



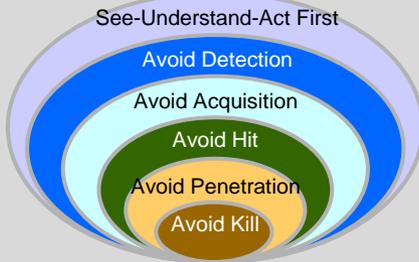
Conditional Kill Chain Methodology Approach



Identifies key contributors to a system's overall survivability in a combat environment.

Survivability Conditional Kill Chain

The survivability kill chain is focused on, but not limited to, direct fire engagements.



Notional	$P_{ACQ ENC}$	$1 - P_{DEFEAT SHOT}$	$P_{HIT SHOT}$	$P_{KILL HIT}$ or $P_{CAS HIT}$	$P_{SURVIVE ENC}$ or $P_{PROTECT ENC}$
MaxxPro					
Cougar					

Layers can be broken out even more for greater fidelity of system dynamics.

- ✓ Overall Platform Comparison (1) -- Highlights overall summary differences in platform survivability and occupant protection against the threat as function of range & azimuth.
- ✓ Overall Platform Comparison Differences (2) -- Highlights functional differences between platforms to identify key technology contributors to survivability and occupant protection across threats.

Contributors to Protection/Survivability

Avoid Detection & Acquisition
 $P(\text{Detect})$ or $P(\text{Acquisition})$ Threat capability to acquire vehicles based on vehicle size and contrast.

AMSAA Performance Data

Avoid Hit
 $P(\text{Defeat})$ a system's capability to counter threats based on subsystem and component performance.

Active Countermeasures

- Hard Kill
- Soft Kill

PM & AMSAA Performance Data

$P_{ACQ|ENC}$

$P_{HIT|SHOT}$

Occupant Protection

Vehicle Survivability

$1 - P_{DEFEAT|SHOT}$

$P_{KILL|HIT}$ OR $P_{CAS|HIT}$

Avoid Hit
 $P(\text{Hit})$ is the threat capability to hit vehicles based on vehicle size and engagement conditions.

AMSAA Performance Data

Avoid Penetration & Kill

Vehicle Kills
M, F, M/F, K

Occupant SL
Total, Crew, Squad

ARL/SLAD Vulnerability Data

- ✓ The evolution of survivability analysis has moved from a platform's ability to complete its mission to a quantitative visualization of:
 - Each contributing layer within the conditional kill chain.
 - Overall vehicle protection metric or occupant survivability metric.