Accelerating Broadband Use and Impacts in Kentucky

Adoption, Meaningful Use, and Economic Development
Objectives of Presentation

- Shared understanding of the importance of Internet utilization
- Insight into Internet utilization in Kentucky
- Discuss opportunity for improved data collection and analysis in Q1, 2012
- Identify how Kentucky stakeholders can participate and benefit
Turning Internet Potential Into Reality: 3 Stages

Connectivity and Affordability
- availability
- reliability
- speed

Adoption
- businesses
- households

Maximizing Utilization
- drive usage and benefits
- link gaps to opportunities

SNG’s CORE BUSINESS SINCE 1998!
Why Drive Adoption and Use?

Broadband retains and attracts population and businesses

Businesses and organizations in 2 States reported that 19.5% of new jobs created in 2010 were attributed to use of the Internet.

In these 2 States, 27.7% of households and 75% of self-employed individuals have a home-based business.

The smaller the business, the bigger the Internet’s impact on jobs and revenues.

Over 50% of businesses said broadband is essential in selection of their location.
## The Move to Internet Enabled Jobs

Job gains and losses among 1,721 businesses and organizations in two states in 2009/2010

<table>
<thead>
<tr>
<th>Size of Company by Number of Employees</th>
<th>New FT+PT Jobs</th>
<th>Lost FT+PT Jobs</th>
<th>Net Jobs FT+PT</th>
<th>Net Jobs Internet</th>
<th>% of Internet Jobs Created</th>
<th>% of all employees</th>
<th>Total Employees FT+PT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 49</td>
<td>3,652</td>
<td>3,932</td>
<td>-280</td>
<td>721</td>
<td>30.1%</td>
<td>6.8%</td>
<td>41,881</td>
</tr>
<tr>
<td>50 - 99</td>
<td>1,178</td>
<td>2,049</td>
<td>-871</td>
<td>206</td>
<td>8.6%</td>
<td>4.7%</td>
<td>29,098</td>
</tr>
<tr>
<td>100 - 249</td>
<td>3,097</td>
<td>2,823</td>
<td>274</td>
<td>419</td>
<td>17.5%</td>
<td>9.0%</td>
<td>55,510</td>
</tr>
<tr>
<td>250 - 499</td>
<td>1,825</td>
<td>2,108</td>
<td>-283</td>
<td>354</td>
<td>14.8%</td>
<td>9.2%</td>
<td>56,357</td>
</tr>
<tr>
<td>500 +</td>
<td>6,925</td>
<td>7,285</td>
<td>-360</td>
<td>694</td>
<td>29.0%</td>
<td>70.3%</td>
<td>432,841</td>
</tr>
<tr>
<td>Totals</td>
<td>16,677</td>
<td>18,197</td>
<td>-1,520</td>
<td>2,394</td>
<td>100.0%</td>
<td>100.0%</td>
<td>615,687</td>
</tr>
</tbody>
</table>
To realize benefits, you need to know where you are and what it takes to get to where you want to be.
Uncover current Internet use and benchmark against peers

- **17 e-solutions*** by organizations
- **30 e-solutions*** by households

Utilization data collected in 2012 directly from 2,073 businesses and organizations and 1,454 households across Kentucky.

Results shown use SNG’s **Digital Economy index (DEi)**, a composite score that goes up to 10 to reflect broadband use.

**How to Measure Utilization?**

**Your score: 5.4**

*Internet-enabled applications and processes*
Six top benefits of Internet reported by businesses and organizations are:

- Make day-to-day operations easier (73%)
- Improve service to customers (72%)
- Use resources more effectively (70%)
- Reach new customers (62%)
- Lower operating costs (57%)
- Increase revenues (56%)
Regional and Community Impacts

Regional and community impacts include job creation and retention during shift to a knowledge economy.
Utilization of the Internet varies greatly among businesses, organizations and households, with major impacts on productivity and competitiveness.
Not all regions benefit equally

<table>
<thead>
<tr>
<th>Region</th>
<th>Rank</th>
<th>Average DEi Score</th>
<th>Difference from Average</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bluegrass</td>
<td>1</td>
<td>6.39</td>
<td>0.32</td>
<td>1,083</td>
</tr>
<tr>
<td>South</td>
<td>2</td>
<td>5.84</td>
<td>-0.23</td>
<td>321</td>
</tr>
<tr>
<td>West</td>
<td>3</td>
<td>5.83</td>
<td>-0.24</td>
<td>375</td>
</tr>
<tr>
<td>East</td>
<td>4</td>
<td>5.38</td>
<td>-0.69</td>
<td>271</td>
</tr>
<tr>
<td>State Average</td>
<td></td>
<td>6.07</td>
<td></td>
<td>2,050</td>
</tr>
</tbody>
</table>
Understand the competitiveness and relative performance of a region by local economic sectors

<table>
<thead>
<tr>
<th>Major Industry Sector</th>
<th>Statewide</th>
<th>Bluegrass</th>
<th>East</th>
<th>South</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>7.32</td>
<td>7.63</td>
<td>6.40</td>
<td>7.64</td>
<td>7.29</td>
</tr>
<tr>
<td>Finance &amp; Insurance</td>
<td>6.71</td>
<td>7.30</td>
<td>6.57</td>
<td>6.20</td>
<td>5.75</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>6.69</td>
<td>7.23</td>
<td></td>
<td>6.53</td>
<td>6.13</td>
</tr>
<tr>
<td>Manufacturing / Processing</td>
<td>6.48</td>
<td>6.74</td>
<td>6.34</td>
<td>6.24</td>
<td>5.75</td>
</tr>
<tr>
<td>Educational Services</td>
<td>6.36</td>
<td>6.19</td>
<td></td>
<td>6.75</td>
<td>5.75</td>
</tr>
<tr>
<td>Professional &amp; Technical Services</td>
<td>6.31</td>
<td>6.84</td>
<td>5.53</td>
<td>5.47</td>
<td>5.48</td>
</tr>
<tr>
<td>Other services (exc. public admin)</td>
<td>6.20</td>
<td>6.63</td>
<td>4.99</td>
<td>5.91</td>
<td>6.17</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>6.11</td>
<td>6.28</td>
<td>5.83</td>
<td>4.93</td>
<td>6.75</td>
</tr>
<tr>
<td>Construction</td>
<td>5.84</td>
<td>6.07</td>
<td></td>
<td>5.83</td>
<td>5.88</td>
</tr>
<tr>
<td>Health Care &amp; Social Assistance</td>
<td>5.48</td>
<td>6.12</td>
<td>4.58</td>
<td>5.20</td>
<td>5.03</td>
</tr>
<tr>
<td>Public Administration</td>
<td>4.73</td>
<td>4.74</td>
<td>3.84</td>
<td>5.13</td>
<td>4.95</td>
</tr>
</tbody>
</table>

Example of regional productivity analysis by select industries in Kentucky 2010.
Each region must develop its own strategy and initiatives based on its own characteristics, values and priorities.

Each region requires strategies and initiatives that address its unique situation. The Commonwealth can provide support, but social and economic developments are essentially local and regional in nature.
Focus on high opportunity industry sectors within each region rather than undertaking broad but untargeted initiatives

Prioritizing industry sectors and other economic groups must be done within a regional context. In general, focus should be on industry sectors that make the largest contribution to the economy and that have the greatest growth potential.
Smaller businesses and organizations have difficulty in adopting complex Internet applications and processes.
SMEs make up the vast majority of businesses and organizations.

While SMEs may have lower utilization, but they are the most effective at leveraging the Internet to create jobs.

<table>
<thead>
<tr>
<th>Employment Range</th>
<th>Bluegrass</th>
<th>East</th>
<th>South</th>
<th>West</th>
<th>Statewide</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 19</td>
<td>83.8%</td>
<td>86.9%</td>
<td>86.6%</td>
<td>86.4%</td>
<td>85.0%</td>
</tr>
<tr>
<td>20 to 49</td>
<td>10.0%</td>
<td>8.7%</td>
<td>8.7%</td>
<td>8.8%</td>
<td>9.5%</td>
</tr>
<tr>
<td>50 to 99</td>
<td>3.4%</td>
<td>2.3%</td>
<td>2.4%</td>
<td>2.5%</td>
<td>3.0%</td>
</tr>
<tr>
<td>100 to 499</td>
<td>2.6%</td>
<td>1.9%</td>
<td>2.0%</td>
<td>2.0%</td>
<td>2.3%</td>
</tr>
<tr>
<td>500 or more</td>
<td>0.3%</td>
<td>0.2%</td>
<td>0.3%</td>
<td>0.2%</td>
<td>0.2%</td>
</tr>
</tbody>
</table>
Prioritize Small Business

Focus on the small-medium enterprise segment, especially 1-49 employees, to increase Internet utilization, thereby driving competitiveness, revenues and job creation.

Small to medium sized organizations should be a focus for the following reasons:

• Largest number of establishments (95%) and significant employment (43%)
• Lowest utilization level compared to larger employment segments
• Dynamic engines for employment growth, especially through use of the Internet
• Least capacity and expertise to adopt more sophisticated Internet applications
Switching from *Who* to Prioritize to *What Areas* to Prioritize
Not all Internet applications and processes are adopted with equal ease or speed

<table>
<thead>
<tr>
<th>Quick to adopt</th>
<th>Slow to adopt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access government information</td>
<td>Teleworking</td>
</tr>
<tr>
<td>Electronic document transfer</td>
<td>Rich media or service creation</td>
</tr>
<tr>
<td>Purchasing Goods and Services</td>
<td>Selling goods or services</td>
</tr>
<tr>
<td>Research by staff</td>
<td>Deliver services or content</td>
</tr>
<tr>
<td>Web site</td>
<td></td>
</tr>
</tbody>
</table>

*Rich media describes Web pages that use advanced technology such as streaming video, downloaded programs that interact instantly with the user for advertising.*
Focus On Critical e-Solutions

Initiatives aimed at increasing utilization among small to medium enterprises should focus on the following 10 categories:

1. Delivery of services and content
2. Rich media or service creation
3. Teleworking
4. Staff training and skills development
5. Advertising and promotion
6. Social networking
7. Government transactions
8. Customer service and support
9. Selling goods or services
10. Supplier communication and coordination
Household broadband adoption depends on awareness and skills in utilization of e-solutions – it’s about personalizing value.
Broadband’s Value to Households

Internet patterns of use depend on awareness

In the United States:

- 66% of households have broadband *
- 2/3 of Americans feel that broadband at home is important for finding out about jobs or learning career skills *
- Yet, 48% of non-Internet users do not go online because they do not see the value *

*Source: Home Broadband 2010, Pew Internet & American Life Project
### Regional differences in Household Utilization

<table>
<thead>
<tr>
<th>Region</th>
<th>Rank</th>
<th>Average DEI Score</th>
<th>Difference from Average</th>
<th># Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bluegrass</td>
<td>1</td>
<td>5.39</td>
<td>0.24</td>
<td>526</td>
</tr>
<tr>
<td>West</td>
<td>2</td>
<td>5.14</td>
<td>-0.01</td>
<td>381</td>
</tr>
<tr>
<td>South</td>
<td>3</td>
<td>4.95</td>
<td>-0.20</td>
<td>286</td>
</tr>
<tr>
<td>East</td>
<td>4</td>
<td>4.92</td>
<td>-0.23</td>
<td>261</td>
</tr>
<tr>
<td>Kentucky</td>
<td></td>
<td>5.15</td>
<td></td>
<td>1,454</td>
</tr>
</tbody>
</table>
### Regional Dimensions on Household Productivity

<table>
<thead>
<tr>
<th>Productivity Category</th>
<th>Bluegrass</th>
<th>East</th>
<th>South</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessing workplace</td>
<td>49.2%</td>
<td>36.8%</td>
<td>39.7%</td>
<td>36.8%</td>
</tr>
<tr>
<td>Home business</td>
<td>28.1%</td>
<td>16.5%</td>
<td>19.4%</td>
<td>19.3%</td>
</tr>
<tr>
<td>Teleworking</td>
<td>23.6%</td>
<td>14.7%</td>
<td>14.0%</td>
<td>16.0%</td>
</tr>
<tr>
<td>Education or training courses</td>
<td>42.9%</td>
<td>38.1%</td>
<td>38.4%</td>
<td>39.0%</td>
</tr>
</tbody>
</table>

**Urban areas use the Internet more for productivity – Kentucky patterns in home-based businesses differ from other States**
The Digital Divide Impacts Household Earning Power

Relationship between DEi Score and Frequency of Use

### Biggest benefits!

- Teleworking
- Voice over IP
- Home business
- Personal website
- Selling items: E-commerce
- Accessing workplace services
- Watching TV programs
- Music or videos
- Online banking
- Education and training
- Online chat
- Community events
- Travel information
- News and sports
- Buying online
- Product information
- E-mail

Increasing Level of Sophistication and Higher DEi

Pct. Households | Ave. DEi Score
--- | ---
18% | 7.4
21% | 7.0
27% | 6.9
27% | 6.8
27% | 6.7
27% | 6.6
33% | 6.5
39% | 6.5
42% | 6.5
40% | 6.5
37% | 6.4
57% | 6.4
62% | 6.2
71% | 5.9
70% | 5.9
67% | 5.9
76% | 5.7
76% | 5.7
81% | 5.6
81% | 5.6
88% | 5.5
90% | 5.5
96% | 5.3

© Strategic Networks Group, Inc. 2011
## The Digital Divide in Utilization

### Age and income determinants in use of e-solutions by households

- The younger and the richer you are, the more you use
- The older and the poorer you are, the less you use

<table>
<thead>
<tr>
<th>Respondent Age</th>
<th>Household Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less than $30,000</td>
</tr>
<tr>
<td>18 to 34 years</td>
<td>5.09</td>
</tr>
<tr>
<td>35 to 54 years</td>
<td>4.62</td>
</tr>
<tr>
<td>55 to 64 years</td>
<td>4.58</td>
</tr>
<tr>
<td>65 years and over</td>
<td>3.32</td>
</tr>
</tbody>
</table>
Driving Adoption among Target Populations

Target the population that under-utilizes and know how to reach them

Preferred Learning Method for Seniors

- **Online Info**
  - Preferred: 45.7%
  - Sometimes: 47.0%
  - Never: 7.3%

- **Talk to Others**
  - Preferred: 45.7%
  - Sometimes: 45.1%
  - Never: 9.3%

- **Books**
  - Preferred: 26.5%
  - Sometimes: 61.1%
  - Never: 12.3%

- **Webinar**
  - Preferred: 25.5%
  - Sometimes: 42.2%
  - Never: 32.3%

- **Online Course**
  - Preferred: 21.2%
  - Sometimes: 40.0%
  - Never: 38.8%

- **Workshop**
  - Preferred: 15.4%
  - Sometimes: 40.4%
  - Never: 44.2%

- **Classroom**
  - Preferred: 15.3%
  - Sometimes: 35.7%
  - Never: 49.0%
To propel innovation and economic benefits, the Kentucky Internet benchmarking initiative for 2012 will add the following areas:

- Impacts (benefits, revenues, job creation)
- Home based businesses
- Customization of reports for regions and industries
- Suggestions?
Stakeholder participation is key to maximizing regional, local, and industry specific data. They will also become the prime users of the resulting data and analysis.

- Understand where investment can have the greatest impact by identifying needs, gaps, and demand for broadband.

- Improve local productivity and competitiveness by benchmarking against peers and industry sector leaders, within and outside your region.

- Promote awareness, drive utilization, and leverage assets to maximize socio-economic benefits.

- Develop regional and sectoral strategies based on a customized analysis of the current patterns of Internet use.
How Stakeholders Can Participate

Survey Deployment
- Letters of encouragement to constituents
- Contacts lists (e-mail addresses)
- Co-sponsorship for key sectors

Planning
- Identify strategic priorities for data collection and analysis
- Participate in regional planning efforts
- Utilize data and analysis
Questions, comments

Setting priorities for data collection

- What are high priority issues for broadband utilization?
- What additional utilization data would be of high value.
- Identify opportunities for collaboration on collection and use of data and analysis.
Let’s connect!

Derek Murphy
Strategic Networks Group, Inc.
+ 1.250.226-7182
dmurphy@sngroup.com