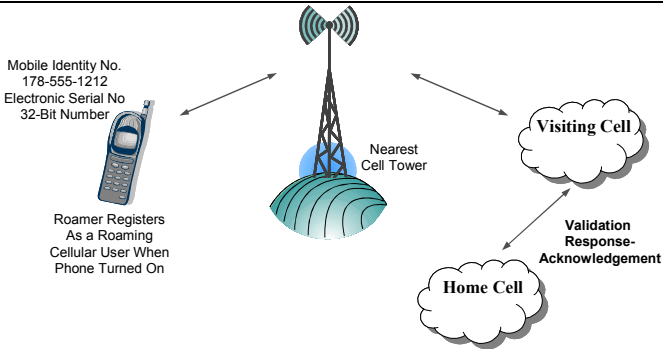


How the Telemetric Control Channel Solution Works

The Telemetric system is based on the registration process for a roaming cellular telephone. A roaming cellular customer is defined as a customer operating outside of his or her local system. When a cell phone is initially turned on, it compares the System I.D. of its home system to the I.D. being sent to it from the local cell tower. If a match occurs, then the telephone is operating in its home system. If not, the cell phone illuminates its roaming light to alert the customer that roaming rates will apply. As shown in the diagram below, when the roaming cell phone registers with the visiting cellular system, it sends its identification numbers to the local cellular provider's database.

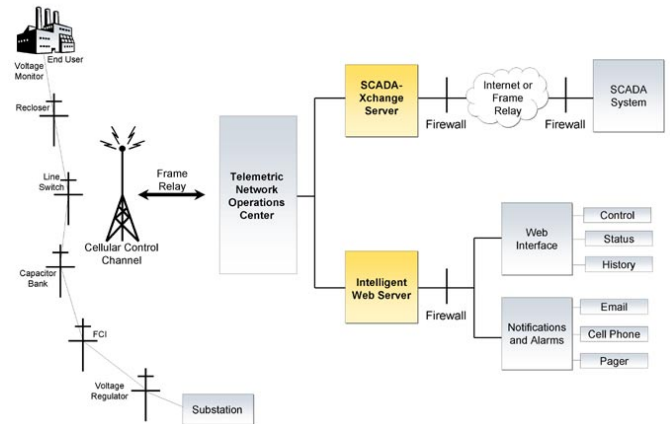
Figure 1: Roaming Cell Phone Data Flow



In this example, a cellular customer from San Jose is roaming in St. Louis. The St. Louis carrier recognizes that the roaming cellular customer is not one of its own cellular customers and looks in its database to determine which home market corresponds to the roamer's identification number. Once the routing is determined, a request for validation is routed to the home market in San Jose.

The San Jose carrier checks its database and determines that the cell phone is valid, verifies the customer's requested calling features and determines that the customer's bill is current. This information is sent as a Registration Notification back to the local carrier. The roaming customer now enjoys the same level of cellular service in the local market they are visiting as in their home market in San Jose.

Figure 2: Telemetric Data Flow



In the diagram above, a Telemetric unit replaces the roaming cell phone. Rather than purchasing airtime from the major carriers throughout North America, Telemetric purchases its communications from a control channel provider, who negotiates excess capacity from the two major carriers in each cellular region. The process works just like the roaming cell phone example, except the registration call now contains the data being reported by the Telemetric device. The local switch recognizes that the radio is not one of its own cell phones and looks up its home market, which looks like another cellular carrier to the local switch. Once the data packet arrives, the information is decoded and routing information is deleted. Because the data packet is completely passed during the registration process, sending the message does not incur any long-distance fees, and is sent within seconds. Data is then passed to the Telemetric Network Operations Center via a secure TCP/IP connection.

The Telemetric unit, using the cellular control channel service, operates completely within the rules of the established cellular network, without disturbing or compromising the voice-based calls in any way. In addition, the Telemetric customer does not need to negotiate with or be aware of the local cell phone providers.

Once the data reaches the Telemetric system, the customer has three choices to receive the data. First, the customer can view the data on the secure Telemetric web server. Second, the customer can have the data transferred to an existing SCADA system. Finally, the customer can generate alarms based on changes in data. These alarms can be delivered via any cellular text-messaging device.