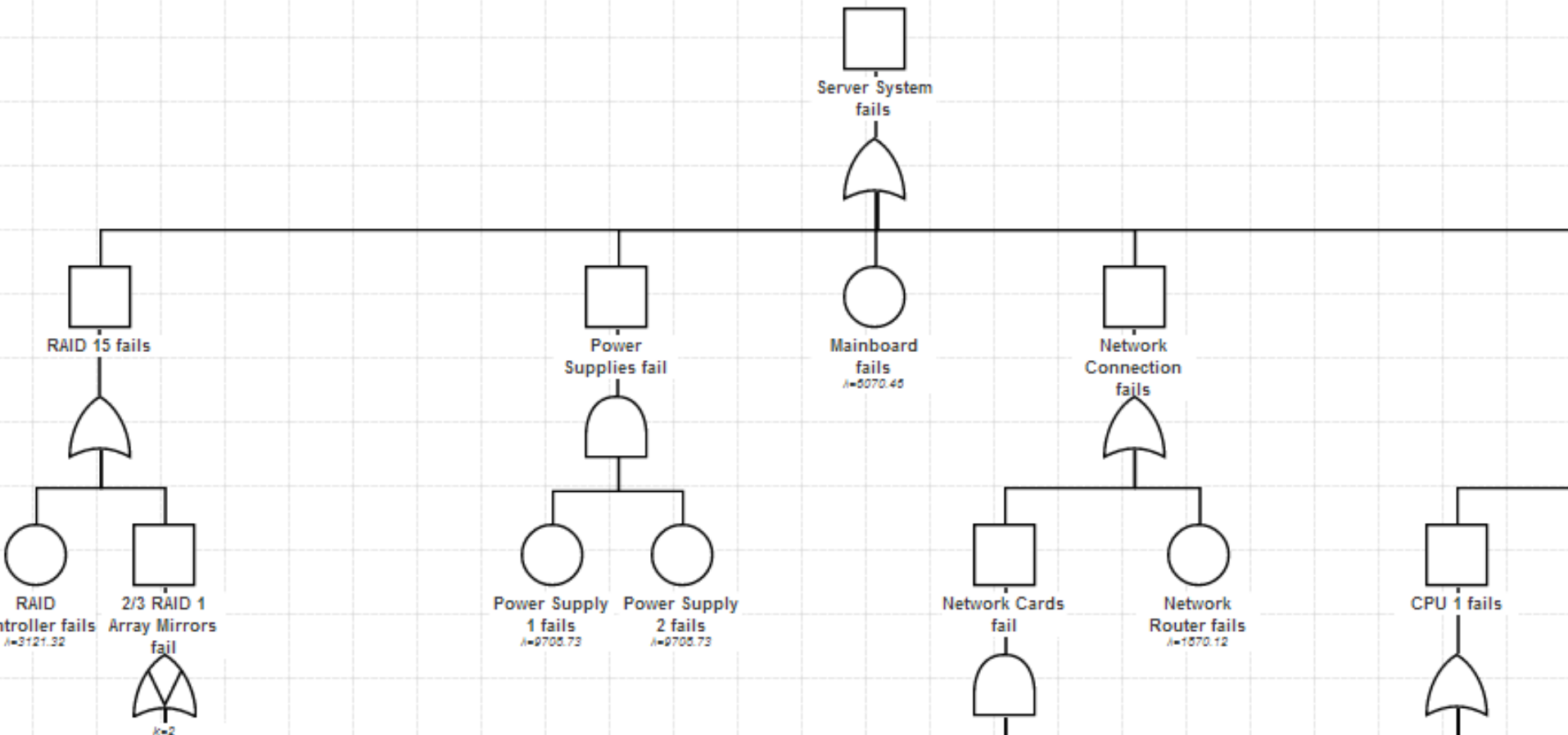


# Dependable Systems

## Assignment 1: Feedback

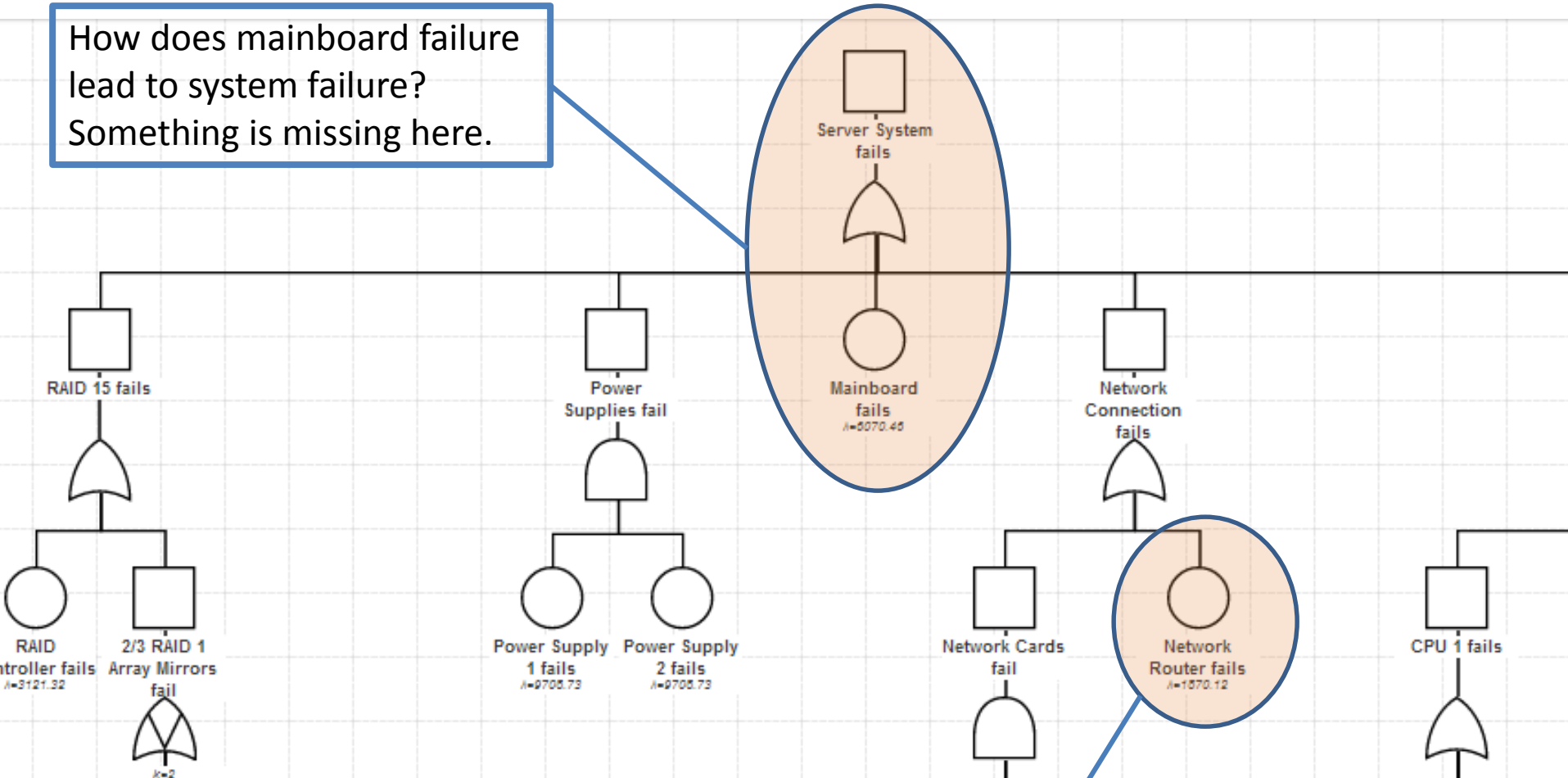
Anton Gulenko

# What can be improved?



# What can be improved?

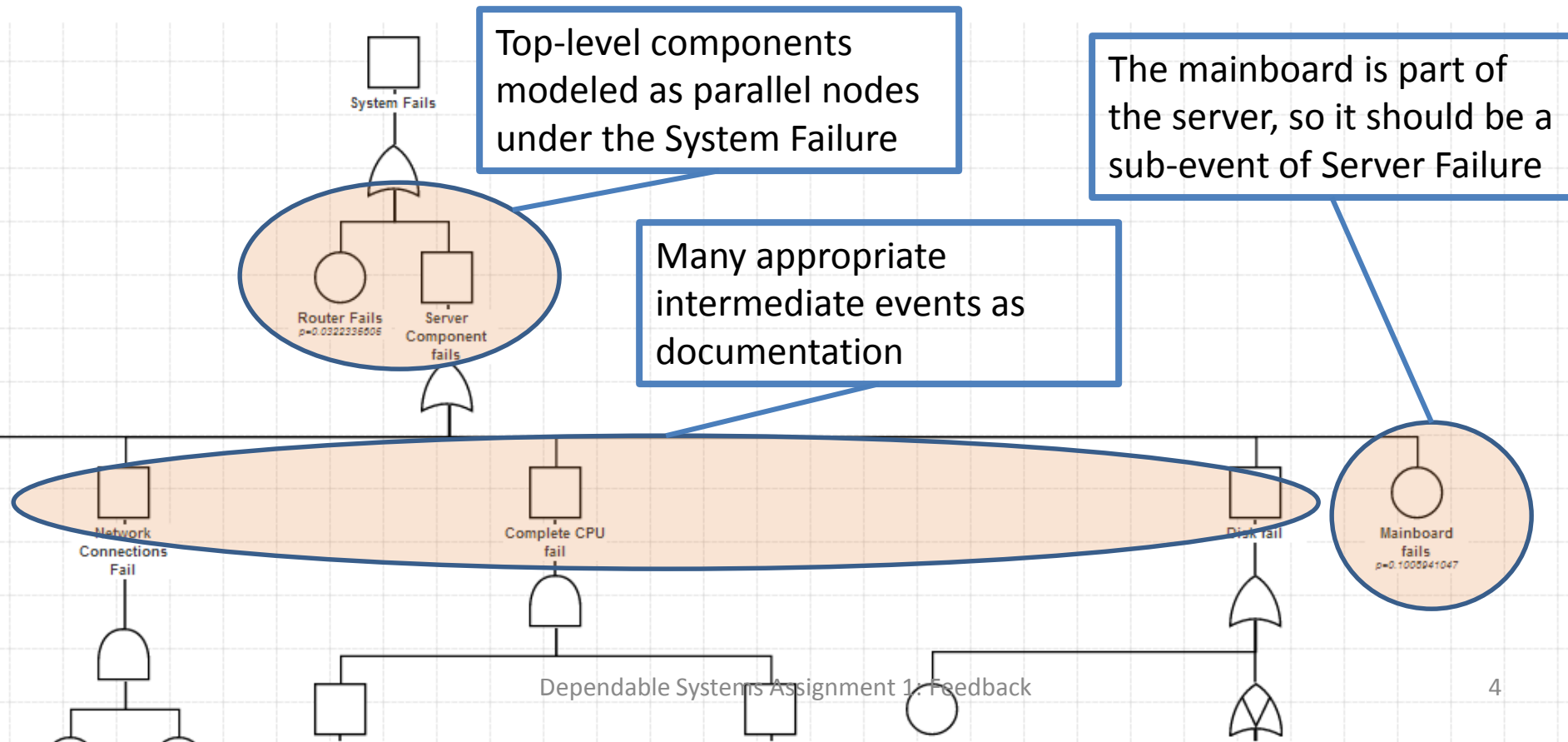
How does mainboard failure lead to system failure?  
Something is missing here.



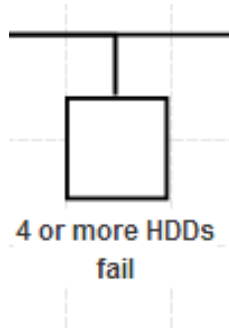
The Router is a top-level component, but modeled deep inside the tree

# Model closely to the physical world!

- Model top-down, add intermediate events
- Makes analysis easier
- Harder to forget something

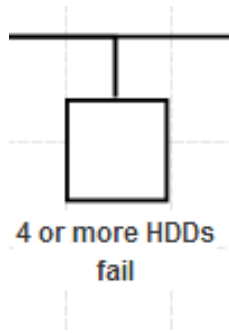


# Modeling Raid15

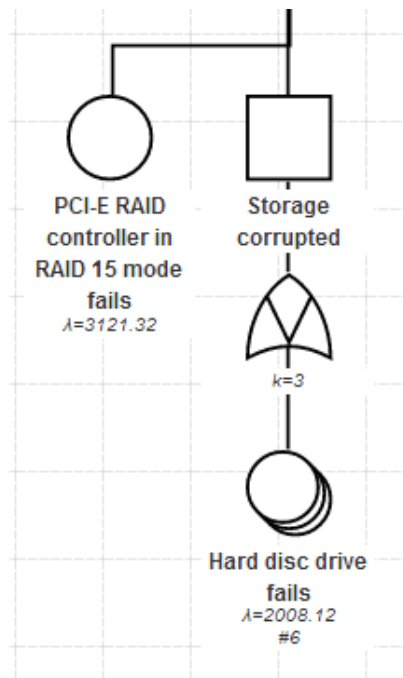


Not enough information, no analysis possible

# Modeling Raid15

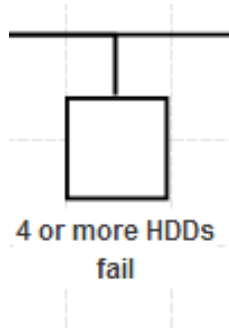


Not enough information, no analysis possible

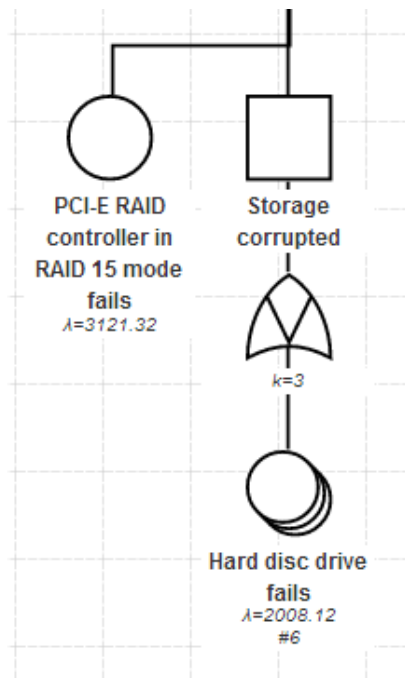


How about 3-out-of-6 or 4-out-of-6?

# Modeling Raid15

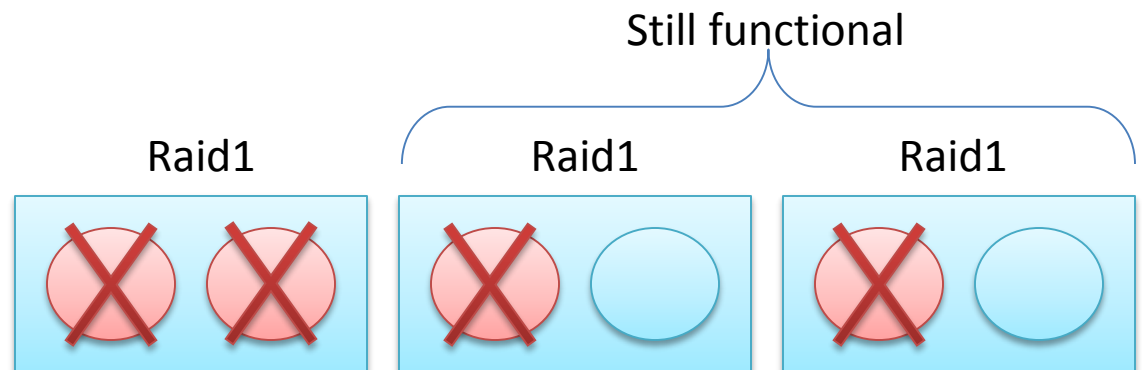


Not enough information, no analysis possible



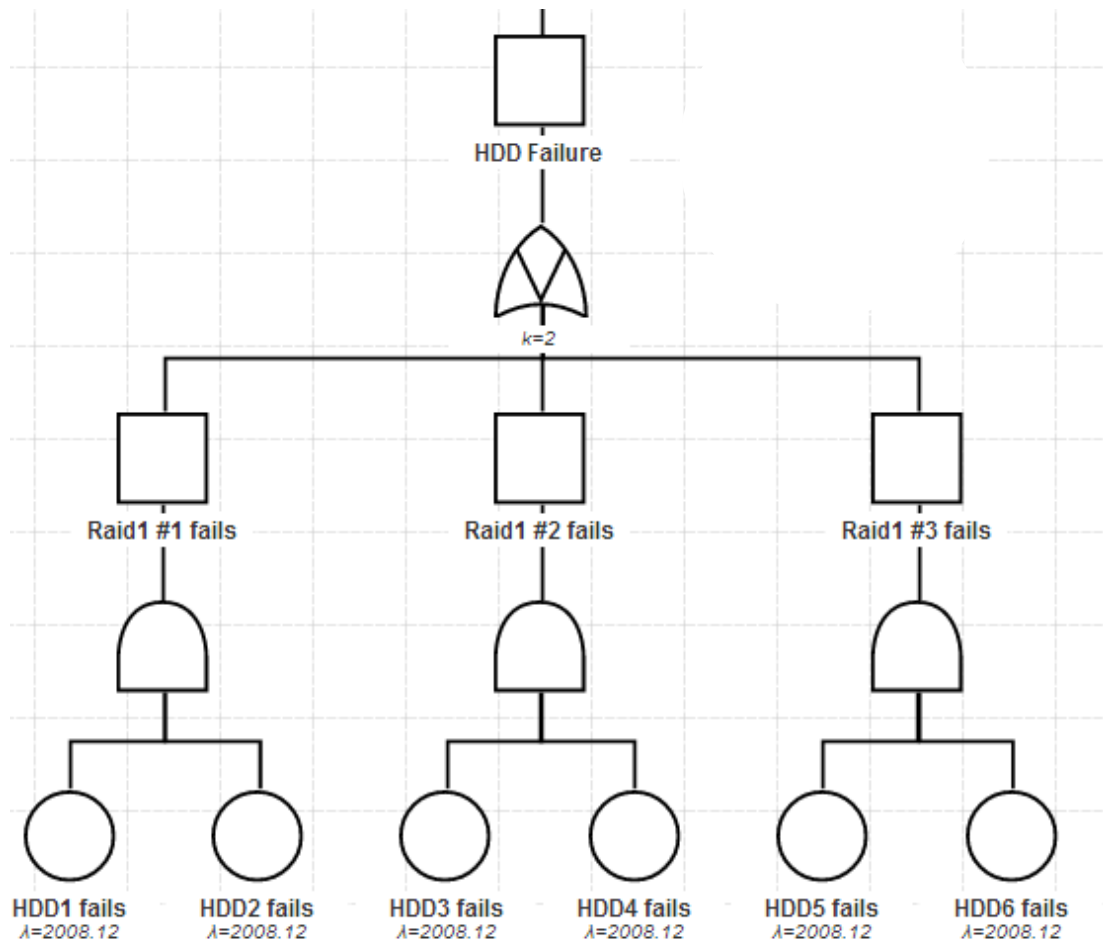
How about 3-out-of-6 or 4-out-of-6?

In some cases, even 4 failures don't crash the Raid15:



# Modeling Raid15

Only correct way: Fully model the 3 Raid1 subcomponents





# Cutset Cardinality vs Probability

- Probability is a better measure for importance of cutsets
- If probabilities of basic events are unknown: cardinality can be used to approximate probability
- Special: single point of failure (cardinality = 1)
  - Systems with FRUs cannot handle this, hotswapping not possible since the system fails immediately