Global Market Trends:
Toward Ubiquitous Lifestyle Communication Experience

**Schematic represented here is a modified version of a slide created by the Yankee Group**

Lucent Technologies – Proprietary
Use pursuant to company instruction
Market Trends: Providers Compete to Deliver Seamless End-User Experience

‘Triple Play’ Services: Sky acquires EasyNet for £211m

Peer-to-Peer Networking: Purchased by eBay for $2.6B
“IPdrum Mobile Skype Cable now launched globally”
53M subscribers today, adding 150K more per day.

Personalization: Market Cap $120B
“Google Button on Motorola Phone”
Google generated $3.8B in ad revenue last year.
Ad revenue per visitor: $43.18

Online Marketplace: Market Cap $52B
eBay today has 157M active members

Consumer Content:
Monthly Unique Visitors: 119M
Ad revenue $1.14B last year
Ad revenue per visitor: $9.58

Making the Traditional Network a “Dumb Pipe”
Future Competitive Landscape

- Three main business models for providers
  - Connections, Content, Advertising

- Emerging Service Providers
  - Expand from core competency (search, IM, content, etc.) to capture additional subscribers
  - Rapidly role out many new services and monetize larger subscriber base
  - Segment subscribers, based on preferences, to enhance monetization
  - Continued use of “free” access
  - Leveraging success in wireline services to move into wireless

- Traditional Providers
  - Attractive (to content providers and advertisers) and growing subscriber base
  - Mobility and Location capabilities further personalize and target user base
  - Ownership of enterprise market
  - Increasing speed of deployment for new services

Expanding on Core Competency
- Rapid Service Delivery
- Further Segment User Preferences to Monetize
- Parasite on Networks
- Build Strength in Mobility

Content & Advertising
- Personalization
- Enterprise Strength
- Speed to Deploy
Redefining the End User Experience

Enhanced Communication Experience*

- Rich Media Sessions and Mixed Media Messaging
- Improve end-user experience by combining multiple sessions, multimedia, and multiple devices in one application
- The ability to “know” when someone is actively available for communications will influence how and when to contact them

Ease of Use and Seamless Access*

- Information sharing must be simple and secure
- Instantaneous, always available service access regardless of network or service provider
- Real time synchronization of contact updates / always available address book
- Single portal to launch services (click to launch)
- Discovering and using new services must be simple and intuitive
The Real Opportunity: **Blended Services**, Not Just *Bundled Services*

- Everyone is bundling to retain subscribers.
- Bundling simplifies billing - does not reduce other OpEx.

**Blended services = Increased revenues, customer loyalty**

- Bundling *alone* will only shrink the customer’s spending as value is eroded
- Seamless blending of voice (wireline and wireless), data and video services required to realize full revenue potential
- Providers with scale and wireline + wireless networks will have an advantage
- Providers with a strong convergence story/vision will flourish and dominate

**Source**: Adapted from “Telcos Take on Cable with Video Delivery,” The Yankee Group, February 2004, page 8.
Emergence of New Sources of Market Value:
Delivering Secure, Personalized Content

Targeted, context-sensitive content drives market value.
Value over IP™: Unlocking Opportunities

Capture 24 Hours of the End User’s Day

- **Morning Rush** – Next Gen TV, Telematics; Follow-me TV
  - 9 a.m.

- **In the Office** – Fixed Broadband / Wireless Broadband
  - 12 p.m.

- **Out of the Office** – VoWiFi
  - While you sleep – Security Monitoring
  - 12 a.m.

- **Evening at home** – Next Gen TV, Music on Line, VoIP; Follow-me TV
  - While you sleep – Security Monitoring

- **During lunch hour** – Interactive Gaming
  - 12 p.m.

- **While you sleep** – Security Monitoring
  - 12 a.m.

Lucent Technologies – Proprietary
Use pursuant to company instruction
Boundaries between Telecom, Media and Internet worlds are increasingly blurred

**Telecom Services**

Voicemail, Email, MMS*, IM, SMS, VoIP, etc.

**Web Services**

Web/WAP*, Email, Calendar, PIM*, On-line Transactions, Content Services, Gaming, etc.

**Broadcasting Services**

Video on Demand, Pay Per View, Wireless BCMC*, IPTV, Blogs, etc.

**IMS Core Network**

IP Networks

**IMS = Blending Services Across Multiple Delivery Platforms & Networks**

* MMS = Multimedia Services
* PIM = Personal Information Management
* WAP = Wireless Access Protocol
* BCMC = Broadcast Multicast

Lucent Technologies – Proprietary Use pursuant to company instruction
New Paradigm:
**IP Multi-Media Subsystem (IMS)**

**What is the IP Multi-media Subsystem (IMS)?**

IP-based multimedia and telephony core network that enables two-way voice, data, and video across multiple access technologies and devices, at the high quality and reliability expected by an end-user today.

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Opportunities Afforded by IMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue &amp; Churn</td>
<td>• Increased ARPU (up to $40-70 per user, per month in &quot;Power Adult Segment&quot;)</td>
</tr>
<tr>
<td></td>
<td>• Service loyalty through business, family, friends, &quot;community type&quot; services</td>
</tr>
<tr>
<td>Time to Market</td>
<td>• 20% improvement after year one, largest gain in service creation and implementation</td>
</tr>
<tr>
<td>OpEx Savings</td>
<td>• OpEx improves by 20%-25% after year one, largest gain in customer management</td>
</tr>
</tbody>
</table>
Lucent’s Enhanced IMS Architecture

Applications
- Active Phone Book
- Push to “Talk”
- WiFi/3G Roaming
- Presence
- MM Messaging
- Mobile Extension

End-User Experience Management
- Data management
- User profile management
- Rules engine
- Common operations protocol
- Etc.

Key Bell Labs Innovations Driving Convergence

IMS
- Lucent Session Manager
  - Service Broker
  - CSCF
  - MRFC
  - BGF
- Unified Subscriber Data Server
  - HSS/SDHLR
- Lucent Network Controller
  - Media Gateway Control Function
- Lucent Network Gateway
  - Media Gateway
- MiLife™ Application Servers
  - Programmability
  - OSA/Parley

Access Networks
- Broadband Residential Access
- Enterprise Access
- 3G Mobile Network
- SS7
- PSTN

Lucent technologies – Proprietary
Use pursuant to company instruction
Realizing Blended Services and IMS

1. Unified Subscriber Data
   - Consolidate Multiple Ids
   - Enable Domain Roaming
   - Facilitate Complex transactions
   - Federate to untrusted external domains

2. Create a Common UI
   - Intuitive access to new services
   - Build Communities
   - Cross Domain Brand

3. Presence Enablement
   - User Context
   - Intelligent push/alerts
   - Track Buddies

4. Instant Communications
   - Messaging
   - PTT/POC
   - Leveraging PAM

5. LBS
   - Directories
   - Gaming/Content
   - Personalization

6. Multi-Media Communications
   - P2P video
   - Video Mail / IM
   - Visual RingTones
   - Collaboration

7. IMS Enablement
   - SIP Enablement
   - Session Mgmt
   - Extensible client
   - Service Broker

   - Fixed/Mobile
   - Mobile/Wi-Fi
   - Mobile PBX
   - Triple Play Services

9. Real Time Rating/Charging
   - Bill for events vs subscription
   - Integrated Account Mgmt
   - Bundles/Promos across Domains

10. Active Content
    - Context Aware
    - Communities
    - Cross Marketing
    - Enterprise tie-ins

11. Blended Services
    - User-directed re-grouping of communities
    - Transform from Commodity to LifeStyle
    - Always-On

Leveraging network assets enables the delivery of unique, personalized, blended services to the end user, through a common user interface.
Operator’s Challenge
Managing Partners

**Supporting Enterprises**
Enhancing the productivity of the Enterprise with Always-On-Services, Presence and Location-based, Push-To-X and web-based services

**Wireline / Wireless Access Management**

**Enterprise Services**

**Fleet Management**
Call Center Dispatch, etc

**Platinum Partner(s)**

**Non-Premium Partner(s)**

**Competing Networks**
- Roaming Agreements
- Launching/Activating services with unknown traffic volumes
- Competing services may traverse network (Skype)

**Competing Networks**
- Roaming Agreements
- Launching/Activating services with unknown traffic volumes
- Competing services may traverse network (Skype)

**Consumer Services**
Keeping pace with the demand for new services including: Video, Streaming, Web-based services, Push-To-X, Personalization, Preferences and Availability

Maintaining legacy solutions including Text Messaging, WAP and Voice Services

**Supporting Partners**
Possibly unique Business Level Agreements
- May launch unique requests for service to create high-volumes of service requests, application types, peak/valley traffic volumes
- Unique Applications
- Unique Volumes of Traffic and Types

**Picture Mail, Information Services, Content Delivery, etc**

**Voice Services**

**Data**

**Flexibility to support multi-tiered business partner agreements based on application service availability, traffic and bandwidth to capture deserved revenue**

Use pursuant to company instruction
Unified Policy Management
Service Level Control of Network Resources

- Flexible, fine-grained management of network resources
- Controlling quality of end-user experience
- Efficient Use of network resources
- Protection of network resources

Lucent Technologies – Proprietary
Use pursuant to company instruction
Federated Data & Identity

Single Sign-on (SSO)
- User does single log-on
- Has access to many apps

Secure, Controlled Data Sharing
- Requester-targeted
- Privacy-conscious
- “Enter Once, Share Everywhere”

Value propositions
- End-User
  - Ease-of-use, convenience
- Network Operator
  - More opportunity to “own” the subscriber
  - Leverage trust, authentication and profile data
- Application Developer
  - Don’t need their own Id Mgmt soln
The richness of YOUR world is felt through Interactive Multimedia

VoD/TVoD
- Scan global video library of 100k titles
- Point and click to select
- One click authentication and payment
- Start streaming title
- Content tailored for YOU e.g. BW, commercials
- Pause, FF, REW, REC on demand

Video Telephony
- Receive call during program
- Click to see caller
- Pause program to answer
- Choose video on/off
- Browse personal files pictures/web together
- Resume program

Remote Monitoring
- Scan global video sources of 100k streams
- Point and click to select
- Content tailored for YOU e.g. BW, zoom, pan
- Two-way audio/video on demand for remote dialog/answering

Click To Buy
- See item during program
- Point and click item
- Pause program and hyperlink to vendor
- One click authentication and purchase
- Resume program

Fully interactive multimedia services, tailored to your needs, on any device in your home, on demand
Push to... Socializing & Mobile Communities

REAL TIME VIDEO BROADCAST  MOBILE BLOGGING  MOBILE PODCASTING

END USER CREATED CONTENT: share experiences with friends anywhere with the push of a button

Check this out
Score 4-5
Missed Larry :-)
# Measuring Success

<table>
<thead>
<tr>
<th>Service Provider Goals</th>
<th>New Business Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launching IP-based Services</td>
<td>Number of net new users</td>
</tr>
<tr>
<td>Speed to Market with new services</td>
<td>Speed from concept, study to introduction</td>
</tr>
<tr>
<td>Alternate Revenue – Value-added “quad play” end-user services</td>
<td>Target revenue for value-added end-user services</td>
</tr>
<tr>
<td>Reduce Cost of Developing &amp; launching new services</td>
<td>Reduce costs of successful and failed services</td>
</tr>
<tr>
<td>Laser Focus on core competency (“engine”)</td>
<td>All new services have one theme built around core competency.</td>
</tr>
<tr>
<td>Link Control &amp; Quality of the Network to a better end user experience</td>
<td>Willingness to pay premium for QoS and control</td>
</tr>
<tr>
<td>Leveraging IP Base to move into new services</td>
<td>Number of converged services sold to “24/7 IP Prosumer”</td>
</tr>
</tbody>
</table>

**“24/7 IP Prosumer”**

**“3 Month or Less Intro Cycle”**

**“Get Fair Share or More”**

**“Allow More Innovation: Cost of Failure is Minimal”**

Google | Yahoo! | Sprint.
“Search” | “Content” | “Connections”

**“Deliver Quality of Experience”**

**“Take Share “**

24/7 Converged Services