Packet Telephony Industry Status

Cisco Systems

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VoX Deployment in Asia

- SingTel
- Concert GCH
- ITXC
- Thailand TOT
- Thailand CAT
- Japan NTT
- Japan TeleMatrix (J)
- Malaysia Mimos
- Taiwan CHT
- Japan Fusion Comm
- HK NWT
- Vietnam VNPT/VDC
- Vietnam VTI
- Korea Hanaro
- China Unicom
- Ji Tong
- China Netcom
- China Mobile
- China Telecom
- Indonesia PT. Telecom
- GRIC
- Philippine PLDT

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VoX Deployment in Europe

- Atlanet
- Colt
- Telecom Italia
- Equant
- Tele2
- Sunrise
- Tiscali
- Telia
- Panafon

VoX in America

- iBasis
- Genuity
- ITXC
- CNS
- Qwest
- Talking Net
- Level 3
- Voice Stream
- Cbeyond
- NetVoice
- CTC
- I-Next
- Ping Tone
- VoiceNet
- DataVon
- WorldCom

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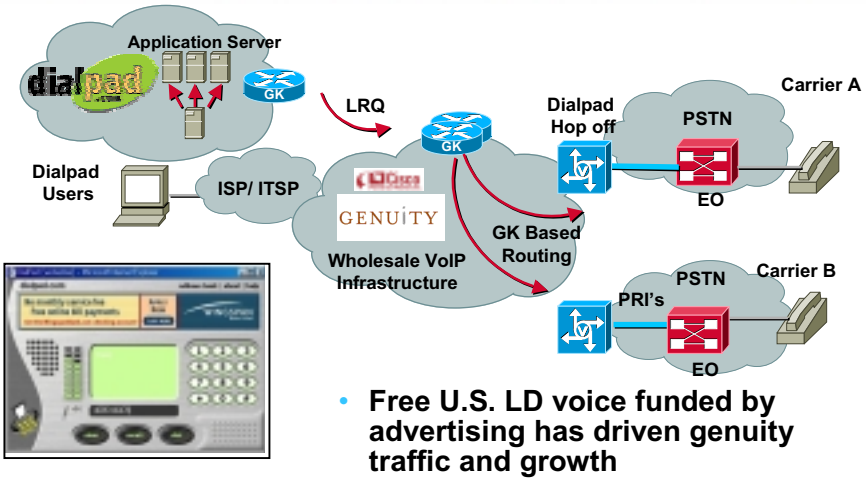
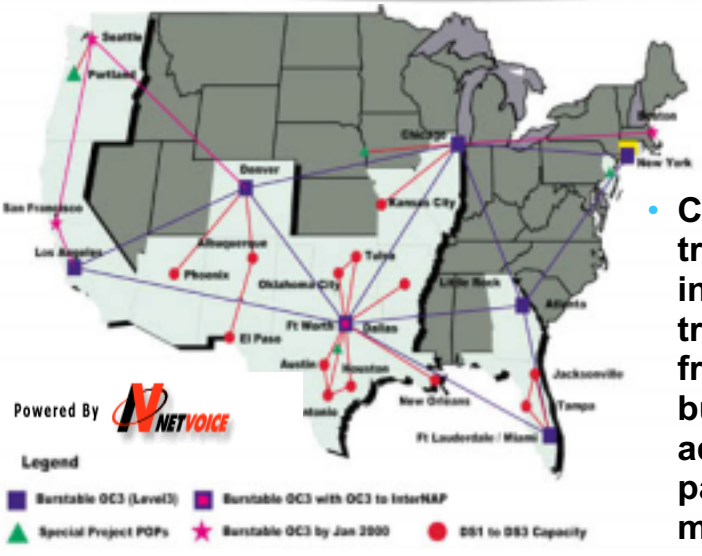
Case Study #1—Genuity Hosting for Dialpad.com



- Free U.S. LD voice funded by advertising has driven genuity traffic and growth
- Announced as CPN in June 2000

Case Study #2—NetVoice Aggregation and Resale



- Collecting traffic for international transport from IXCs to build traffic, adding pre-paid, UC for margins

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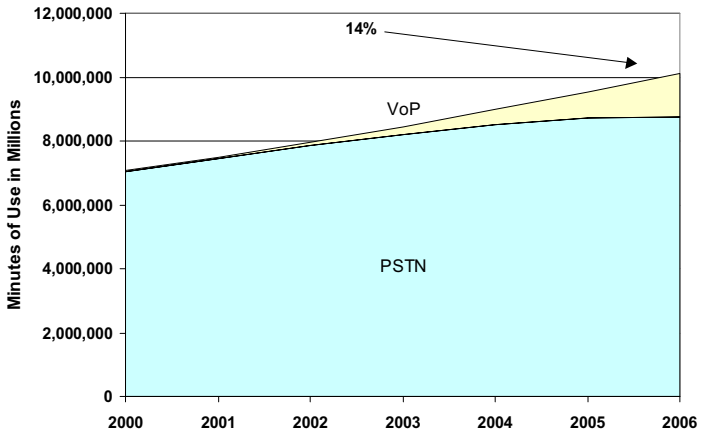
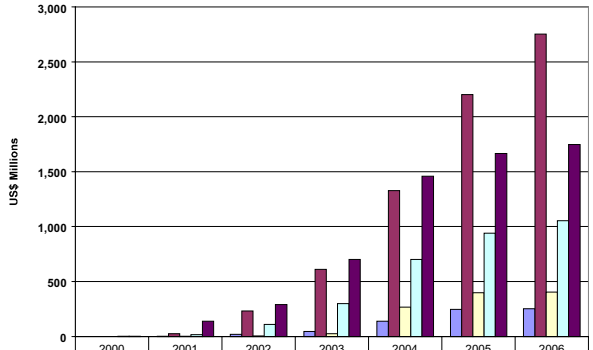
Packet Telephony Minutes Growing



Source: Probe Research, Inc.

Packet Telephony Enters Local Access Arena



	2000	2001	2002	2003	2004	2005	2006
Africa and Middle East	$0	$2	$19	$45	$139	$245	$253
Asia/Pacific	$0	$25	$232	$612	$1,327	$2,203	$2,752
Central and South America	$0	$1	$5	$26	$267	$398	$403
Europe	$1	$17	$109	$298	$701	$941	$1,054
North America	$1	$139	$291	$702	$1,459	$1,665	$1,748

Source: Probe Research, Inc.

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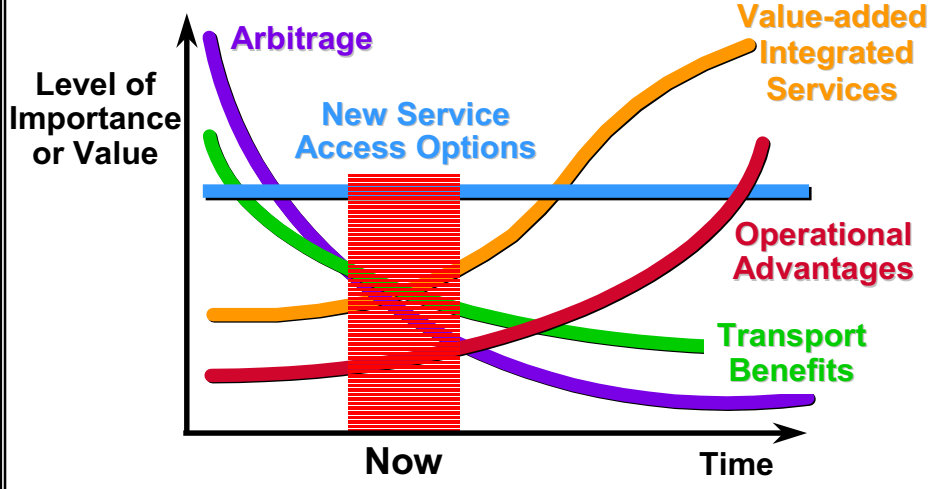
The VoIP Drivers



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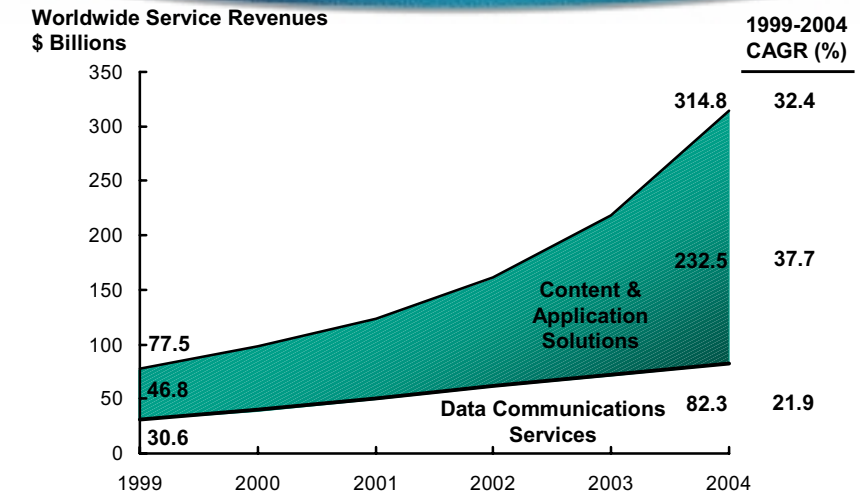
Internet Economy SP Solutions: Engines for Growth



Sources: IDC; Dataquest; Forrester; Morgan Stanley Dean Witter; Internet Research Group; Veronis, Suhler & Associates; Cisco analysis

Note: Wireline voice transport grows at 7.6% from 564 B (1999) to 815 B (2004) and wireless voice transport grows at 13.8% from 225 B (1999) to 430 B (2004)

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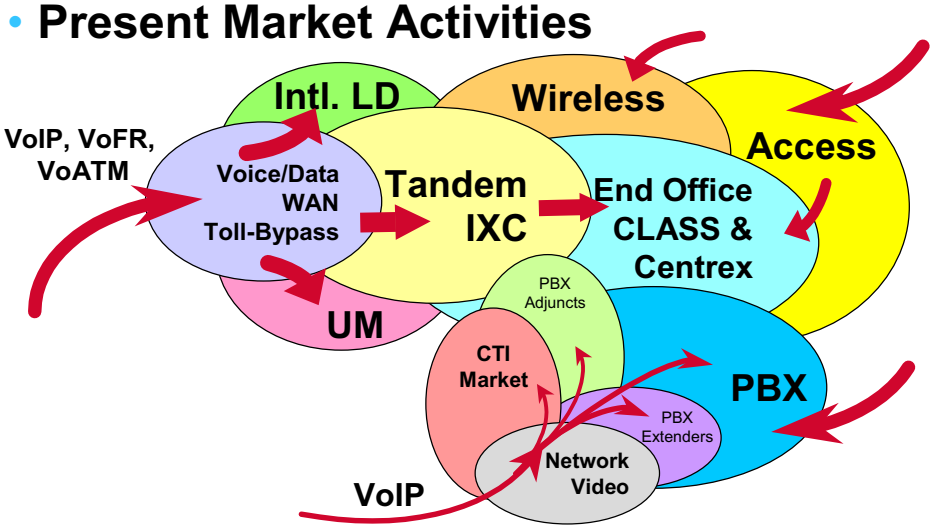
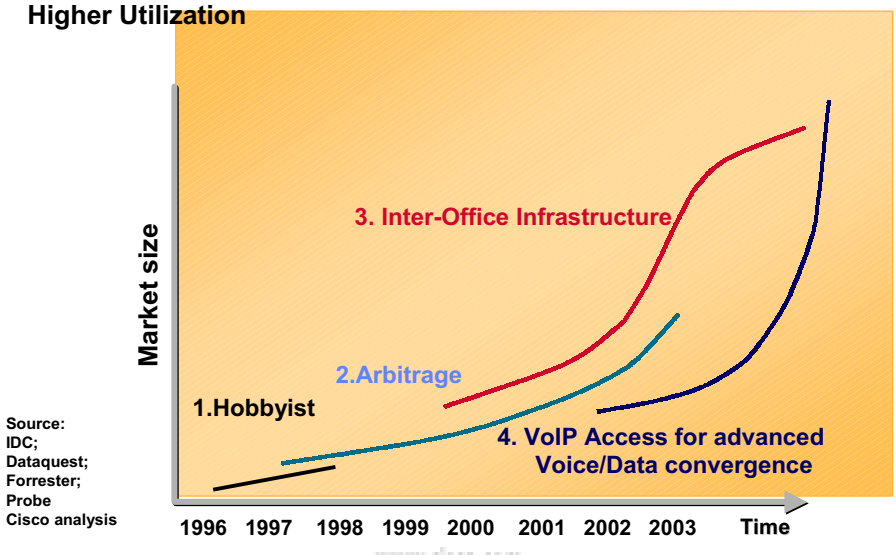
Market Dynamics 2001

- Present Market Activities



Market Status and Projection



Source:
IDC;
Dataquest;
Forrester;
Probe
Cisco analysis

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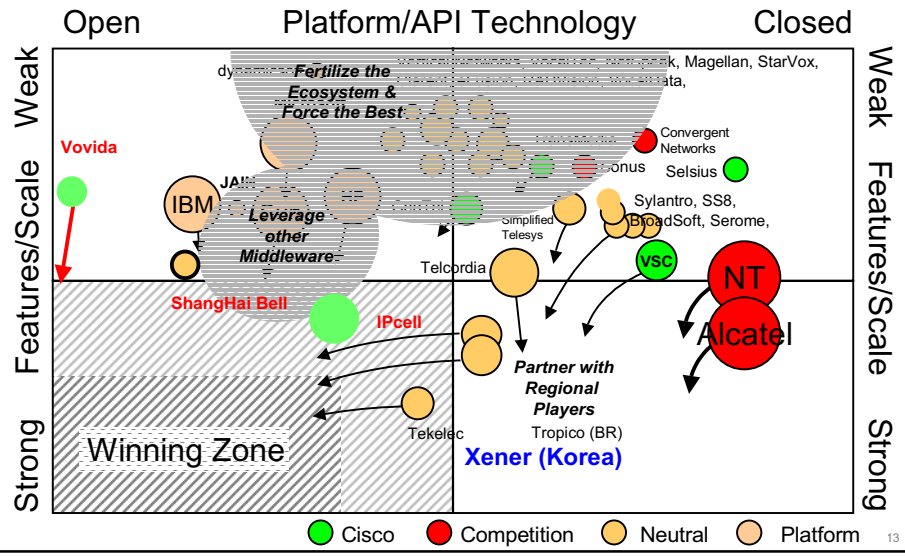
"Softswitch" Status



IP Telephony GW Vendors

- Cisco
- Alcatel
- Convergent Networks
- Unisphere
- Nortel
- Sonus
- Santera
- ECI
- Cbeyond
- Arelnet
- Clarent
- Marconi
- Nuera
- Vocaltec
- Lucent

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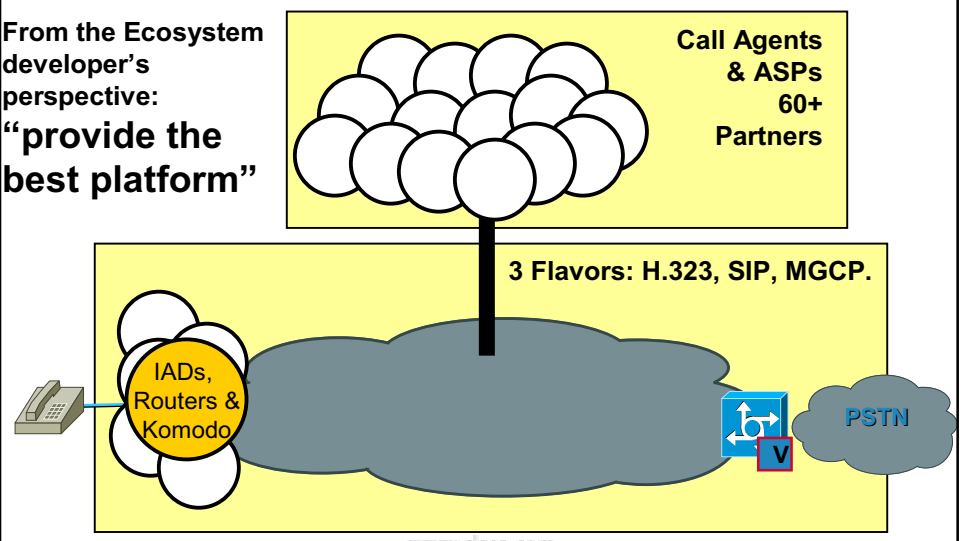
Provide Standard Infrastructure

From the Ecosystem developer's perspective:
"provide the best platform"



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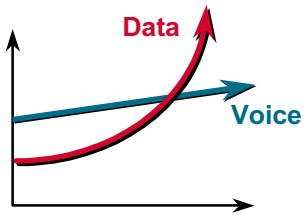
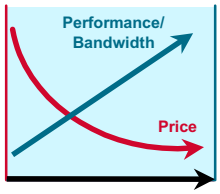
Major Market Forces

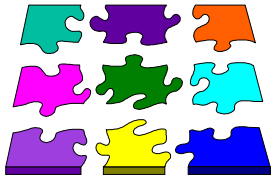


Internet Explosion



Technology

Global Deregulation



Open Standards

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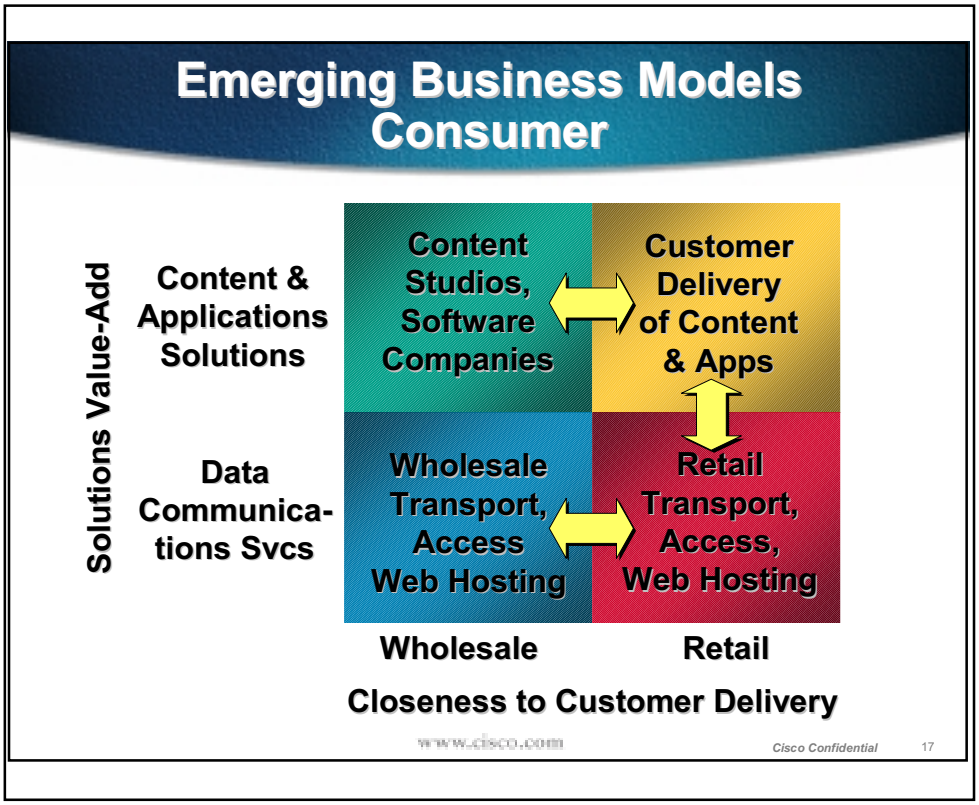

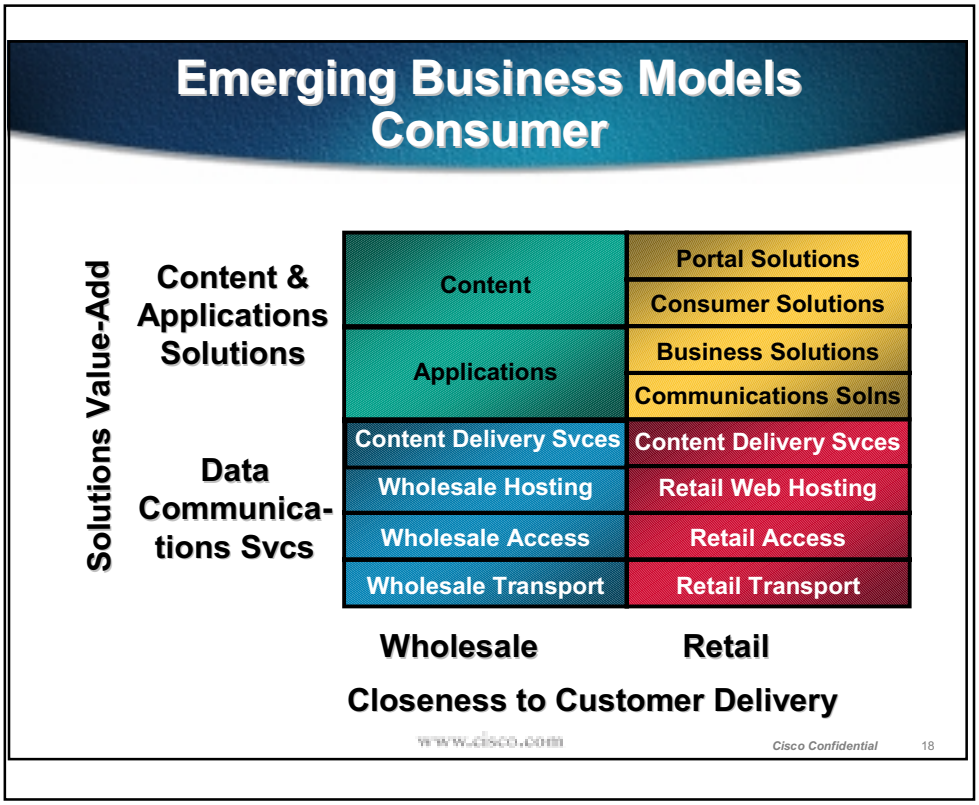

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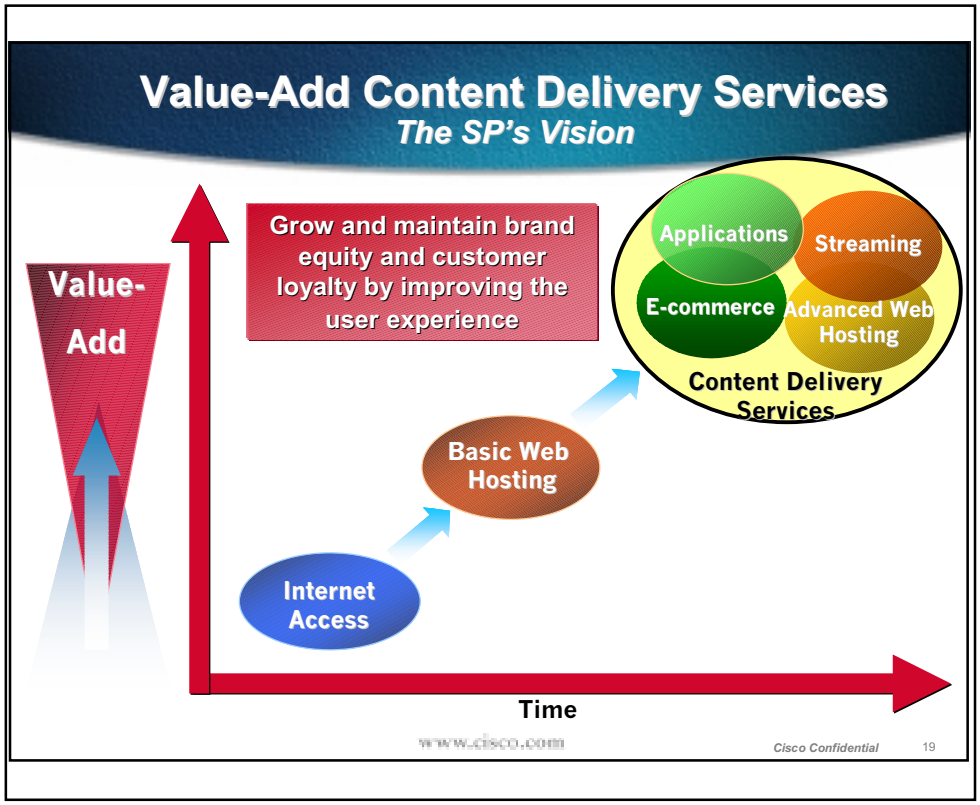

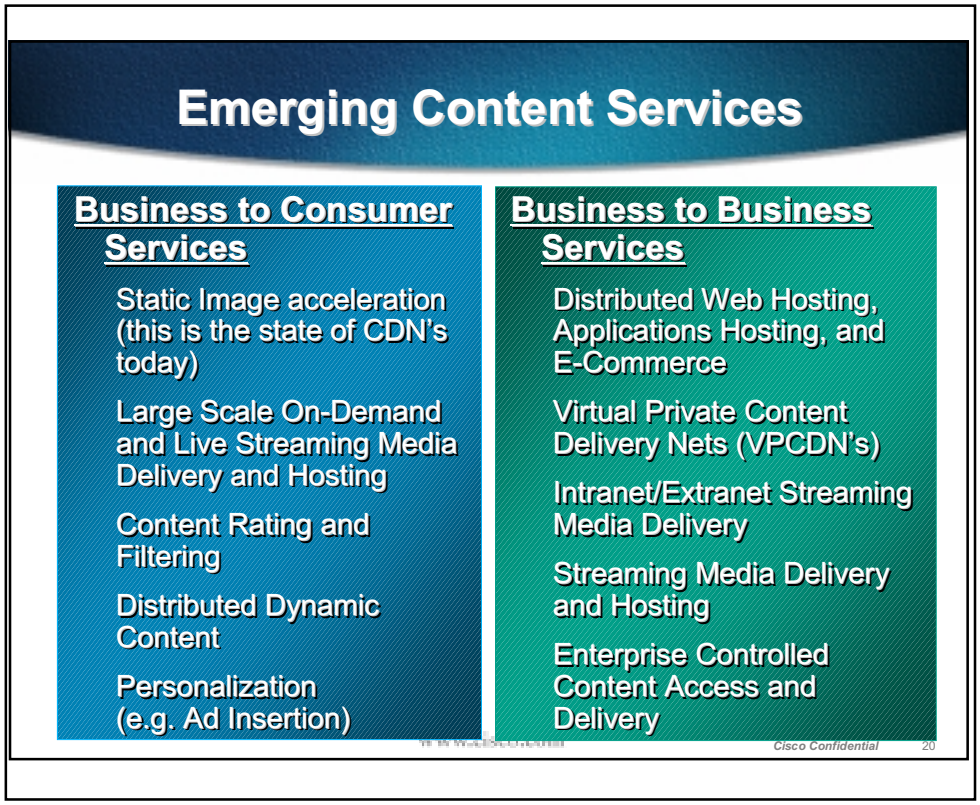

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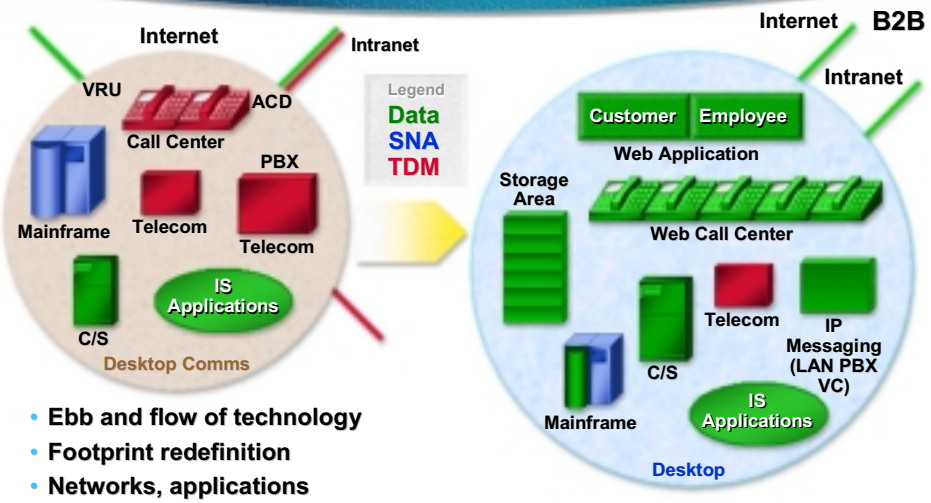
Enterprise Evolution



- Ebb and flow of technology
- Footprint redefinition
- Networks, applications
- Tighter coupling between apps running in service provider and enterprise
- Applications dealing with both voice and data in a unified way

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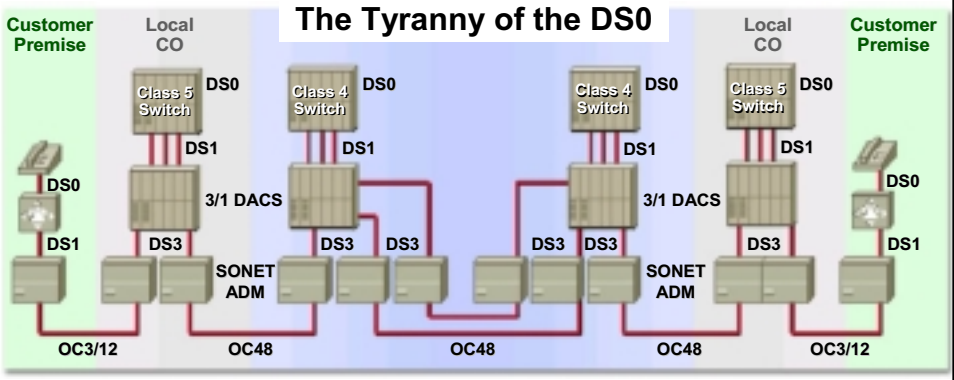
Service Provider History



Rigid structure yields high cost per bit

High capital cost disfavors new investment

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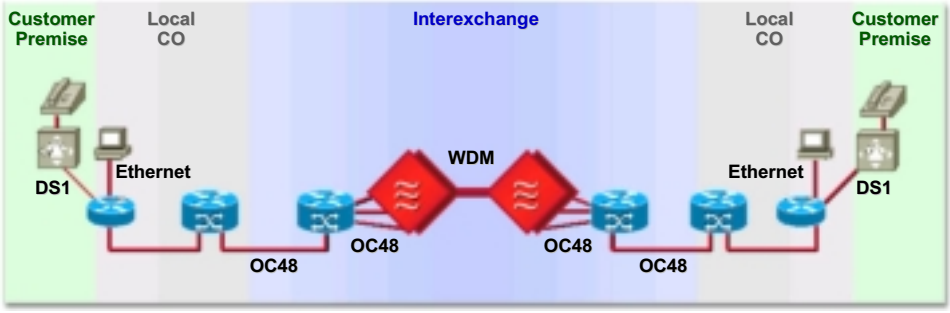
Service Provider Evolution

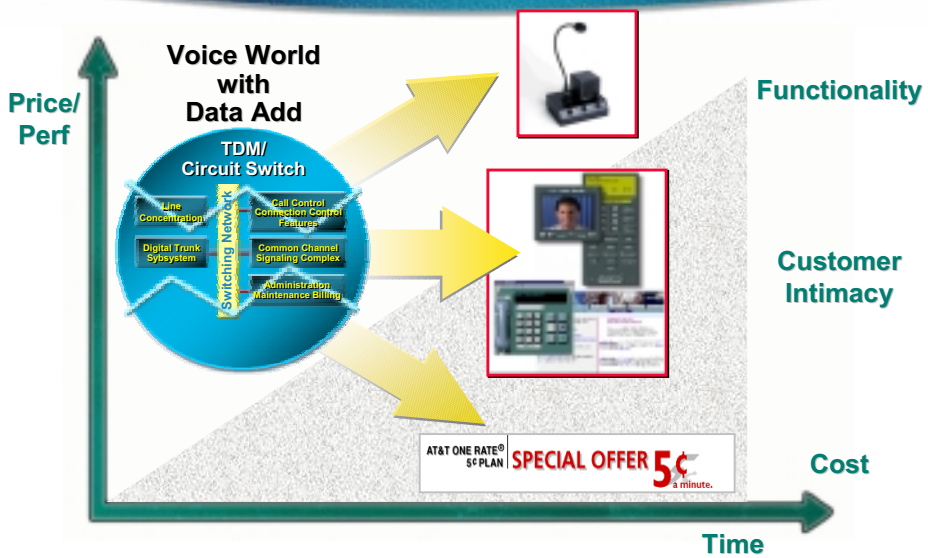


Optimized infrastructure for data services

Statistical muxing over largest available pipe

"Flattened" network gives a cost reduction

Carrier Network Evolution



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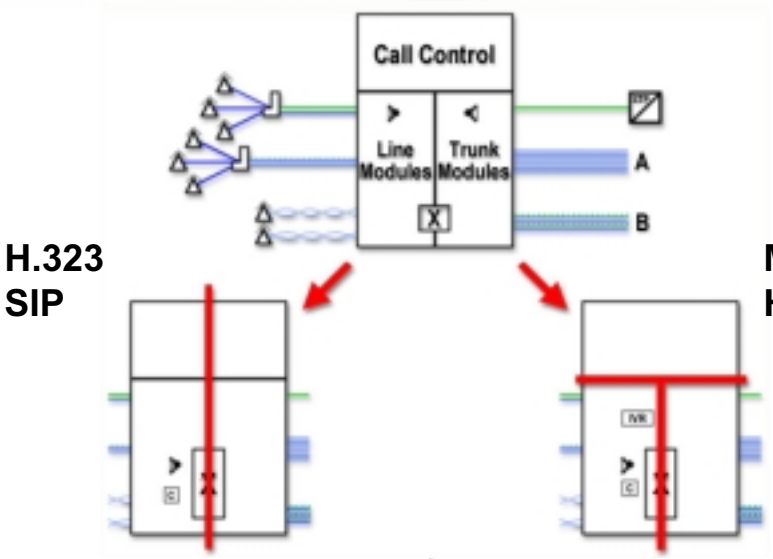
Multiple Control Models



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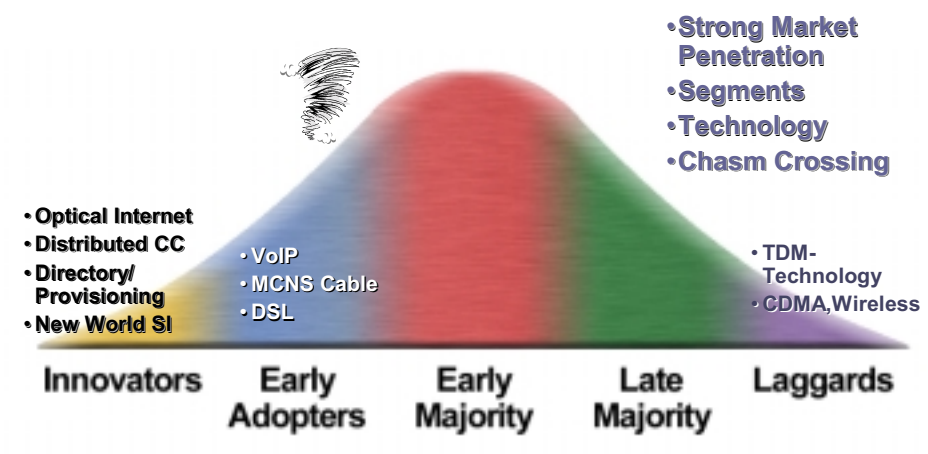
Summary



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