

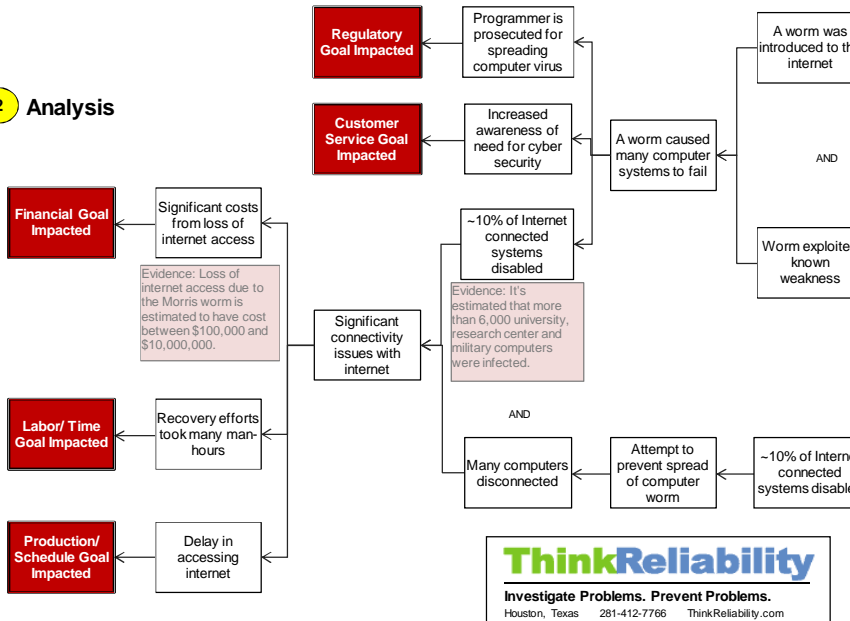
The Morris Worm: The First Significant Cyber Attack

In 1988 the world was introduced to the concept of a software worm when the Morris worm made headlines for significantly disrupting the fledgling internet. The mess left in the wake of the Morris worm took several days to clean up. The estimates for the cost of the Morris worm vary greatly from \$100,000–10,000,000, but even at the lower range the numbers are still substantial.

1 Problem

What	Problem(s)	Internet disrupted by worm
When	Date	November 2, 1988
	Time	~ 6 pm
Where	Different, unusual, unique	First worm of this type
	Facility, site	Launched from MIT
	Unit, area, equipment	The internet
	Task being performed	Attempting to gauge size of internet
Impact to the Goals		
Customer Service		Increased awareness of need for cyber security
Financial		Significant costs from loss of internet access
Production/ Schedule		Delay in accessing internet
Regulatory goal		Programmer is first person prosecuted for spreading computer virus
Labor/ Time		Recovery efforts took many man-hours

2 Analysis



3 Solutions

The short term solutions to the Morris virus were to remove the software from affected computers and get all systems reconnected to the internet. Long term solutions to prevent future worm attacks including fixing the bugs that had been exploited and incorporating cyber security into internet programming.

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?

