding shortage of 20% is covered by partners self-financing
- ⊕ You can still contact Valentino Cavalli (cavalli@terena.nl) if you want to offer more funding



Conclusions

- **Why is the IP Telephony Cookbook be useful?**
 - Technology background (if you need it ☺)
 - Useful guidelines and information at any knowledge level (from basic to advanced)
 - Trends on the near future
 - Full knowledge of experiences in Europe (from technical to legal)
 - Avoid running into the same issues over and over again
- **Who needs it?**
 - Students at the Universities
 - Network Administrators at the NRENs
 - Reaserchers at Universities and NRENs



Useful links

- **IP Telephony Cookbook home page** (general, background, meetings and mailing list information):
 - <http://www.terena.nl/tech/IPtel/>
- **TERENA VoIP mailing list archive**:
 - <http://hypermail.terena.nl/voip/>