

## Functionality in Emergency Situations

### Back-Up Power

With our current infrastructure there are two locations within our network, where backup battery is a concern; central offices and ONT's locations at the customer premise. Each are addressed below:

#### CO

Midstate Telecom has 3 Central Offices serving 100% of our customer base. The switching and transport systems inside these CO's are powered by DC power with current draws ranging from approx 15 amps to 45 amps. The runtime of each battery system is slightly different based on current draw and battery size but they range from approx 12 hours to approx 40 hours. We possess a 60KW portable generator for deployment of any outage we anticipate to be longer than the battery run times, thus ensuring Central Office operation throughout a power outage.

#### ONT

The ONT's are located at every customer premise in our Midstate telecom service area. We have approximately 997 deployed ONT's delivering service to 100% of our subscribers. Any ONTs located with the city limits are equipped with a minimum of an expected runtime of 8 hours. Knowing the power failures outside the city limits can be longer, we deploy a larger battery providing additional run time. These batteries are 20AH and deliver an expected runtime of greater than 16 hours.

### Rerouting of Traffic around Damaged Facilities

**All** core networks connections are ring protected and any established traffic is automatically rerouted without impact to these customers. Any call not yet established or in a "Setup" state during a reroute situation (fiber cut, central Office failure, etc.) would fail and these callers would need to reacquire dial tone and re-place the call. The routes would be available is less than 1 second, thus any subsequent call attempts would be successful.

Our connection to the outside world is via our centralized equal access provider: South Dakota Network. The Kimball office is positioned in the logical center of our network and houses a node on the above mentioned statewide DWDM MPLS network. This network utilizes alternate fiber routes throughout the state of South Dakota functioning in a mesh environment to deliver our traffic to the SDN location in Sioux Falls, South Dakota. As for our Intra-company Inter-exchange facilities; they include: 3- EPS rings (Calix), 1- OC 48 ring (Fujitsu), and 1- MPLS ring (Brocade) functioning in a mesh environment.

## Traffic Spikes

Currently Midstate provides dial tone to approximately 4200 subscribers. The softswitch we utilize is manufactured by MetaSwitch and can support 250,000 subscribers before any expansion or upgrade is required. Our customer connections to this switch are either GR303 or MGCP and in this configuration the switch can support 1.3M Busy Hour Call Attempts. As for the trunking, we have toll and 911 routes to South Dakota Network and CenturyLink. These routes are actively monitored for overflow and near overflow states. Any near overflow or overflow situations are address immediately after receiving any alarm.