911 CALLS UNANSWERED

Software Error Causes 911 Outage

On April 9, 2014, more than 6,000 calls to 911 went unanswered. The problem was spread across seven states and went on for six hours. The Federal Communications Commission investigated this 911 outage and has put a study detailing what went wrong on that day in April. The short answer is that a software error led to the unanswered calls, but there is nearly always more to the story than a single “root cause”.

“On April 9 and 10, 2014, thousands of people had to call 911. But instead of reaching help at the end of the line, they got silence... The source of this multistate 911 outage? Not a natural disaster. Not a power failure. It was a software glitch. A software glitch that put the lives and safety of 11 million Americans at risk.”

- statement by Commission Jessica Rosenworcel

**Problem**
- What: 911 calls unanswered, software glitch
- When: April 9, 2014
- Different, unusual, unique
- More use of automated, Internet-powered infrastructure
- 81 911 call dispatch centers
- Automated call routing systems
- Answering 911 calls
- Impact to the Goals
  - Safety Goal: Potential for injuries and deaths
  - Environmental Goal: N/A
  - Customer Service Goal: >6000 911 calls unanswered
  - Regulatory Goal: N/A
  - Production/ Schedule Goal: >6000 911 calls unanswered
  - Property/ Equipment Goal: Potential for preventable property damage
  - Labor/ Time Goal: Investigation and corrective actions required

**Analysis**
- What: Potential for injuries and deaths
- Effect: 911 calls unanswered, software glitch
- Cause: Automated system stopped accepting new calls for hours
- Evidence: More than 6000 911 calls to 81 dispatch centers unanswered over an 8 hour period

- What: Potential for preventable property damage
- Effect: No one aware that counter was near max
- Cause: Counter hit limit
- Evidence: Findings from FCC investigation

- What: Customer Service Goal: >6000 911 calls unanswered
- Effect: System categorized them as “low level”
- Cause: Counter maxed out
- Evidence: Findings from FCC investigation

- What: Production/ Schedule Goal: >6000 911 calls unanswered
- Effect: Counter used a pre-set limit
- Cause: Software system failed to assign tracking numbers to 911 calls
- Evidence: Findings from FCC investigation

- What: Property/ Equipment Goal: Potential for preventable property damage
- Effect: Large volume of calls coming in
- Cause: System needs to be able to keep track of calls
- Evidence: Findings from FCC investigation

**Solutions**
- Possible solution: Add a new alarm to alert operators when the number of successful calls falls below a certain percentage.
- Possible solution: Increase counter cap.
- Possible solution: Periodically check counter.
- Possible solution: Add a new alarm to alert operators when the number of successful calls falls below a certain percentage.

For a free copy of our Root Cause Analysis Template in Microsoft Excel, used to create this page, visit our web site: ThinkReliability.com