Deploying SIP-based Multimedia Services on Top of TDM Voice Networks

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International SIP '03
Paris, 16 January 2003
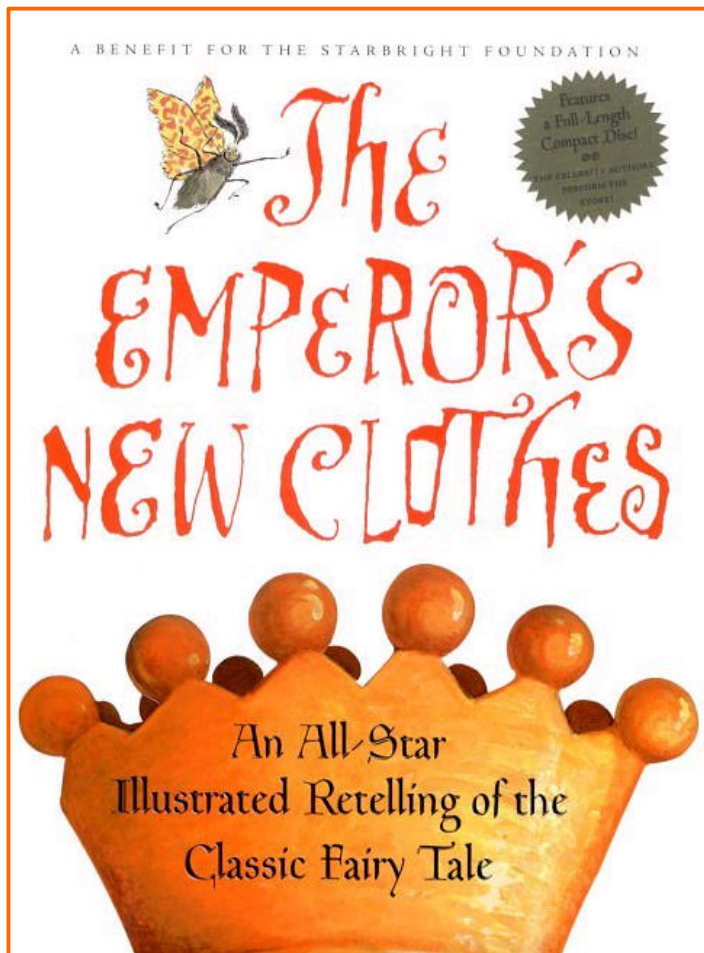
Warning

This presentation may contain provocative and business oriented content.

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Prologue

A BENEFIT FOR THE STARBRIGHT FOUNDATION

Features
a Full-Length
Compact Disc!

THE EMPEROR'S NEW CLOTHES

An All-Star
Illustrated Retelling of the
Classic Fairy Tale

[…]
"We are weavers," they said. "But we are no ordinary weavers. We can make a special, magic cloth."
[…]
The Emperor was impressed. This certainly was something new.
[…]
Then everyone started talking at once. "So fashionable!" "Very smart!" "Divine!" they said, each of them anxious not to seem more foolish than the rest.

But one small boy laughed out loud and shouted, "Look! The emperor has no clothes on!"

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Did you recognise the **emperor** ?

> **Debt** from acquisitions and 3G licences

> Declining **margins** on voice services

> Local loop unbunded with increased **competition**

> **BB access** only used for hi-speed surfing

> **Delays** on UMTS introduction

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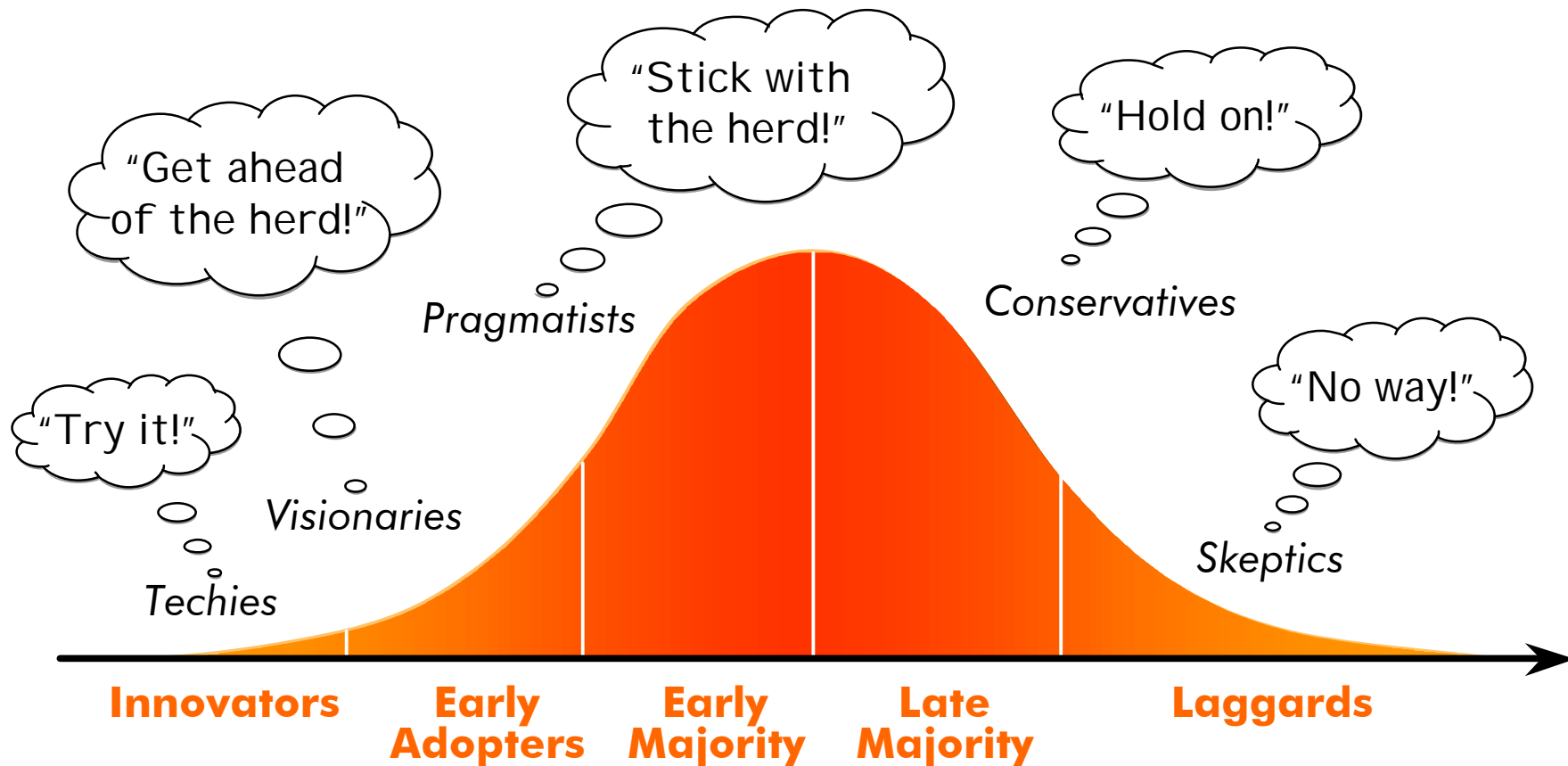
… and did you recognise the **weavers** ?

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Are we sure we can **dress the emperor** ?

> **Revenue** generating services

> Appropriate **terminals**

> **Carrier** gradeness

> **Interworking** with legacy

> **Security**, **NAT** & **firewall** traversal

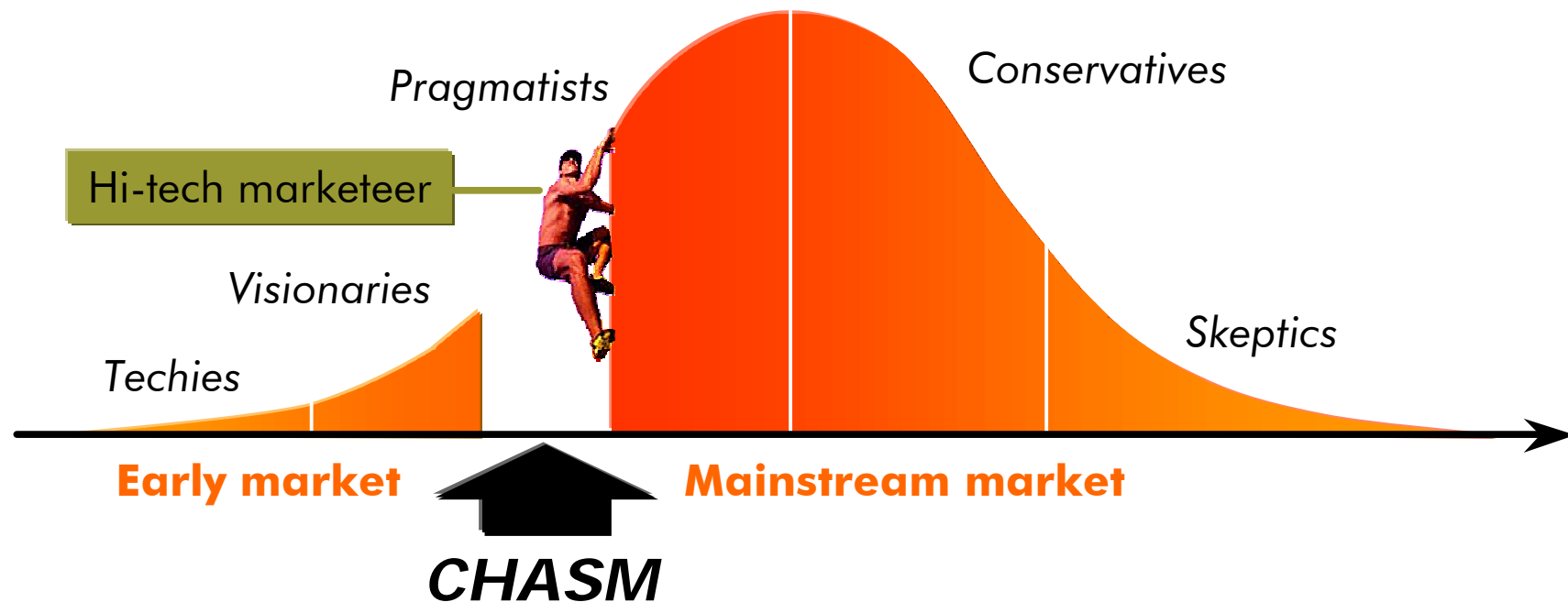> **Complete**, fully **standardized** and **interoperable**

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Source: the Chasm Group, 2001

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… and, introducing the "**chasm**" theory
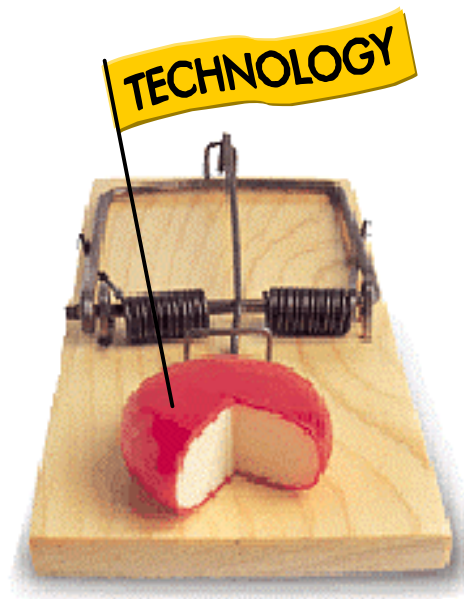
> The greatest peril in developing **high-tech markets** is making the **transition** from an **early market** to a **mainstream market**

Pragmatists

Conservatives

Hi-tech marketeer

Visionaries

Skeptics

Techies

Early market

Mainstream market

CHASM

Source: the Chasm Group, 2001

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SIP marketeers **trapped** in the chasm ?

> **Technology** hype is over, operators need **business** now
- **Voice quality** and **services** on TDM are OK
- **Price gap** between VoTDM and VoIP reduced to acceptable
- Where are the **killer applications** ?

> Over 1 billion **TDM phones** (fixed & mobile)
- **IP phones** are (still) scarce and expensive
- **PC/PDA** is not the terminal of choice for voice communication

> Too limited **broadband** penetration (fixed & mobile) for building a serious business case
- SMS and IM/PM are **not bandwidth hungry**
- Fixed users **not used** or **not willing to pay**

TECHNOLOGY
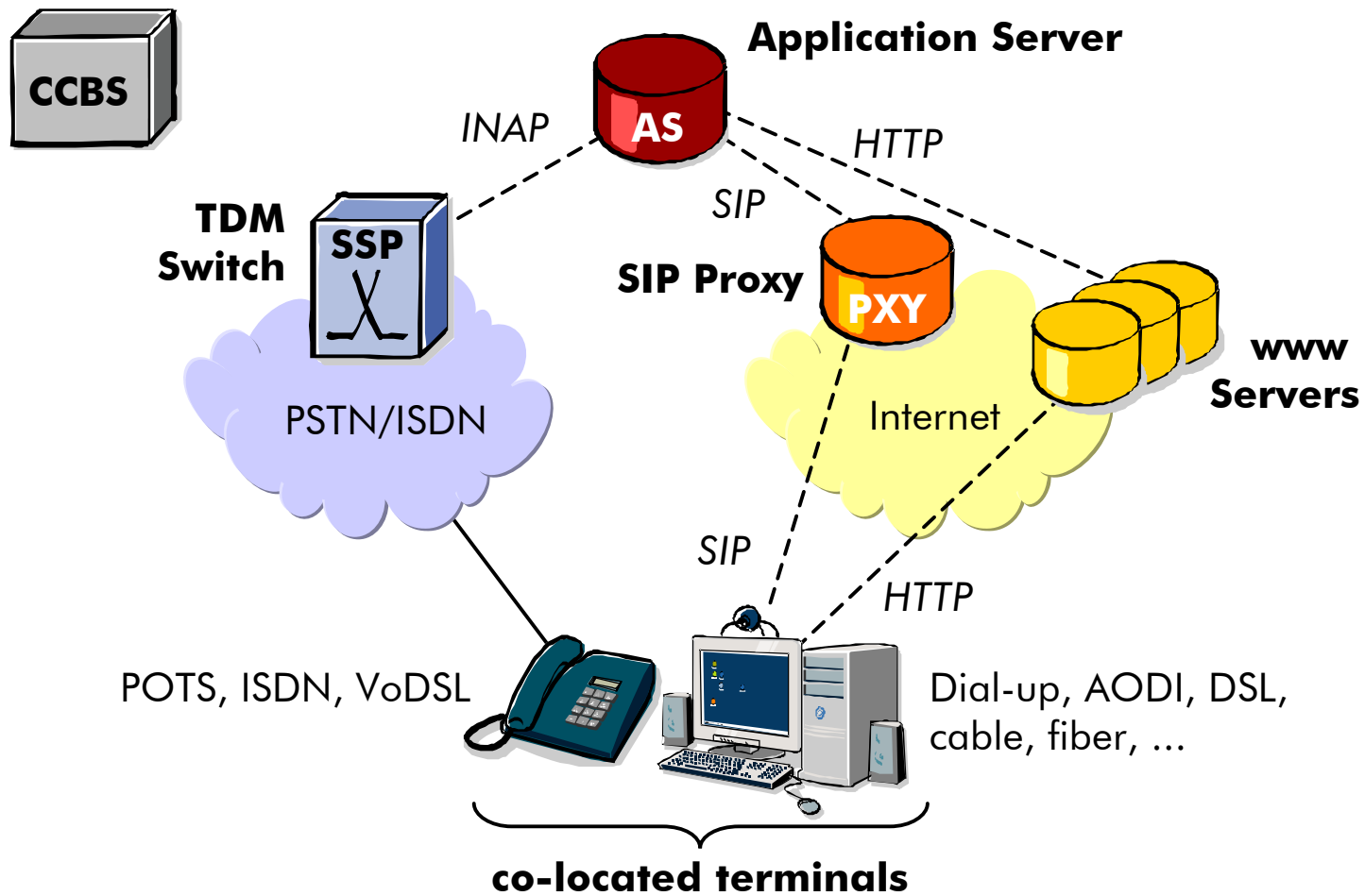
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Of course, there's some **good news** too...

> **SIP** is generally accepted as the **standard** for next-gen signalling and "multimedia" applications

> Investment in **broadband infrastructure** is slowing down with a smaller pace than the overall market

> First **UMTS terminals** are hitting the market

> Success of **Windows XP** and **Messenger** services

> Service Providers have **no alternatives** to investing in new network services

> **The combination of TDM <u>and</u> SIP provides a pragmatic and evolutionary way for deploying new billable services...**

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TDM and **SIP**: Service **concept**

voice

content + streaming + management

> "**Best of both worlds**", leveraging on existing infrastructure
- "**Co-located**" voice and Internet **terminals**
- **PSTN quality** voice services through **TDM switches**
- **Best-effort IP** multimedia over dial-up or broadband **internet**
- **Intelligent Network** and next-gen **Application Servers**

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TDM and SIP: Service architecture

CCBS

Application Server

INAP

AS

HTTP

TDM Switch

SSP

SIP

SIP Proxy

PXY

www Servers

PSTN/ISDN

Internet

POTS, ISDN, VoDSL

SIP

HTTP

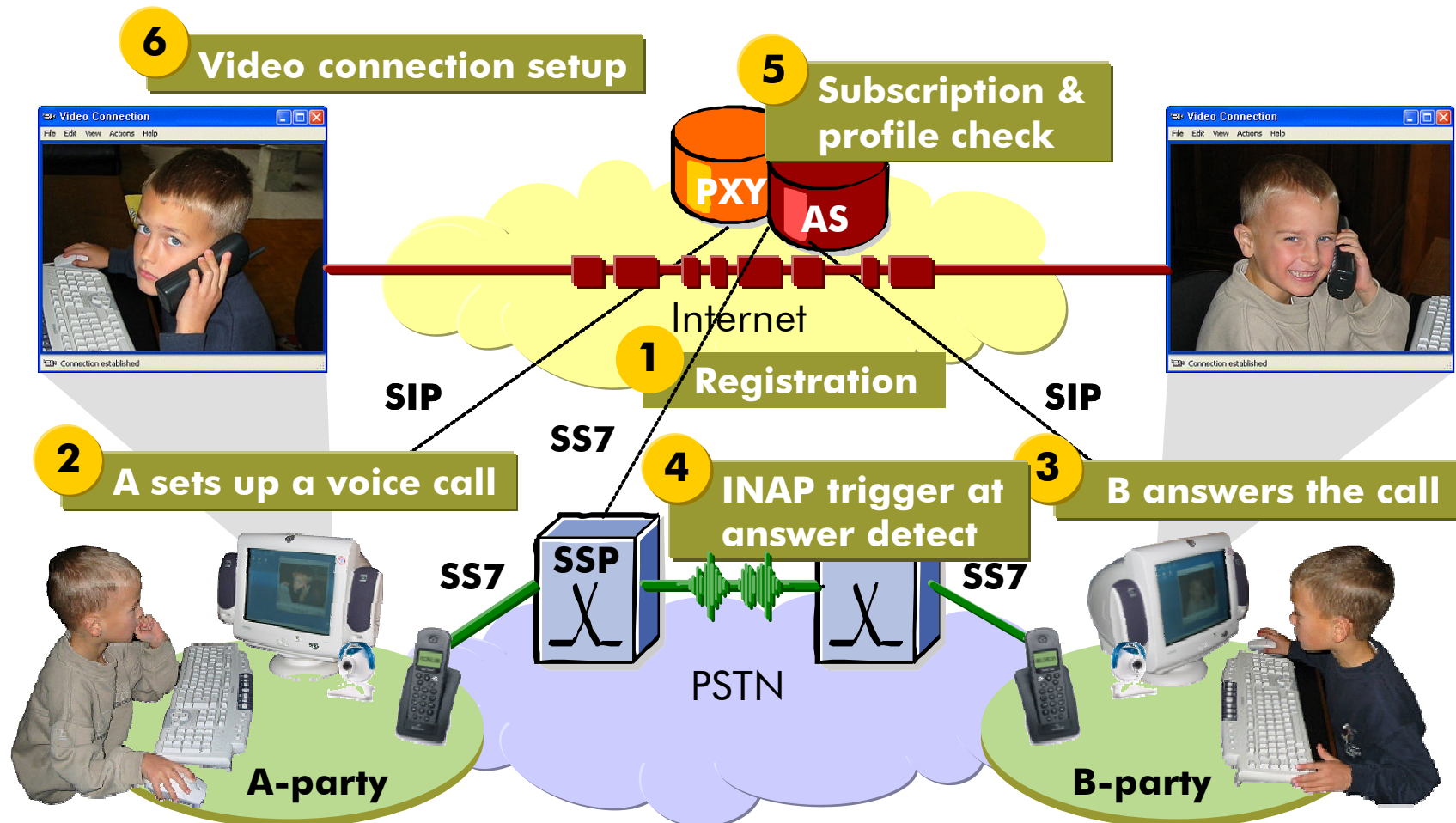Dial-up, AODI, DSL, cable, fiber, ...

co-located terminals

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Service example: **Video Augmented Call** (V@C)

> Establishes a best effort **video connection** triggered by a regular **PSTN voice** call between two subscribed parties

- **PSTN** is in **control** of the service

> **Pragmatic**, **Evolutionary**, **Billable** …

- Uses **existing infrastructure**
- Smooth evolution to **all-IP**
- Value **bundle** with Internet access

> **Convenient** and **easy to use**

- Model lines up with current **user habits**
- After set-up, **no user intervention** required on PC
- Even grand parents can use this service …

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Service example: **Video Augmented Call** (V@C)

6 Video connection setup

5 Subscription & profile check

1 Registration

SIP

SIP

SS7

2 A sets up a voice call

4 INAP trigger at answer detect

3 B answers the call

SS7

SSP

SS7

PSTN

A-party

B-party

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More **services** with **TDM** and **SIP**

> **Click-to-connect** (with voice calls over the PSTN)
  - From personal or public **directories** (e.g. MS Outlook)
  - Missed & recent **call list** (à la GSM)

> **Web Augmented Call** (W@C)
  - **Web page push/pull** when with a voice call setup
  - Multimedia evolution of **caller ID/name** display

> **Multimedia on Hold**
  - **Publicity push** while the customer is waiting

> **Personal Telecom Manager**
  - Profile and credit **management**
  - Web activation and parametrisation of **switch-based services**

> Etc, etc, etc.

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Conclusion

> Combination of TDM ans SIP allows to deploy "**best of both worlds**" services on **today's networks**

- Little/no impact on **current infrastructure**
- Early access to **SIP technology** and **new services**, with **little investment** in network and terminals
- **Market**, **technology** and **QoS** are ready for take off
- **Revenue generation** is key, not the technology

> A "**trojan horse**" scenario for **NGN** with **SIP**

- Get NGN service **revenues** today
- **Educate** end-users, get early **market feedback**
- **Transform** networks to NGN at an **appropriate pace**

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Epilogue

"Clothes and manners do not make the man; but when he is made, they greatly improve his appearance."

— Arthur Ashe

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ARCHITECTS OF AN INTERNET WORLD

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