

# **Report on 911 Outage case**

**By Marshall & Jessica**

## **What were the problems?**

On April 9th, 2014, The 911 emergency call system suspended to work properly in all of Washington State and parts of Oregon, which caused 4500 emergency calls to be unanswered. The routing system stopped accepting new calls, and the callers only received a response of "fast busy". It was a nationwide problem: the outage affected states including Washington, California, Florida, Minnesota, North Carolina, Pennsylvania, and South Carolina.

## **What caused them?**

The cause was blamed at a telecom provider—CenturyLink. According to the U.S. Federal Communications Commission, the outage was caused by a "software coding error in a 911 Emergency Call Management Center (ECMC) automated system". When the system reached the limit of 40-million calls, it stopped working and did not send any alarm to the operator until more than an hour later on. The deeper cause might be the fragile interaction of new Next Generation 911 (NG911) and old traditional circuit-switched time division multiplexing (TDM) systems.

## **How can other cities and municipalities avoid such problems?**

Firstly, compatibility with the older system should be checked before switching to a new system. Second, people should ensure that the pre-set limit of the counter should be large enough for the city; it should far exceed the population of the city. Furthermore, the city should anticipate and prepare for contingencies. In addition, a fail-over system would be necessary in case the main system encounters some problems.