911 CALLS UNANSWERED

Cause Map

1 Problem

What	Problem(s)	911 calls unanswered, software glitch
When	Date	April 9, 2014
	Different, unusual, unique	More use of automated, Internet-powered infrastructure
Where	Facility, site	81 911 call dispatch centers
	Unit, area, equipment	Automated call routing systems
	Task being performed	Answering 911 calls

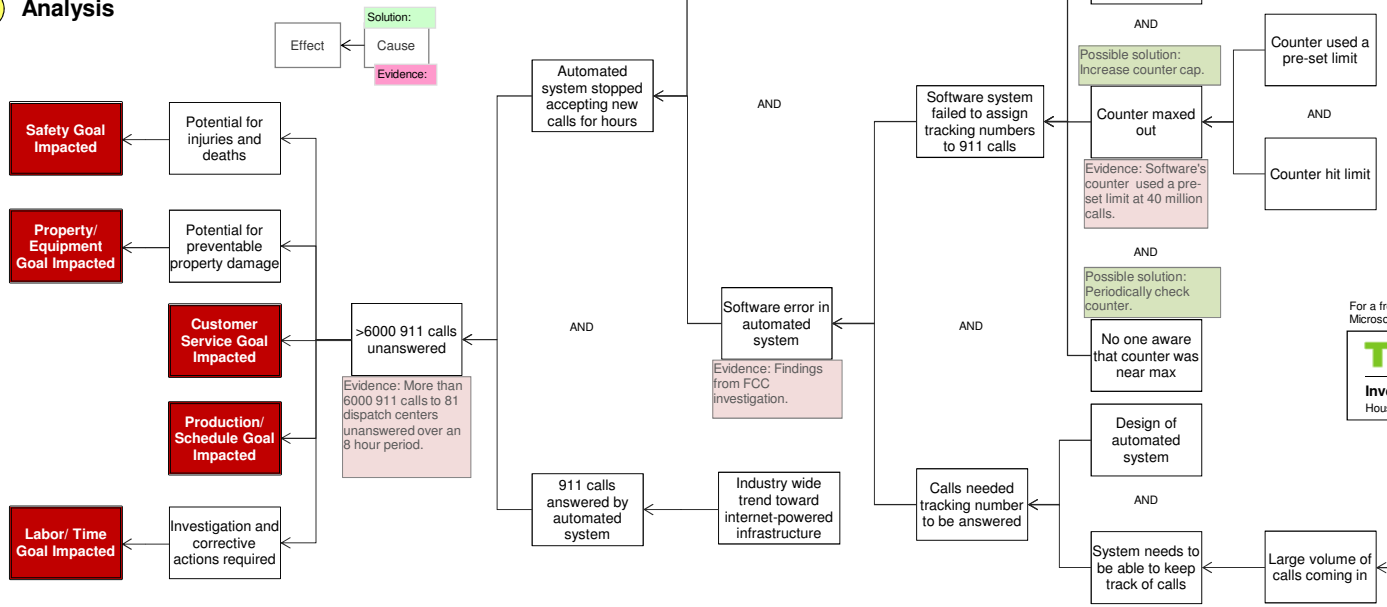
Impact to the Goals

Safety	Potential for injuries and deaths
Environmental	N/A
Customer Service	>6000 911 calls unanswered
Regulatory	N/A
Production/ Schedule	>6000 911 calls unanswered
Property/ Equipment	Potential for preventable property damage
Labor/ Time	Investigation and corrective actions required

"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

2 Analysis



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".

Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.

CAUSE MAPPING

Problem Solving • Incident Investigation • Root Cause Analysis

Step 1	Problem	What's the Problem?
Step 2	Analysis	Why did it happen?
Step 3	Solutions	What will be done?

Why?

Effect ← Cause

NOTE: Read the Cause Map from left to right with the phrase "Was Caused By" in place of each arrow.

3 Solutions

The final step in the Cause Mapping process is to develop and implement solutions to reduce the risk of the problem reoccurring. In order to fix the issues with the software, the pre-set limit on the timer has been increased and will periodically be checked to ensure that the max isn't hit again. Additionally, to help improve how quickly a problem is identified, an alert has been added to notify 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.

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