

## Survey of Information & Communication Technologies and Related Needs

|                      |                  |
|----------------------|------------------|
| Date:                | By:              |
| Contact:             | Title/Position:  |
| Tel:                 | e-Mail:          |
| Organization:        | Web site:        |
| Number of locations: | Total employees: |

Return survey to: John Nichols, Virginia Tech, 1770 Forecast Dr., Blacksburg, VA 24061, or e-mail to John.Nichols@vt.edu. Call or e-mail John, if you have questions (Tel: 540-231-4336, Fax 540-231-3928).

Separate voice, data, and video networks are converging over time to an integrated digital network. In the section that follows, describe communication services, access technologies, costs, and additional needs/desires by location for each type of service. For service providers, this survey may be applicable to internal business needs.

Repeat this page for each location:

|                        |                        |
|------------------------|------------------------|
| Name:                  |                        |
| Street:                |                        |
| City/State/Zip:        |                        |
| Employees at location: | End users at location: |

Voice: (e.g., dial-lines, dial-trunks, Voice over IP, ISDN (Basic or PRI), T1/DS1, T3/DS3, wireless)

- Service:
- Provider:
- Access technology (e.g., telephone-wire, coax-cable, fiber, wireless, satellite):
- Cost/mo:
- Needs/desires:

Data: (e.g., dial-up, ISDN (Basic or PRI), DSL, cable modem, satellite, T1/DS1, T3/DS3, OC3c, wireless)

- Service:
- Provider:
- Throughput to premise: Throughput from premise:
- Access technology:
- Cost/mo:
- Needs/desires:

Video: (e.g., cable TV, satellite TV, wireless cable TV, digital video, video over IP)

- Service:
- Provider:
- Access technology:
- Cost/mo:
- Needs/desires:

Other communication service:

- Service:
- Provider:
- Access technology:
- Cost/mo:
- Needs/desires:

**What is broadband?** Broadband is high-speed, always available, access to the Internet and Intranet. User applications determine the throughput and quality of service that broadband networks must support, whether wired, or wireless. Low end speeds suitable for many applications are about one megabit per second. Common home and office LAN speeds are 100 megabits per second. High end speeds are about one gigabit per second, with ten gigabits per second now becoming available. Viewing high quality video and transferring large files may need 20 Mbps to hundreds of Mbps. Cost for two-way 10/100/1000 Mbps *access* in some municipal and non-profit networks is in the \$30-\$40/mo range, which is a desired goal. Additional services over the network connection, such as Internet, dial-lines, Voice over IP, and commercial video-on-demand generally cost extra.

In the following table, place a checkmark in the column for network applications your organization is *using now*, plus those *expected* to be used. This provides a measure of utilization and throughput needs.

| <b>Internet and Intranet Applications</b>                         | <b>Used now?</b> | <b>Expect to use?</b> |
|---|------------------|-----------------------|
| e-Mail, with attachments  |                  |                       |
| Web browsing and research   |                  |                       |
| Voice over IP   |                  |                       |
| Teleworking   |                  |                       |
| Banking   |                  |                       |
| Placing orders  |                  |                       |
| Making payments   |                  |                       |
| Web site for marketing or publishing information                  |                  |                       |
| Web site for receiving orders/payments                            |                  |                       |
| Web site for providing customer or employee support               |                  |                       |
| Education and training  |                  |                       |
| Audio streaming on demand   |                  |                       |
| Video streaming on demand   |                  |                       |
| Videoconferencing   |                  |                       |
| Monitor & control for security, alarms, health applications, etc. |                  |                       |
| Transfer large files  |                  |                       |
| Telemedicine  |                  |                       |
| Online graphical applications (e.g., computer aided design, GIS)  |                  |                       |
| Network storage and/or backup                                     |                  |                       |
| Disaster recovery and loss avoidance of data                      |                  |                       |
| Communications between site locations at T1 speeds                |                  |                       |
| Communications between site locations at higher than T1 speeds    |                  |                       |
| Wireless LAN access wherever your users may need it               |                  |                       |
| Other (specify):  |                  |                       |

To what level is your organization fully *utilizing* the above applications (1-10, where 1 is lowest)? \_\_\_\_\_

To what level does your organization have the *skills* and *training* to fully utilize the above applications (1-10, where 1 is lowest and 10 is highest)? \_\_\_\_\_

Given expected applications, what throughput speeds are needed? To premise \_\_\_\_\_ From premise \_\_\_\_\_

At what price/month would you consider paying for access that supports the expected applications? \_\_\_\_\_

What could be done within your community to reduce network costs, improve network speeds, or meet specific broadband needs (use more pages, if needed)?