Mitigation of Obsolescence Cost Analysis (MOCA)

Demonstration

MOCA Design Refresh Optimization Landscape

Optimum location(s) of these refreshes depends on:
• which part(s) become obsolete
• when they become obsolete
• how the obsolescence is mitigated
• resulting system re-qualification requirements

Part is not obsolete
Start of Life

Part becomes obsolete

“Short term” mitigation strategy
• Existing Stock
• Last time buy
• 3rd party buy
• Lifetime buy

“Long term” mitigation strategy
• Substitute part
• Emulation
• Uprate similar part

Planned production

Design refresh

Redesign non-recurring costs

Re-qualification?
• Number of parts changed
• Individual part properties

Hardware and Software

Functionality Upgrades

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MOCA Architecture

- Generate event list
- Determine cost of no refresh case
- Choose a candidate design refresh plan
- Modify event list
- Synthesize new parts
- Determine cost of candidate refresh plan
- Completed design refresh plans are ranked on the basis of economics
- MOCA cost analysis

MOCA Features

- Full Monte Carlo analysis – every input can be represented by a probability distribution, results are probability distributions
- Distributions can vary with time
- Variable look ahead time
- User controllable time-step fidelity
- Supports fixed functional design refreshes (in addition to the obsolescence drive design refreshed solved for by the tool)
- User controllable re-qualification costs and criteria
- Links to Price H/HL tools
The Full Authority Digital Engine Controller (FADEC) for the Honeywell AS900 engine.

MOCA Example Analysis
(AS900 Circuit Card Assemblies)

4244626 (CPU)
228 Unique Parts
2039 Components

4244476 (I/O)
177 Unique Parts
1505 Components

4244565 (EMI)
46 Unique Parts
521 Components

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