

Redundant communications systems for BT preparedness.

3/27/2003

Assumptions:

1. Voice communications are primarily over landlines.
2. Data communications are primarily over T-1 or DSL lines.
3. During emergencies, BT staff in counties and the state may need redundant communication systems if primary systems are not functioning.
4. During emergencies, communication systems should support 24/7 contact of state and county BT staff and ability to transmit data and voice if primary systems are down.
5. If primary data and voice systems are down, backup is cell phone and pagers (voice and data).
6. If cell phone towers are down too, backups are Nextels (voice only) and satellite systems (voice and data).
7. Radios are also good backup systems, and many counties already use them. We endorse their use and suggest that counties use the same system that their emergency responders use. If the county radio system is not working, HAM operators are available to transmit messages.

Options for redundant systems:

1. Cell phones:
 - a. Many cell phones can receive both voice and limited data communications. If configured, they can also receive pages, which will remain on the phone for four days if out of the service area. The phones will not function if the cell towers are damaged.
 - b. Their use is limited to service areas, which mainly include the I-5 and I-84 corridors and the Bend area.
 - c. The widest coverage for Oregon is from AT&T and Verizon. Although the service area is more limited, we also recommend Nextel because the phones have a two way radio option that will function over the Oregon service area even if the cell towers are down. The web sites show pricing and coverage areas. Our Oregon representatives can help set up service.
 - i. AT&T
 1. <http://www.attws.com/>
 2. Amy Milligan- 503-931-8888
AT&T Wireless
1600 SW 4th Ave.
Portland, OR 97201
 - ii. Verizon
 1. <http://www.verizonwireless.com>
 2. Bob Fletcher - 503-312-3000
 - iii. Nextel
 1. <http://www.nextel.com>
 2. Katy Leitch- Nextel phone: 503-969-1837
Office: 503-277-5435

Email: katy.leitch@nextel.com

2. Two way pagers
 - a. Pagers can be used to receive and send text messages. Like cell phones, coverage is an issue for much of Oregon. And a page will not remain on the pager if you are out of the service area unless you subscribe to voice mail. However, this is the least expensive service.
 - b. The most widely used and serviced 2-way pager is the Motorola Talkaround (http://commerce.motorola.com/cgi-bin/ncommerce3/ProductDisplay?prfnbr=215495&prmenbr=126&pager_cgrfnbr=13&zipcode=) and is available from several vendors for \$100.
 - c. The best coverage for the state is from Metrocall and Arch. The web sites show pricing and coverage areas. Our Oregon representatives can help set up service.
 - i. Metrocall
 1. http://storefront.metrocall.com/mcell/os_products_2way.asp?mscssid=M8M28FUS1LLE8M7E0F9E7SWTJAAC4FA0
 2. Gail Hobson - 503-469-4022
 - ii. Arch
 1. <http://content.arch.com/products/webster100.html>
 2. Jenny Turner- 503-672-8411
 3. price – as low as \$10/month
3. Satellite services - The major benefit of satellite services is that they work everywhere and need no additional infrastructure (wires, towers, etc.). The downside is the cost and necessity for line of sight to the sky.
 - a. Phones – There are a number of satellite phone systems, and they are very useful for outgoing communication. But, because the antenna has to have a direct line of sight to the sky, they are not too useful for incoming calls (unless you live and work outside). Sat phones can be used for both voice and data transmission, although the data transmission is very slow (20% of standard dialup service). We use Globalstar for state backup phones, and Spirit Wireless provides a portable docking kit for Globalstar phones that will allow the phone to ring indoors.
 - i. Both can be found at <http://www.spiritwireless.com>.
 - ii. Bryan Dear 866-728-7368 (tollfree); 503-723-5193
bryan@spiritwireless.com
 - b. Pagers – Iridium pagers work indoors. No other types of satellite linkages will call you indoors unless you have an outdoor antenna. Iridium pagers are the only satellite pagers sold. They are only one-way but do have voice mail. Some sources of information include:
 - i. Global Information Technologies-
http://www.gitsat.com/irservice_pager.htm
 - ii. Infosat Communications-
http://www.infosat.com/services/iridium/motorola_9501_pager.htm
 - iii. Page Link System- <http://www.page-link.com/>

- iv. World Communication Center
[http://www.wcclp.com/index.php/page/55 - q1](http://www.wcclp.com/index.php/page/55-q1)
- c. High speed Internet – There are two companies that provide high speed, always-on Internet. This system requires a major equipment investment (\$700 plus installation) and \$50-70/month. Satellite Internet, however, is the ultimate emergency communication system.
 - i. Earthlink/DirectPC-
<http://foyt.msd.earthlink.net:81/broadband/satellite/availability.html>
 - ii. Starband- <http://www.starband.com/>
- 4. Hand held radios – Radios are often the preferred communications device for emergency responders (police, fire, EMT). The radios function during most emergencies and often work outside cell and pager areas. For counties that think radios would be useful, we suggest that you use the same equipment and frequency that your emergency responders do (with their permission). It is possible to get equipment that is tone activated and have a specific tone set for health emergencies. Thus, you will not need to have the radio on all the time.