

System Reliability

Moderators:

- Scott Hareland (Medtronic)
- TBD

Background

In many modern system designs, the system of interest may be dependent upon a larger system-of-systems for its performance, functionality, and operation. Some simple examples of this are the need for a medical care facility (hospital system) to operate on the National or Regional Power Grid or streaming video or e-commerce services to require that the internet is up and functioning. Even though the system team is tasked to design the system of interest to serve the needs of the stakeholders, that same team may have little, or zero, influence on the other systems in the system-of-systems context that may be key for the reliability of the system they are developing.

Discussion Topics

In light of a system designer's dependence on external forces and entities that are outside of their domain of control or influence, the workshop will discuss some strategies for providing high reliability systems in this context. Hospitals, as life sustaining operations, address their dependence on the power grid by maintaining backup power capability. Non-life-critical systems may simply choose to be unavailable if the larger system is down. The success of a system to operate, even in a reduced capacity, when other systems are unavailable is a consideration that should be evaluated and considered as part of a system reliability analysis and mitigation approach. The workshop will discuss system reliability issues in this area.