

*AVENGERS ASSEMBLE*

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*THE THAPOS INCIDENT*



MX111 D8214 48229 7KX45

# SHIELD



## STRATTON, MATTY

## LEVEL 10

TITLE  
**DEVOPS ADVOCATE**

SEX HAIR HEIGHT  
**M BRN 5-10**

ISSUE DATE / EXP DATE  
**2019OCT14/2022OCT14**



LOSS OF THIS CARD MUST BE REPORTED IMMEDIATELY

CARD SER NO **A 187925**



# *SPOTILER WARTINGS*



I understood that reference.

# SO, WHAT HAPPENED?



# SO, WHAT HAPPENED?

- ▶ We will start by creating a post-mortem on the incident of “The Snap”
- ▶ Our approach will be to address this in a blameless fashion
- ▶ We want to understand what happened, as well as the process the Avengers used
- ▶ For purposes of this discussion, “The Avengers” will include characters not generally considered Avengers, please bear with me

# SO, WHAT HAPPENED?



**Oh okay, I dont even have enough time  
to tell you how wrong you are**

# CONSTRUCT OUR TIMELINE

- ▶ Stick to the facts
- ▶ Include key decisions and actions taken by responders
- ▶ Avoid evaluating what should or shouldn't have been done
- ▶ Start the timeline at a point before the incident began

# HIGH LEVEL TIMELINE

- ▶ Thanos obtains the Power Stone and the Space Stone
- ▶ Thor and the Guardians of the Galaxy decide to split up - Thor to head to Nidavellir with Rocket and Groot, the rest to head to Knowhere
- ▶ Thanos retrieves the Reality Stone from The Collector on Knowhere
- ▶ Dr. Strange uses the Time Stone to view millions of possible futures
- ▶ Thanos sacrifices Gamora on Vormir to obtain the Soul Stone
- ▶ Several team members attempt to recover the Infinity Gauntlet from Thanos on Titan

# HIGH LEVEL TIMELINE

- ▶ Dr. Strange decides to exchange the Time Stone for Tony Stark's life
- ▶ Shuri works to remove the Mind Stone from Vision
- ▶ Various team members attempt to defend Vision in Wakanda
- ▶ Thanos obtains the Mind Stone from Vision
- ▶ Thor attacks Thanos but is unable to defeat him
- ▶ Thanos snaps his fingers, wiping out half of all life



# *GROOT CAUSE ANALYSIS*

Credit to @djpiebob and @this\_hits\_home

# SYSTEMS ARE COMPLEX



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**THERE IS NO SINGLE ROOT CAUSE OF MAJOR FAILURE IN COMPLEX SYSTEMS, BUT A COMBINATION OF CONTRIBUTING FACTORS THAT TOGETHER LEAD TO FAILURE**

# *BLAMELESS*



*So, if anything, it's kind of your fault that I'm here.*

# WHY DOES BLAMELESSNESS MATTER?

- ▶ This impulse to blame and punish has the unintended effect of disincentivizing the knowledge sharing required to prevent future failure
- ▶ The goal of the postmortem is to understand what systemic factors led to the incident and identify actions that can help improve the resilience of the system
- ▶ Stay focused on *how* a mistake was made instead of *who* made it

# WHY IS BLAMELESSNESS HARD?

- ▶ When processing information, the human mind unconsciously takes shortcuts
- ▶ We are hard-wired from millions of years of evolutionary neurobiology to tend to blame
- ▶ The human mind optimizes for timeliness over accuracy, which is reinforced by cognitive biases



*[You think you're some kind of sorcerer?]*

# COGNITIVE BIASES

- ▶ Fundamental attribution error
- ▶ Confirmation bias
- ▶ Hindsight bias
- ▶ Negativity bias



# FUNDAMENTAL ATTRIBUTION ERROR

# CONFIRMATION BIAS

# HINDSIGHT BIAS

# NEGATIVITY BIAS



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# HOW TO AVOID BLAME

**ASK “WHAT” AND “HOW” QUESTIONS  
RATHER THAN “WHO” OR “WHY”**

**CONSIDER MULTIPLE AND DIVERSE PERSPECTIVES**

**ASK YOURSELF WHY A REASONABLE, RATIONAL, AND  
DECENT PERSON MAY HAVE TAKEN A PARTICULAR  
ACTION**

# ABSTRACT TO AN INSPECIFIC RESPONDER

**CONTRAST WHAT YOU DID NOT INTEND WITH  
WHAT YOU DO INTEND**

**ALL PRACTITIONER ACTIONS ARE ACTUALLY  
GAMBLES, THAT IS, ACTS THAT TAKE PLACE  
IN THE FACE OF UNCERTAIN OUTCOMES.**

**Dr. Richard Cook**

**YOU NEVER KNOW. YOU HOPE FOR THE  
BEST, THEN MAKE DO WITH WHAT  
YOU'VE GOT**

**Nick Fury**

# ***WHAT CAN WE LEARN?***





*I see a suit of armor around the world.*

# *HAVE AN INCIDENT COMMANDER*



**DELEGATE AND COORDINATE**

# DECISION MAKER

**SINGLE SOURCE OF TRUTH**

**SHOULD NOT BE A RESPONDER**

# WHO SHOULD BE THE INCIDENT COMMANDER FOR THE AVENGERS?



# *ROTATIONS MATTER*



# *ESCALATE AND BRING IN HELP*



# *HERO CULTURE*



# *TEAMWORK MAKES THE DREAM WORK*



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# SHARE ON-CALL

- ▶ Carol Danvers is the only one who carries a pager!
- ▶ The more folks on-call, the less the load for everyone
- ▶ Having a consistent mechanism for bringing in experts for incident response is key





**Matt Stratton**

@mattstratton



Replying to [@saraislet](#)

I wonder if PagerDuty works in intergalactic space

4:19 PM · Oct 13, 2019

||| View Tweet activity



**insecurity princess** 👑❤️ @saraislet · 11h



Replying to [@mattstratton](#)

Sure, but the latency 🕒



**SO WHAT HAVE WE LEARNED?**



AND PERHAPS MOST OF ALL...



<https://speaking.mattstratton.com>

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