# The Internet Transformation

## *Migrating America's Communications to All-IP Networks*

### What is IP?

- IP stands for "Internet Protocol." It is the common "language" that advanced forms of technology can understand and use to communicate with each other.
- IP technology enables seamless communication of voice, data, and Internet applications among various devices (TVs, phones, laptops, and tablets).
- IP networks are capable of offering a greater variety of advanced digital services at speeds many times faster than those delivered on old legacy copper-based telephone networks.

### What is the Internet Transformation?

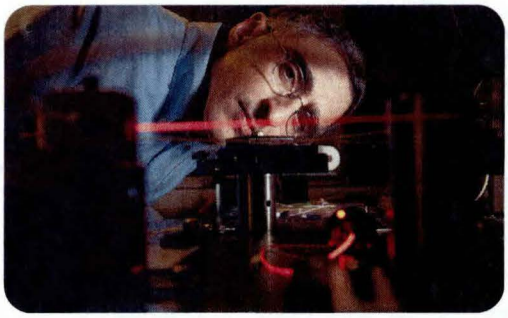
- Bringing these IP-based services to more consumers requires a nationwide "Internet transformation" of our country's existing telephone networks and facilities.
- The Internet transformation is about how we maximize the benefits of Internet technology for consumers, communities and the country.
- The Internet transformation is about improving and expanding access to the latest networks and technologies. It can only be realized if government and industry work together to improve and expand these networks.
- By building and deploying these smart networks we will unlock a world of boundless opportunity, drive technological innovation, create untold numbers of new jobs, foster powerful economic growth, and spur immense capital investment so that the United States can continue to lead the world.

### Benefits to Consumers

- Consumers continue to demand more services and internet applications at faster speeds and greater service quality.
- Transitioning to high-speed IP-based networks will open new opportunities for consumers by expanding access to and use of telemedicine, mHealth patient monitoring devices, digital textbooks and online distance learning tools, remote smart-grid technologies and capabilities to control energy usage in the home and much more.

## Healthcare Benefits

- Healthcare is an area ripe for the greater efficiency and improved outcomes. High-speed broadband can be the much-needed catalyst for change.
- High speed broadband on IP-based networks can help improve rural health care. Today, fifty million Americans live in rural areas and often face the dual problems of higher levels of certain chronic diseases coupled with access to less than half the number of primary care physicians than those living in urban areas.
- IP-based networks have the capability to handle the increased use of telemedicine and the new devices and applications that will help increase access to physicians and treatment centers, provide new tools to monitor patients remotely, and improve data transmission for analysis by medical personnel.
- IP helps to enable fast access to applications and serves that permit diabetes patients to monitor their glucose and transmit the results to their physician. IP technology will help enable electronic medical records to become truly portable.
- However, all this can only happen with greater access to IP-based networks in rural areas, and that can only happen with greater private investment.



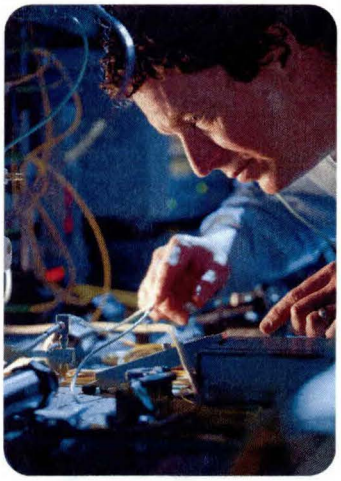
## Education Benefits

- IP can also transform education.
- "Blended learning" is education delivered through a combination of online resources and classroom teaching. Instead of traditional textbooks, students will use digital content delivered through broadband-connected devices. Online learning programs benefit students at every level from elementary school to university and adult education. They level the playing field in education and offer access to new educational opportunities to anyone with a broadband connection, no matter where they live.
- And online learning platforms can be modified to reach students with a variety of different needs. Currently, more than 70 percent of school districts in the United States offer online courses and 30 states permit virtual charter schools, which enroll over 250,000 students.
- Many universities, including MIT, Stanford, and Northwestern, offer K-12 distance learning programs, which together enrolled over 2.5 million children in 2010-2011.

- In the workplace, 30 percent of employers already use e-learning for training.
- Greater private sector investment in IP-based networks will expand these opportunities for learning to more Americans.

## Economic Benefits

- Building and expanding the IP infrastructure will generate hundreds of thousands of jobs at every stage of the process, from the physical installation of new network infrastructure, to network management, to the thousands of new businesses and jobs that will result from the burgeoning high-speed IP broadband economy.
- Access to IP-enabled networks will also assist those looking for employment by making it quicker to apply for work online at home or through job kiosks using broadband.



## Infrastructure Benefits

- Improving and expanding broadband infrastructure will also bring many benefits to other aspects of the nation's physical infrastructure.
- For instance, IP-based networks and services will improve the ability of consumers to control their energy usage remotely and monitor their home's security, and business users will be able to manage their energy more efficiently and wisely.
- In transportation, everything from smart grid technologies to apps showing traffic congestion to ensure a smoother, more energy efficient transportation system.

## Citizen Benefits

- As more and more government services become available online, IP-based broadband, will make citizens' interactions with government easier – everything from renewing a driver's license to paying taxes.
- This will be particularly important for those living in rural areas and others who may find it difficult to go in person to a government office.

## What Next?

- Now is the time for a national conversation on how to achieve these levels of investment and once again revolutionize communications by completing the transition to an all-IP infrastructure.
- The government's clear goal should be to encourage this investment and this transition. Regulatory modernization, making more spectrum available for consumer wireless use, and clearing the way for the necessary physical infrastructure will all be crucial components of this task.

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ND Interim Committee Hearing—August 20, 2013
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# News Release

**CHERYL RILEY, AT&T**
**ND INTERIM COMMITTEE HEARING**
**AUGUST 20, 2013**
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## AT&T INVESTS NEARLY $15 MILLION IN NORTH DAKOTA WIRELESS WIRELINE NETWORKS IN FIRST HALF OF 2013

***Investments Strengthen Nation's Fastest and Most Reliable 4G LTE Network, Largest 4G Network***

***Project Velocity IP Investments Result in New Cell Sites, Small Cells and Distributed Antenna Systems to Enhance Network Performance Across North Dakota***

**BISMARCK, AUGUST 8** — Blazing speeds. Great reliability. Broad coverage. Excellent overall performance. That's what North Dakota residents want from their mobile Internet, and it's exactly what AT&T* is delivering with an array of network upgrades completed in the first half of 2013.

In the first half of 2013, AT&T invested nearly $15 million in its wireless and wired networks in North Dakota. The investments included deployment of new macro cell sites, small cells and Distributed Antenna Systems across the state as a part of AT&T's Project Velocity IP, a three-year investment plan announced last fall to expand and enhance its IP broadband networks. The company also expanded and enhanced its 4G LTE network, which provides ultra-fast mobile Internet speeds, and deployed new Wi-Fi hot spots.

These investments help to ensure that North Dakota residents continue to receive the best possible experience over the AT&T network, whether at home, at work or on the go. The great performance of AT&T's 4G LTE network, now the nation's fastest and most reliable, continues to be validated:

- AT&T now has the most reliable 4G LTE network. According to independent third-party data, AT&T has the highest success rate for delivering mobile content across nationwide 4G LTE networks.**
- Meanwhile, our 4G LTE service was recognized as having faster average download and upload speeds than any of our competitors in *PCWorld/TechHive*'s most recent 20-market speed tests – the second consecutive year that AT&T has ranked 1st overall. *PCWorld/TechHive* also ranked AT&T's as the fastest combination of 3G and 4G services in the 20 cities it tested.***
- And AT&T was named America's fastest 4G LTE network in *PC Magazine's* 2013 Fastest Mobile Networks 30-market study – sweeping the top rankings in all six U.S. regions from coast to coast: Northeast, Southeast, North-Central, South-Central, Northwest and Southwest.****

"Fast, reliable connectivity is essential to both quality of life and competitiveness at work," said Cheryl Riley, AT&T's Director of External Affairs for North Dakota. "No one understands that better than we do, and no one is doing more than AT&T to mobilize a world that works for people in North Dakota. With initiatives like Project Velocity IP, we're working to ensure that North Dakota consumers and businesses remain at the leading edge of broadband services."

Highlights of network upgrades completed so far this year in North Dakota include the introduction of 4G LTE service in Minot and the construction of new sites to better serve Stanton, Hazen, Garrison, Stanley and Langdon.

"AT&T's investment in high-speed wireless broadband is good for businesses across North Dakota who are increasingly reliant on mobile devices and capabilities," said Andy Peterson, President and CEO of the Greater North Dakota Chamber. "AT&T's continued investment in our state is another strong indicator that North Dakota is open for business and that companies here can thrive and succeed."

Nationwide, more than 225 million Americans have access to AT&T 4G LTE service. By year-end 2013, AT&T expects to cover nearly 270 million people and 400 markets with its 4G LTE network.

For more information about AT&T's coverage in North Dakota or anywhere in the United States, consumers can visit the AT&T Coverage Viewer. For updates on the AT&T wireless network, please visit the AT&T network news page.

Geographic and service restrictions apply to AT&T U-verse services. Call or go to www.att.com/u-verse to see if you qualify.

*AT&T products and services are provided or offered by subsidiaries and affiliates of AT&T Inc. under the AT&T brand and not by AT&T Inc.
*** Speed claim based on comparison of national carriers' average 4G LTE download speeds for Android™ and Windows smartphones and iPhone 5. Reliability claim compares data transfer completion rates on nationwide 4G LTE networks. Limited 4G LTE availability in select markets. LTE is a trademark of ETSI. 4G speeds not available everywhere.*
**** PCWorld/TechHive, May 23, 2013, "AT&T clocks best overall speeds with 3G/4G combo"*
***** PC Magazine, June 17, 2013; http://www.pcmag.com/article2/0,2817,2420333,00.asp*

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**About AT&T**
AT&T Inc. (NYSE:T) is a premier communications holding company and one of the most honored companies in the world. Its subsidiaries and affiliates – AT&T operating companies – are the providers of AT&T services in the United States and internationally. With a powerful array of network resources that includes the nation's largest 4G network, AT&T is a leading provider of wireless, Wi-Fi, high speed Internet, voice and cloud-based services. A leader in mobile Internet, AT&T also offers the best wireless coverage worldwide of any U.S. carrier, offering the most wireless phones that work in the most countries. It also offers advanced TV services under the AT&T U-verse® and AT&T |DIRECTV brands. The company's suite of IP-based business communications services is one of the most advanced in the world.
Additional information about AT&T Inc. and the products and services provided by AT&T subsidiaries and affiliates is available at http://www.att.com/aboutus or follow our news on @ATT, on Facebook at http://www.facebook.com/att and YouTube at http://www.youtube.com/att.



**Cautionary Language Concerning Forward-Looking Statements**
Information set forth in this news release contains financial estimates and other forward-looking statements that are subject to risks and uncertainties, and actual results may differ materially. A discussion of factors that may affect future results is contained in AT&T's filings with the Securities and Exchange Commission. AT&T disclaims any obligation to update or revise statements contained in this news release based on new information or otherwise.

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# The Way North Dakota Communicates Has Changed Over the Past Decade

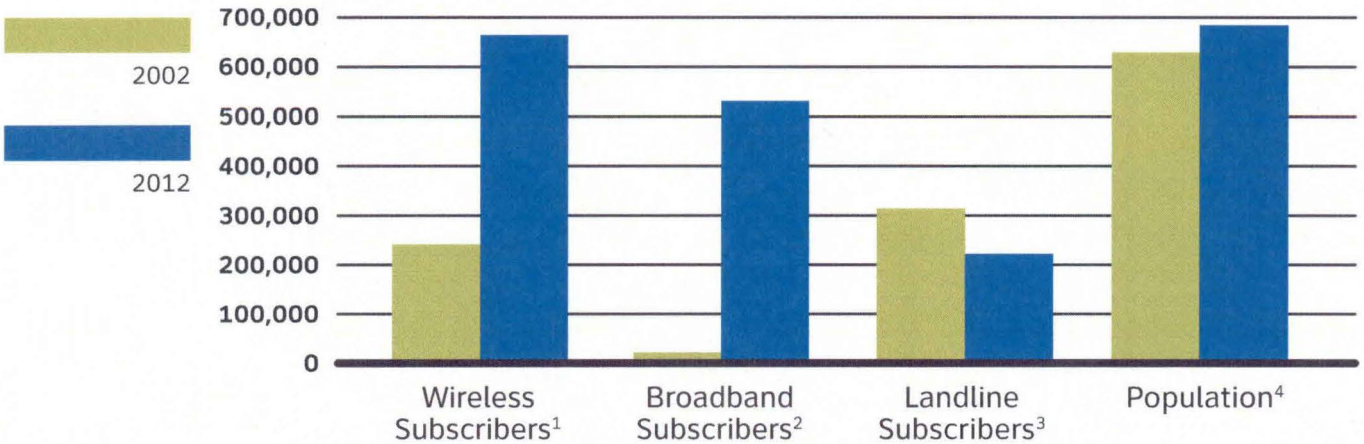
## From 2002 to 2012, North Dakota has seen:

**171%** Increase In Wireless Subscribers

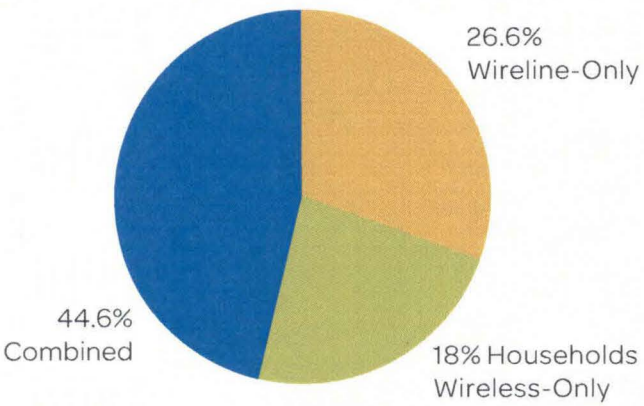
**32.7%** Decrease in Landline Subscribers

**3,684%** Increase In Broadband Subscribers

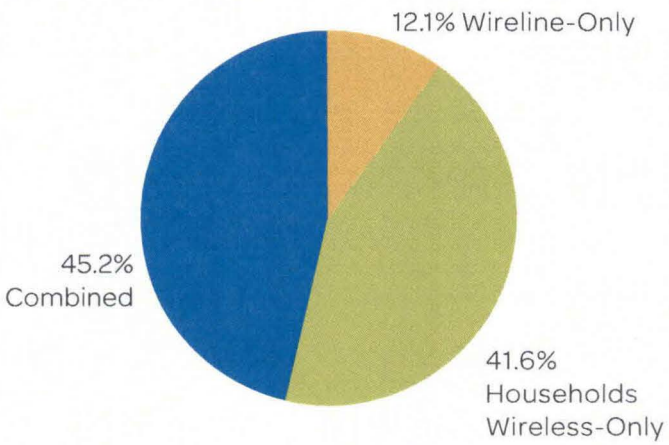
**10.33%** Increase In North Dakota's Population




## Growth of Wireless-Only Households in North Dakota[5]:




June 2007




June 2011

## Broadband Availability in North Dakota[2]:

DSL Broadband: 90% of the population

Cable Modem: 92% of the population


Cheryl Riley, AT&T

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FCC Local Telephone Competition Report: Status as of June 30, 2002 (Table 11) and FCC Local Telephone Competition Report: Status as of June 30, 2012 (Table 18).

FCC High Speed Services for Internet Access: Status as of June 30, 2002 (Table 8) and FCC Internet Access Service Report: Status as of June 30, 2012 (Table 15).

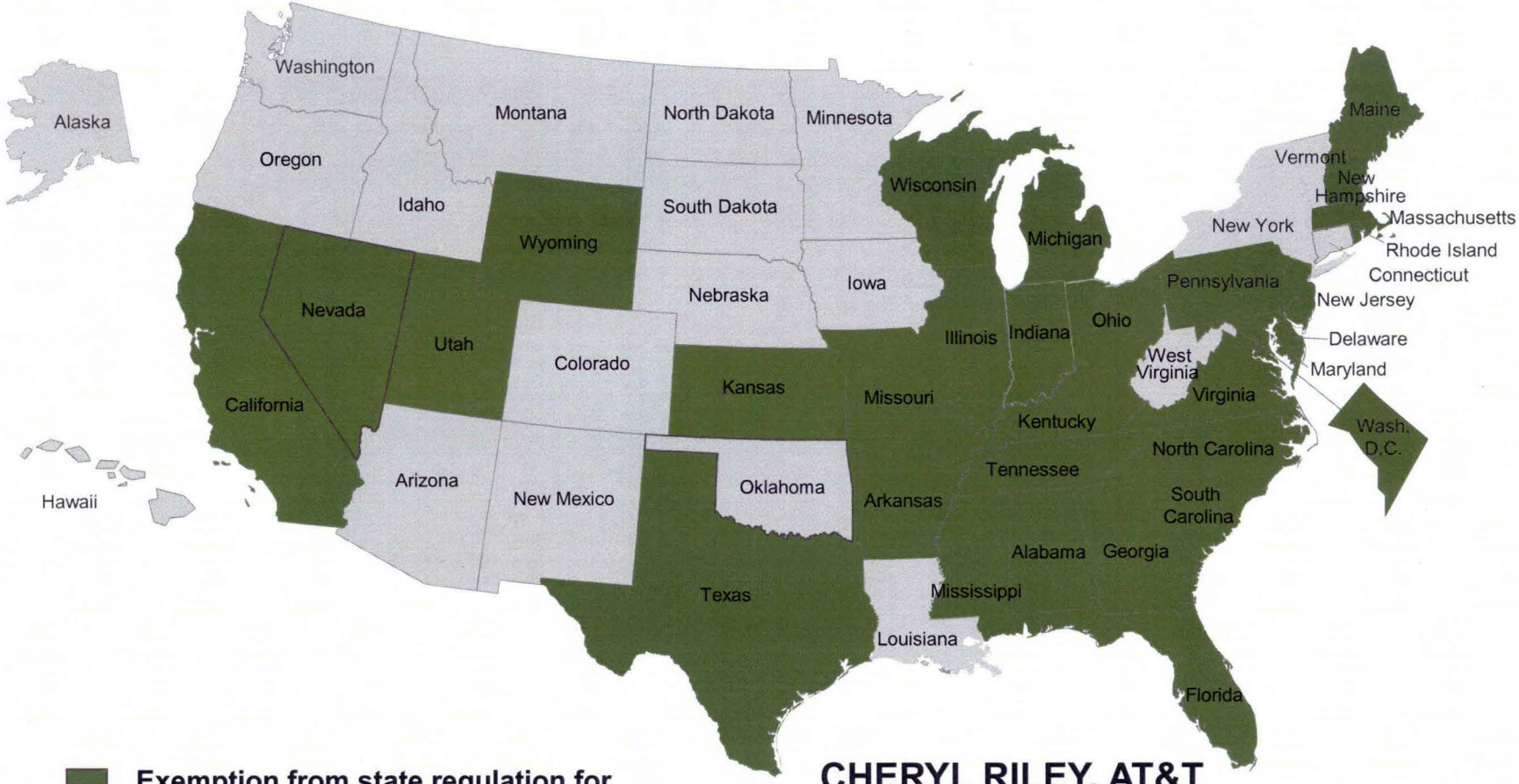
3 FCC Local Telephone Competition Report: Status as of June 30, 2002 (Table 6) and FCC Local Telephone Competition Report: Status as of June 30, 2012 (Table 9).

4 U.S. Census Bureau

5 National Health Statistics Wireless Substitution Report, October 2012 and March 2009

# State VoIP & IP-Enabled Services Exemption Status

## As of August 14, 2013




**Exemption from state regulation for VoIP and/or IP-Enabled Services**

**No explicit exemption from state regulation for VoIP or IP-Enabled Services**


**CHERYL RILEY, AT&T**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