Navy Power System Design Panel: Zonal Design

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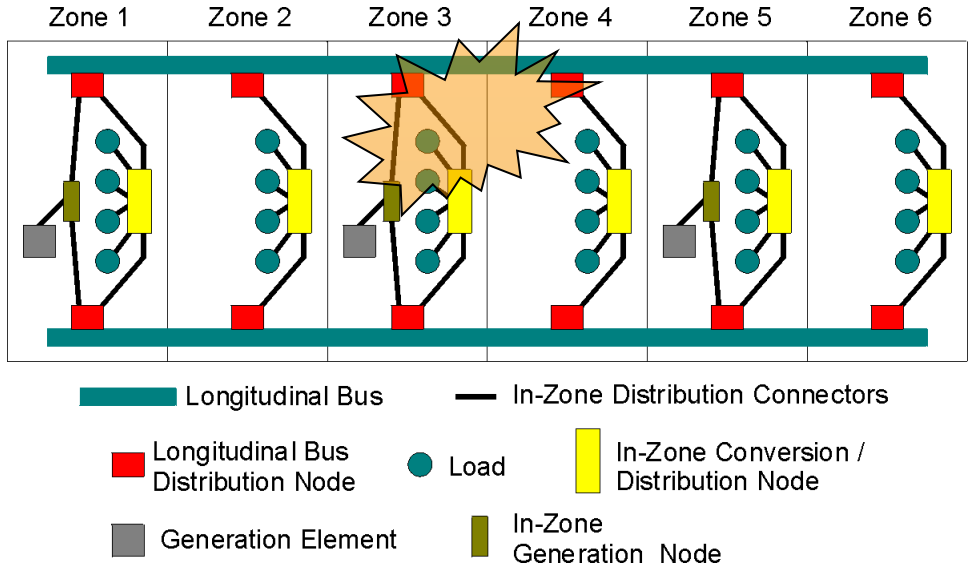
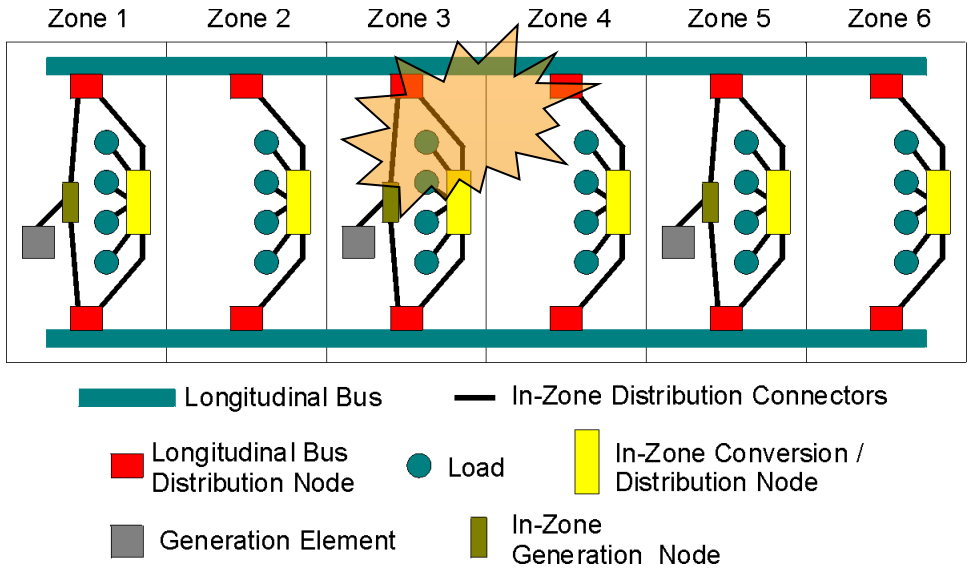
Definition: Zonal Survivability



- The ability of a distributed system, when experiencing internal faults, to ensure loads in undamaged zones do not experience a service interruption.
  - Sometimes applied to only Vital Loads.
  - Usually requires one longitudinal bus to survive damage.
- Limits damage propagation to the fewest number of zones.
  - Enables concentration of Damage Control / Recoverability Efforts.

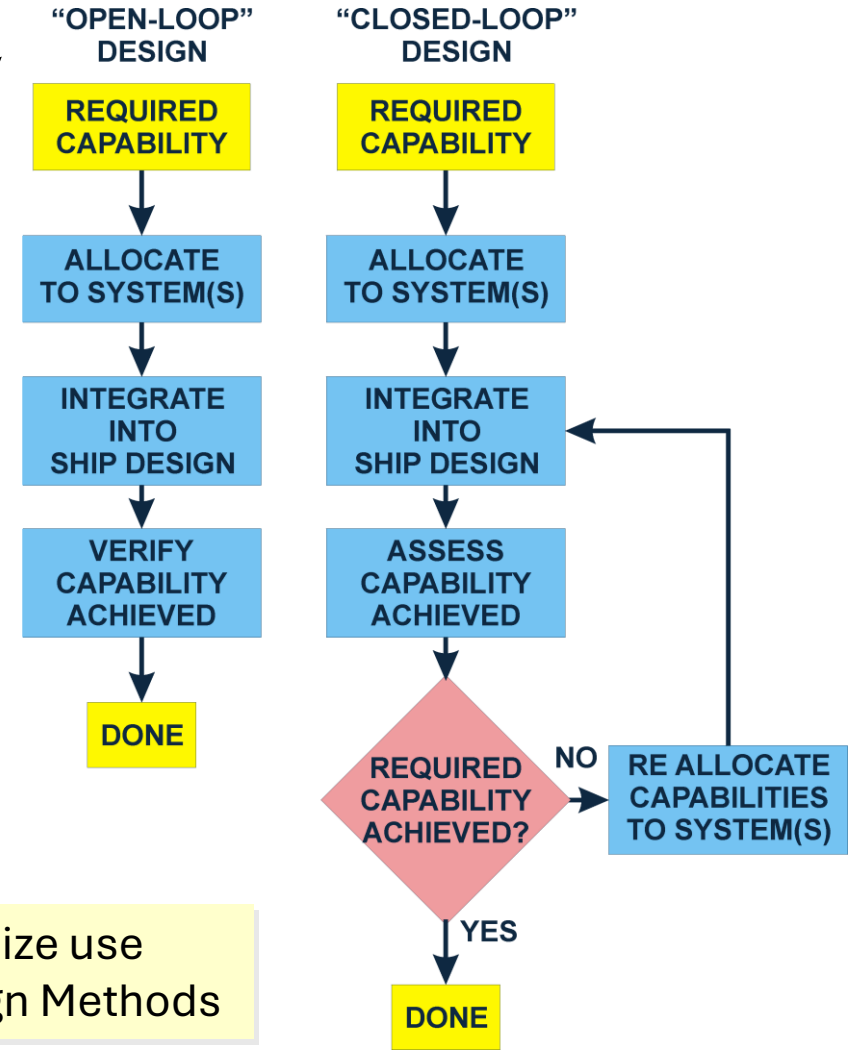
Definition: Compartment Survivability



- Provide capability to recover selected undamaged loads in a damaged zone.
  - Often requires redundant feeds.
- Which Loads to Select?
  - Non-redundant Mission Systems
  - Loads supporting damage control efforts

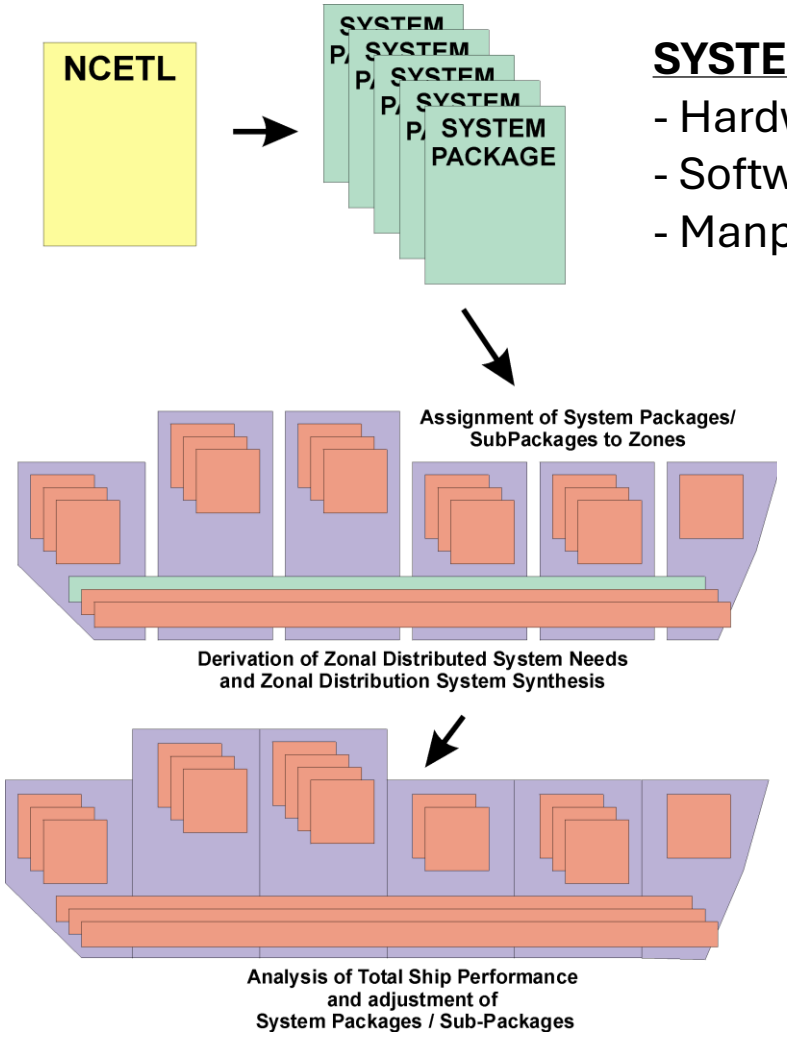
Open Loop and Closed Loop Design

Accelerates Convergence Of a Design



For Speed: Maximize use Of "Open Loop" Design Methods

Zonal Design Process



SYSTEM PACKAGE:

- Hardware
- Software
- Manpower

Zonal Design:

For capabilities that are required to survive, assign associated redundant Packages / Sub-packages such that loss of any 2 adjacent zones will leave sufficient functionality in undamaged zones.

Goal:

Make Survivability
an “Open Loop” Design Process
rather than a “Closed Loop” Process