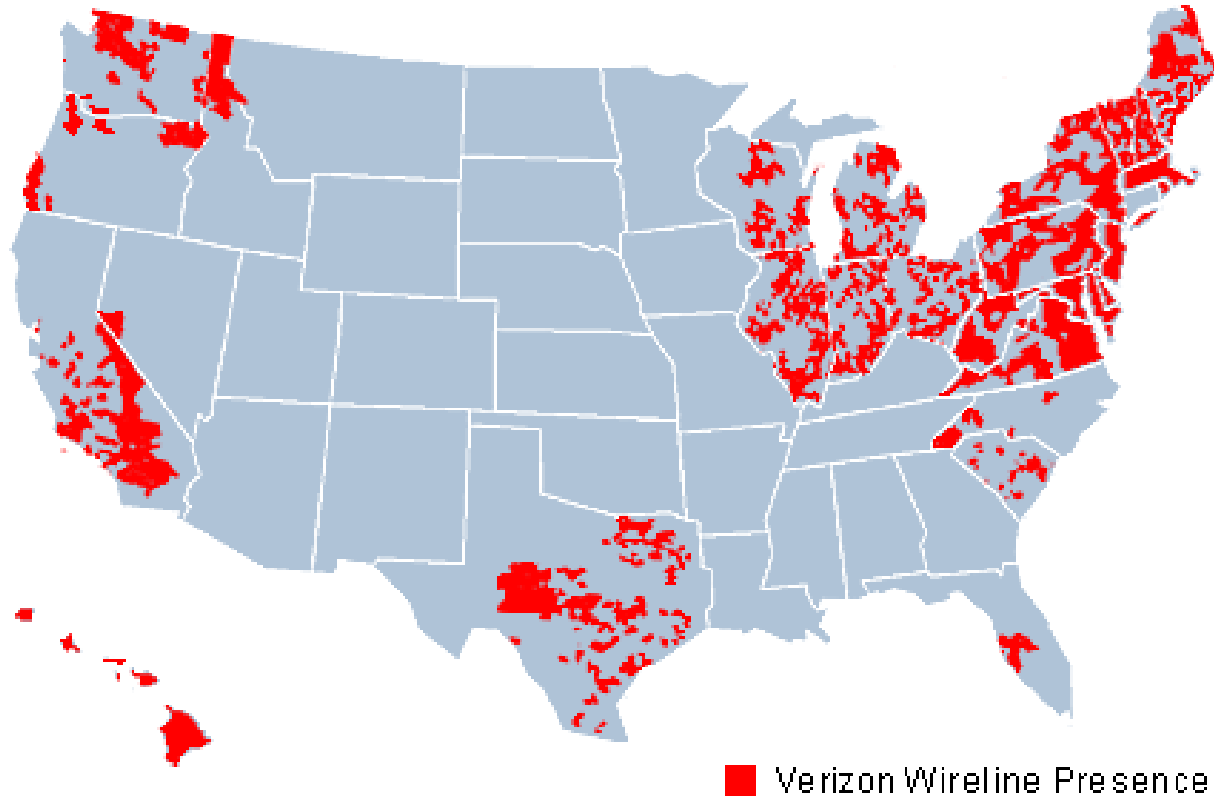


Next – Generation Networks Challenges and Opportunities of Convergence



Dennis Weller
Chief Economist - Verizon
OECD Convergence Round Table
London
2 June 2005

Verizon Overview - Nationwide Presence in a Fragmented US Market



- Local telephone services in 29 states and the District of Columbia
- Wireless service nationwide
- Long Distance
- Broadband
- Data services
- Directories

Transforming Verizon Through Investment in Next-Generation Networks and Services

☐ Wireline: Fiber to the premise

- 3 million homes passed by end of 2005
- Now in 14 states

☐ Wireless: 3G broadband

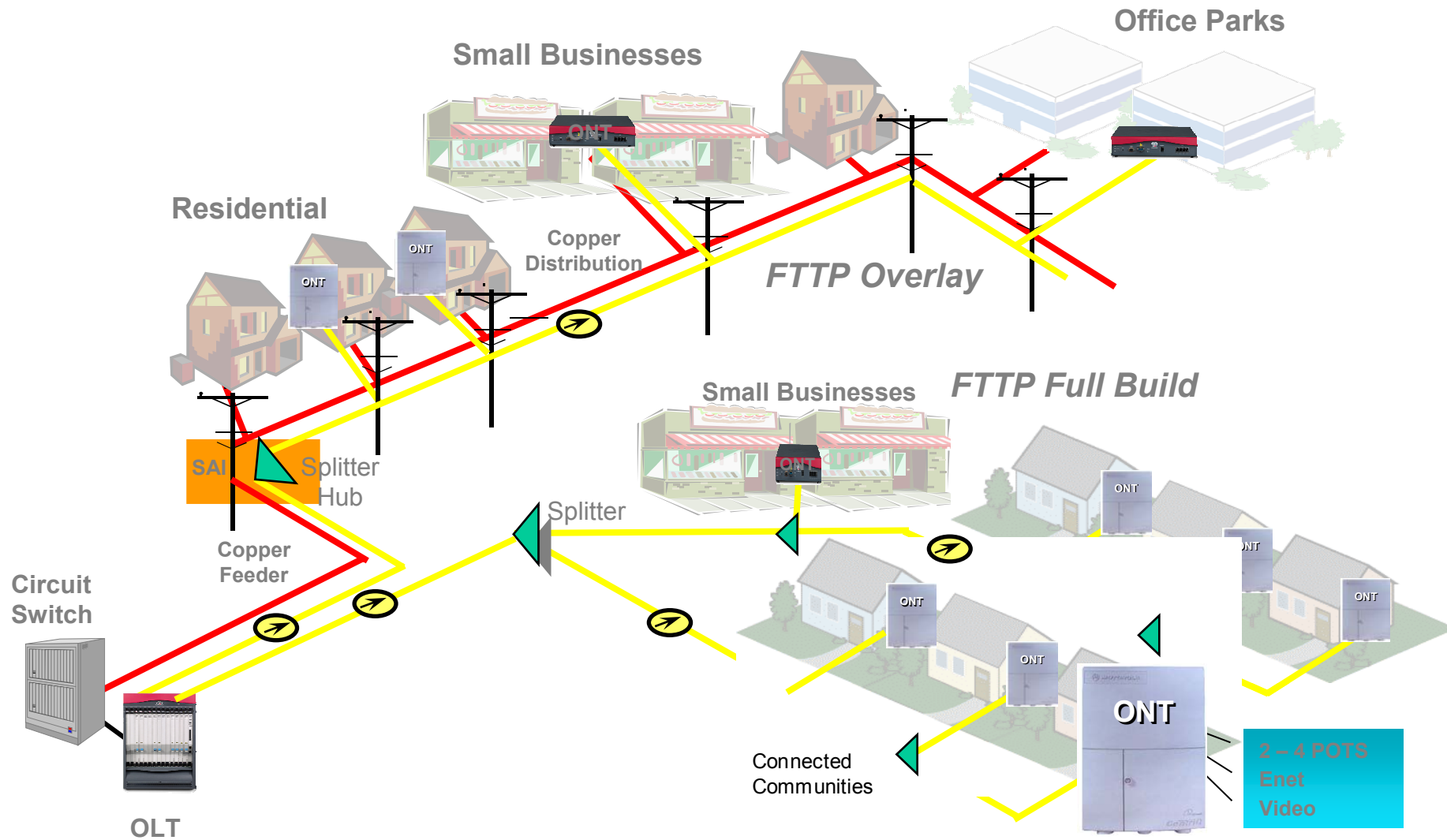
☐ Services and Integration

- To deliver the greatest possible value to consumers

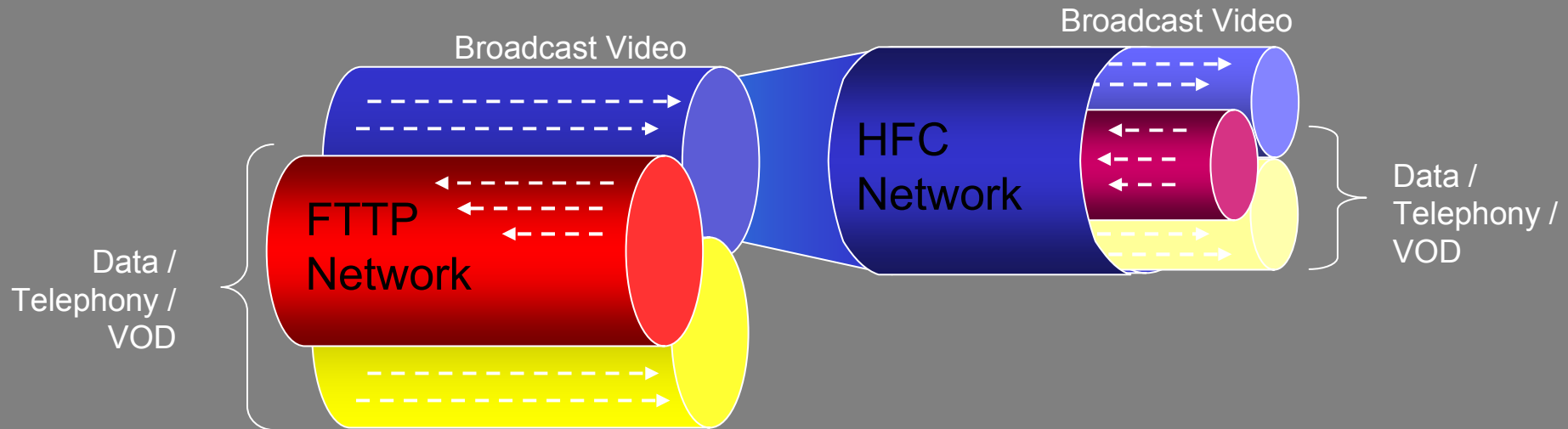
☐ In rural areas

- WiMax In Grundy, Virginia and other communities
- Partnership between Verizon Avenue, local government, and Alvarion

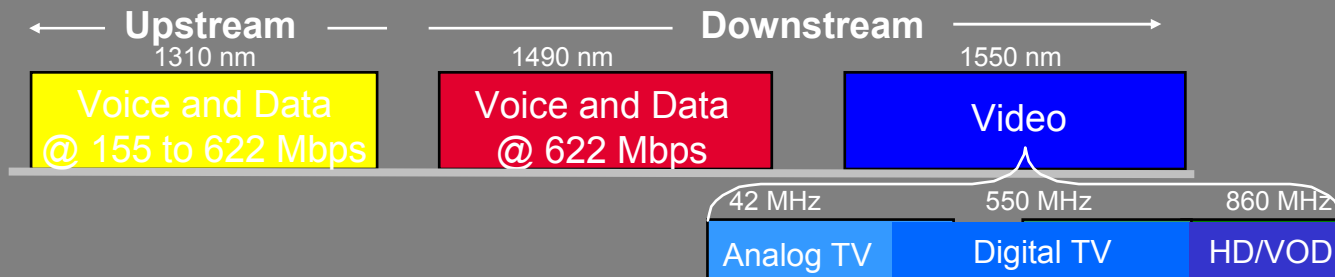
FTTP Full Build & Overlay Architectures



FTTP: The Perfect Broadband Platform




Bandwidths & Services



Verizon Fios Wireline Broadband Access

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Package Price


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Revolutionize your world

with a new kind of high-speed Internet.

Verizon Fios Internet Service with MSN®Premium



- **Experience the Web at lightning speed**
Surf the Web faster than ever before!
- **Click and connect in an instant**
No more busy signals, like with dial-up!
- **Connect multiple computers**
Multiple PCs connected to a single high-speed connection over your home network at no additional monthly fee.

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Order Verizon Fios Internet Service today!
Take advantage of our exclusive online offer - First 30 days FREE!

Maximum Connection Speed	Installation Charge	First 30 Days	Monthly Fee Thereafter
Up to 5 Mbps/2 Mbps*	Waived	FREE	\$39.95/mo
Up to 15 Mbps/2 Mbps*	Waived	FREE	\$49.95/mo
Up to 30 Mbps/5 Mbps*	Waived	FREE	\$199.95/mo

*Actual (throughput) speeds will vary. Learn more about service speeds.

Leapfrogs Cable Modem & DSL!

TV Category Children

2:18 pm

4:00 pm

4:30 pm

KIDS

13

Options: Cartoon Network, Totally Spies

Totally Spies

Set Reminder

Record Now

Record Series

Recommend 2



4:00 - 5:00pm

**CARTOON
NETWORK**

Fans of Ricky Mathis, the famous rock star, are somehow being turned into zombies that obey his every command and it's up to the spies to go undercover as his back-up band called The Spies!



RECORD

135

House of Mouse

The Weekenders

**TOON
Disney**

Fios TV

- ◆ Rollout later in 2005
- ◆ Will begin with:
 - ▢ 200 channels of video
 - ▢ 1800 choices for video on demand
 - ▢ Easy interface
 - ▢ Parental control
- ◆ Will add:
 - ▢ Full interactivity
 - ▢ Two-way video
 - ▢ Integrated shopping (T-commerce)

Verizon Wireless High-Speed Internet Access

VZAccess - Microsoft Internet Explorer provided by Verizon

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We never stop working for you.®

OVERVIEW SERVICE USAGE SERVICE MAPS HOW FAST FAQs

VZACCESS OVERVIEW SIGN UP!



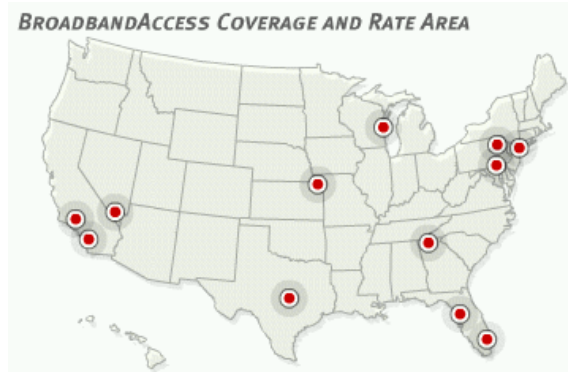
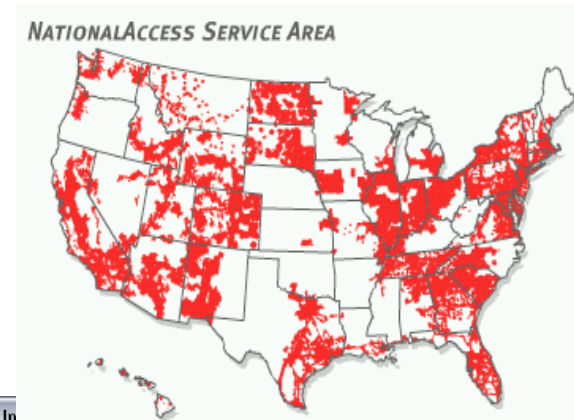
HIGH-SPEED INTERNET ACCESS
GET THE JOB DONE!

MOBILITY VZAccess gives you the freedom to stay productive and connected to your business-critical data and applications whether you're on the road or in a meeting across town.

SPEED NATIONALACCESS is Verizon Wireless' national wireless internet service, available in thousands of cities and towns across the nation. BROADBANDACCESS is Verizon Wireless' premier internet service, offering users one of the fastest, fully mobile wireless internet data solutions available today.

SIMPLICITY Easy set up and maintenance that requires little to no changes to your company's current infrastructure and systems. Plus, includes the simple, intuitive VZAccess Manager software interface to manage your remote access connections & applications.

SECURITY Uses CDMA technology, which provides authentication and data protection and works with most VPN solutions.



VZAccess - Microsoft In

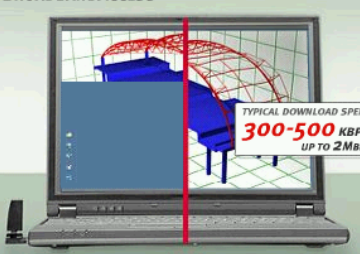
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We never stop working for you.®

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VZACCESS How FAST SIGN UP!

NATIONALACCESS BROADBANDACCESS

WITH BROADBANDACCESS



TYPICAL DOWNLOAD SPEED
300-500 KBPS
UP TO 2 MBPS

BROADBANDACCESS OFFERS TYPICAL DOWNLOAD SPEEDS OF 300-500 KBPS CAPABLE OF REACHING SPEEDS UP TO 2 MBPS.

BBA Speed Disclaimer: Because of the difference in upload speeds, we do not recommend using Verizon Wireless BroadbandAccess for video conferencing or other applications that require faster upload speeds.

COMPETITOR'S WIRELESS NETWORK BroadbandAccess
Coverage not available in all areas. Claims based on published speeds. Excludes 802.11 and Flarion OFDM.

Verizon 3G Wireless Broadband

- ◆ Verizon is US market leader in 3G rollout
- ◆ Available today to 75 million people in 32 cities
 - ▮ 150 million people by end of 2005
- ◆ CDMA technology – EV-DO
- ◆ Card for laptop provides BB Internet access
 - ▮ Unlimited nationwide usage \$79.95 per month



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The hottest video content for your phone

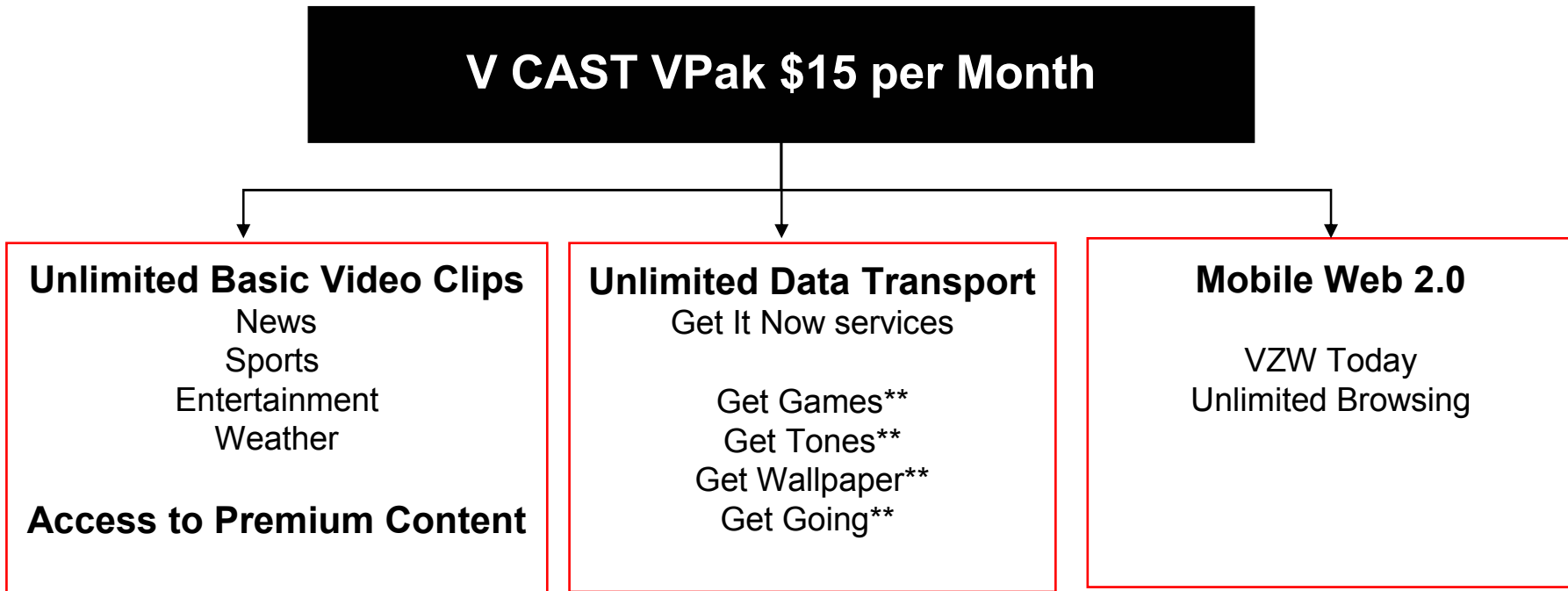
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- NBC News tailored for mobile
- Exclusive mini-episodes of popular TV shows
- More than 300 clips updated daily

VoiceWing Personal Account Manager



John Smith
Mon 08/02/2003

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Verizon VoiceWing

Broadband Phone Service

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Great international calling rates.

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India..... 21¢
Philippines..... 25¢
Jamaica..... 17¢
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Germany..... 4¢
El Salvador..... 15¢
Israel..... 6¢
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Pakistan..... 33¢
Japan..... 5¢

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(214) 123-1234

[10](#) New Calls Today

[05](#) New Voice Mail.....

Call Forwarding

[\(214\) 123-1234 is not forwarded](#)

My Account [My Plan](#)

Account number: **50342154**

Main number: **(214) 123-1234**

Alternate phones: **(975) 685-5555**
(469) 232-5623

Alternate Number **\$19.90**
Fee (2 Lines)

Calling plan fee: **\$34.95**

Local and LD calls **Unlimited**

International calls: **Per minute country rates**

In-network calls: **Free**

International Call Blocking: **ON**

Extra Services Account

Current Balance Amount: **\$30.50**

Bonus Deposit **\$10.00**

Auto Re-Charge Amount: **\$25.00**

Re-Charge if balance falls below: **\$2.50**

[Change Settings](#)
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Important Links

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Incoming Calls	Outgoing Calls	Missed Calls
Caller ID :	Location:	Duration: Time:
Howard Jones	London UK	05 Mins. Mar 04, 05:35 PM
Jason	Adelide AUS	05 Mins. Mar 03, 10:35 AM
214-098-876	Texas USA	15 Mins. Mar 03, 11:05 AM
Davis	Paris FRA	02 Mins. Mar 02, 10:35 AM
Howard Jones	London UK	05 Mins. Mar 04, 05:35 PM
Jason	Adelide AUS	05 Mins. Mar 03, 10:35 AM
214-098-876	Texas USA	15 Mins. Mar 03, 11:05 AM
Davis	Paris FRA	02 Mins. Mar 02, 10:35 AM

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Verizon iobi Home IP Enabled Telephone Service



verizon

Verizon iobi Home

[Customer Support](#)

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To ensure the privacy of your information, you will be automatically signed out of iobi Home if you are idle for 15 minutes.

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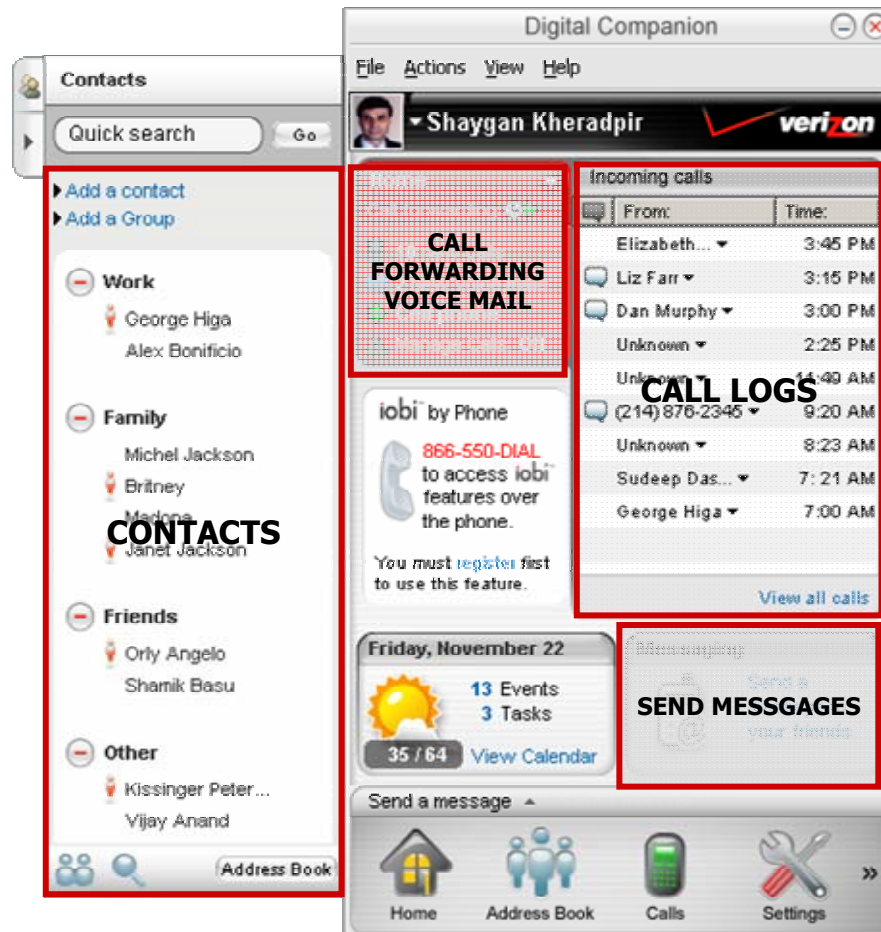
VerizonOne Concept

2-way Multimedia Communication

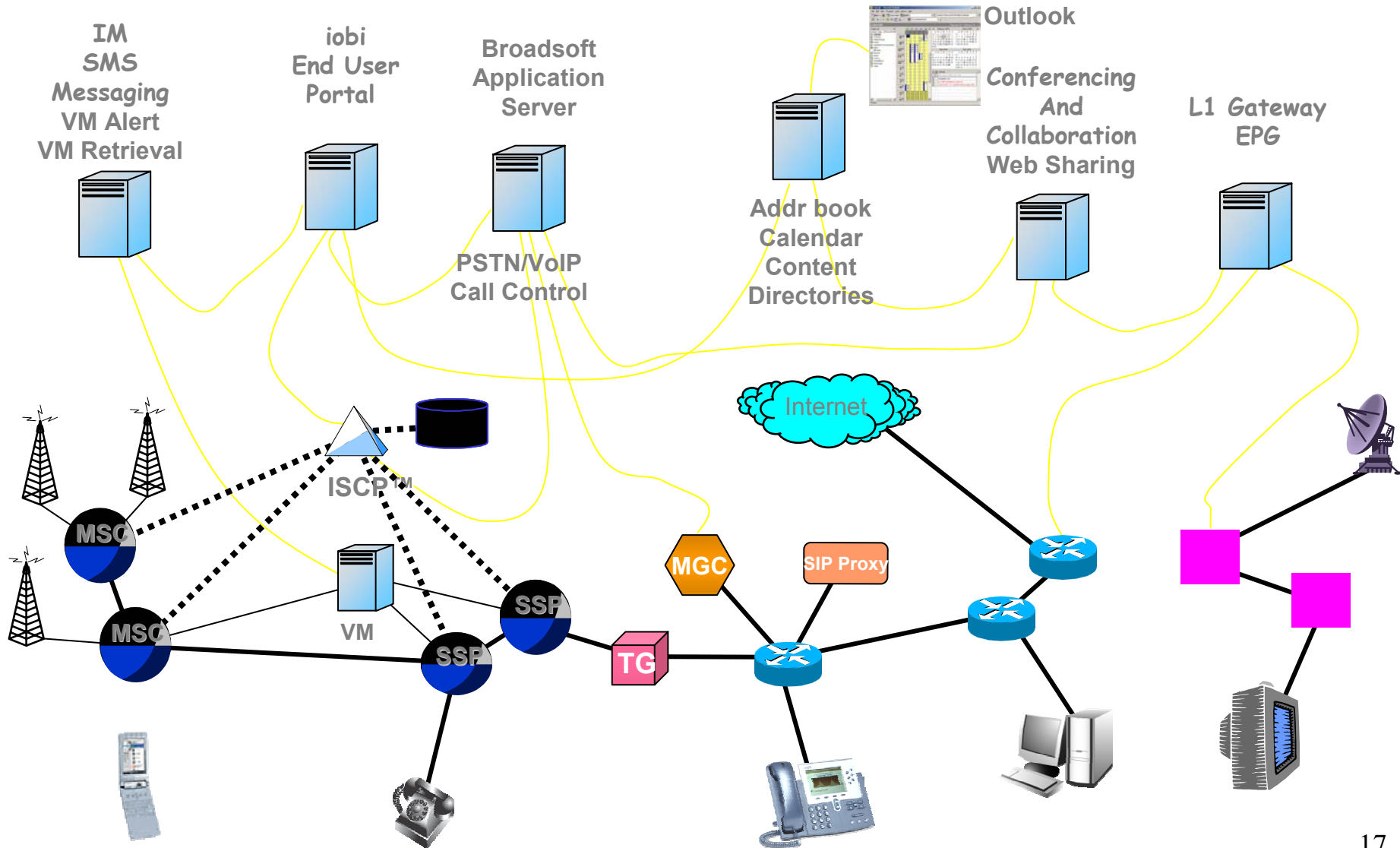


Access Point - Client

- **iobi desktop client** allows users to manage their communications from their PC
- Most convenient access point from your office or home PC
- Send SMS or e-mails with a mouse click
- View your weather information



Service Control



Policies For Next-Generation Infrastructure

- ◆ United States: Platform competition
 - ▢ Competition among wireline, cable, 3G wireless, others
 - Product differentiation
 - ▢ Elimination of unbundling for new networks
 - ▢ Elimination of line sharing
 - ▢ Tradeoffs in policy between market opening and investment – one wire or many?
 - ▢ Connectivity principles to ensure that third-party applications can compete

Connectivity Principles

- ☐ Developed by a coalition of high-tech companies
 - Proposed to FCC in 2003
 - Adopted by FCC as principles
 - No ex ante regulation to enforce principles
- ☐ Ensure that bits are not blocked
 - Broadband customer can access any site, run any application
- ☐ In world where applications are not tied to networks, principles ensure open market for service applications
- ☐ Market for Integration
 - Customer chooses how much integration to buy, and from whom

Policy Challenge: Franchising

- ▣ In the US market, each platform has developed a legal basis for the placement of facilities:
 - Wireless: Cell towers
 - Telephone: State franchising, compensation to municipalities for local rights-of-way
 - Cable: Local franchising
 - Satellite: Has never required local franchise
- ▣ As fiber platform provides video, will new franchising requirements apply?
- ▣ Potentially significant barrier to entry
 - More than 30,000 local franchising authorities

Policy Challenge: Rights to Content

- ▣ In the US market, only 13% of households obtain their video via broadcast
- ▣ “Balance of terror”
 - Cable and broadcast need one another
 - “Must carry” vs re-transmission
 - Terrestrial vs satellite
- ▣ Commercial negotiation is working
 - Verizon has been able to negotiate for video rights
- ▣ Other content: music, games, and more
 - Opportunities for new business models

Policy Challenge: Rights to Content

- ☰ Verizon has already signed agreements with many rights holders, including:
 - NBC Universal Cable (10 networks, including HDTV)
 - Showtime (11 networks)
 - Starz (13 networks)
 - Discovery (14 networks)
 - A&E (7 networks)
 - NFL Network (24 hour American football)
 - Goal/TV (Bilingual soccer)
 - Varsity TV (programming for teenagers)
 - Gospel Music Channel
 - Soundtrack Channel
 - SiTV (Latino community)

Policy Challenge: Commercial agreements among networks

- ☰ Legacy markets:
 - One-dimensional
 - In many cases, regulated
- ☰ Next-generation markets:
 - Multi-dimensional
 - Circuit-switched interconnection
 - IP interconnection
 - Coordination at service layer
 - Content
 - Reach, customers
 - Capabilities
 - Less market power, more opportunities for gains from trade
- ☰ Current Internet agreements provide example
 - No supervision, functioning market, universal connectivity

Policy Challenges of Convergence

- ◆ Competition among newly substitutable platforms, services
- ◆ Need for symmetry across platforms
 - ▣ Example: In US, DSL contributes to USO, cable modem does not
 - ▣ No economic regulation where convergence reduces market power
- ◆ Non-economic regulation
 - ▣ Resist temptation to regulate up for the sake of symmetry
 - ▣ Circumstances that justified previous regulation may no longer apply
 - Limited channels, use of airwaves
 - ▣ Where legacy regulation persists, may need to tolerate some asymmetry
 - ▣ Importance of investment, innovation
 - ▣ Targeted, symmetric requirements to meet social policy goals
 - Emergency services, security, universal service
- ◆ If it quacks like a duck, it may be a canard