

Supportability Assessment in T&E: A Tool for Better Acquisitions

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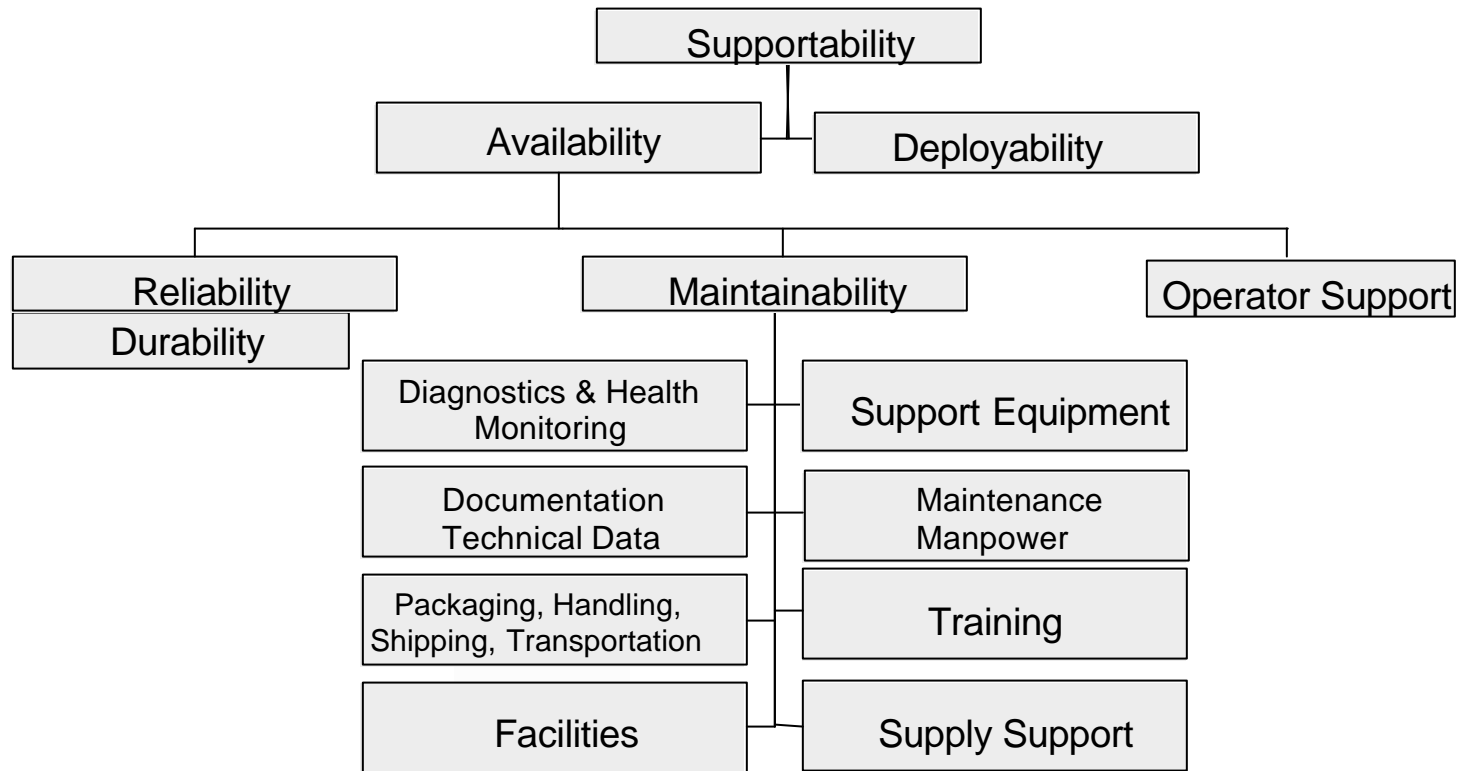
Three Questions

Why worry about supportability
during acquisition?

Why use T&E to assess supportability?

How can T&E be used to
assess supportability?

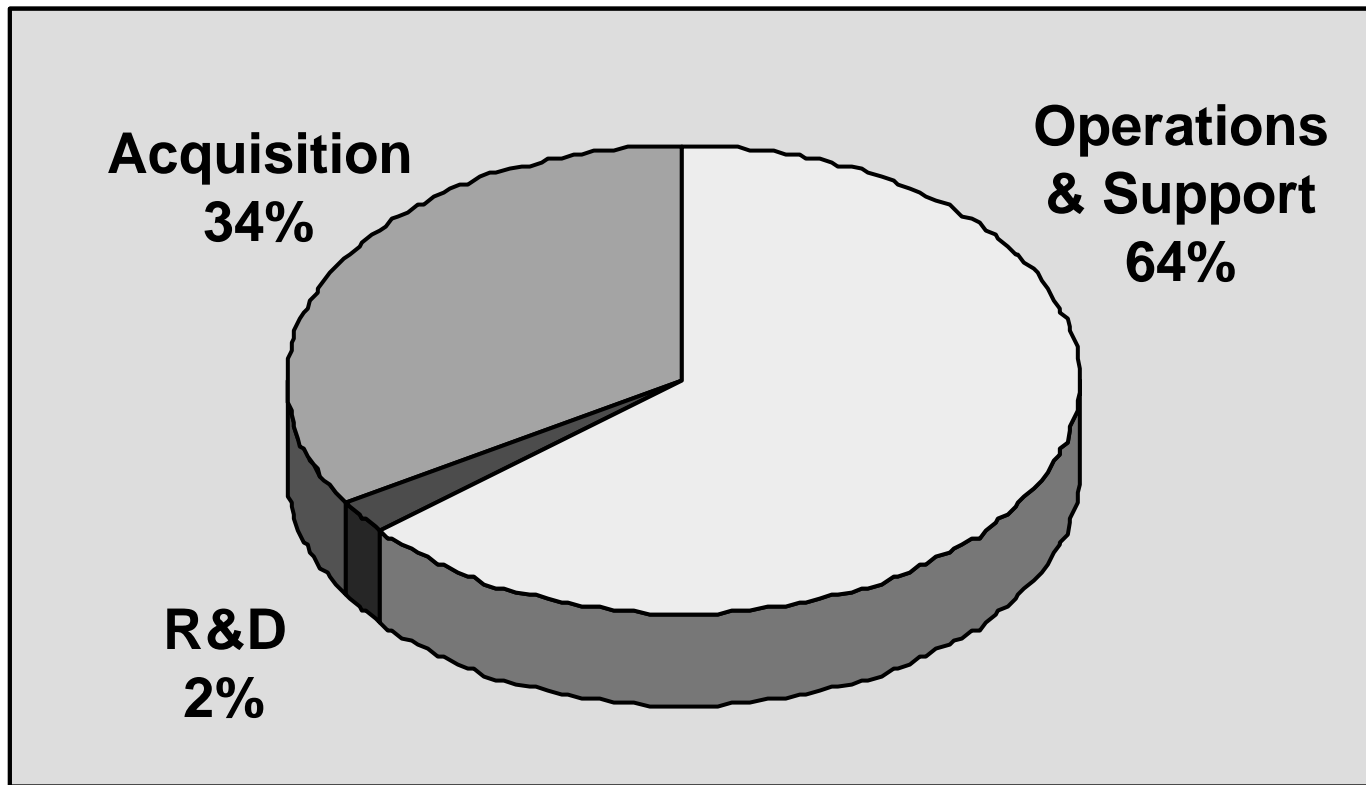
Elements of Supportability



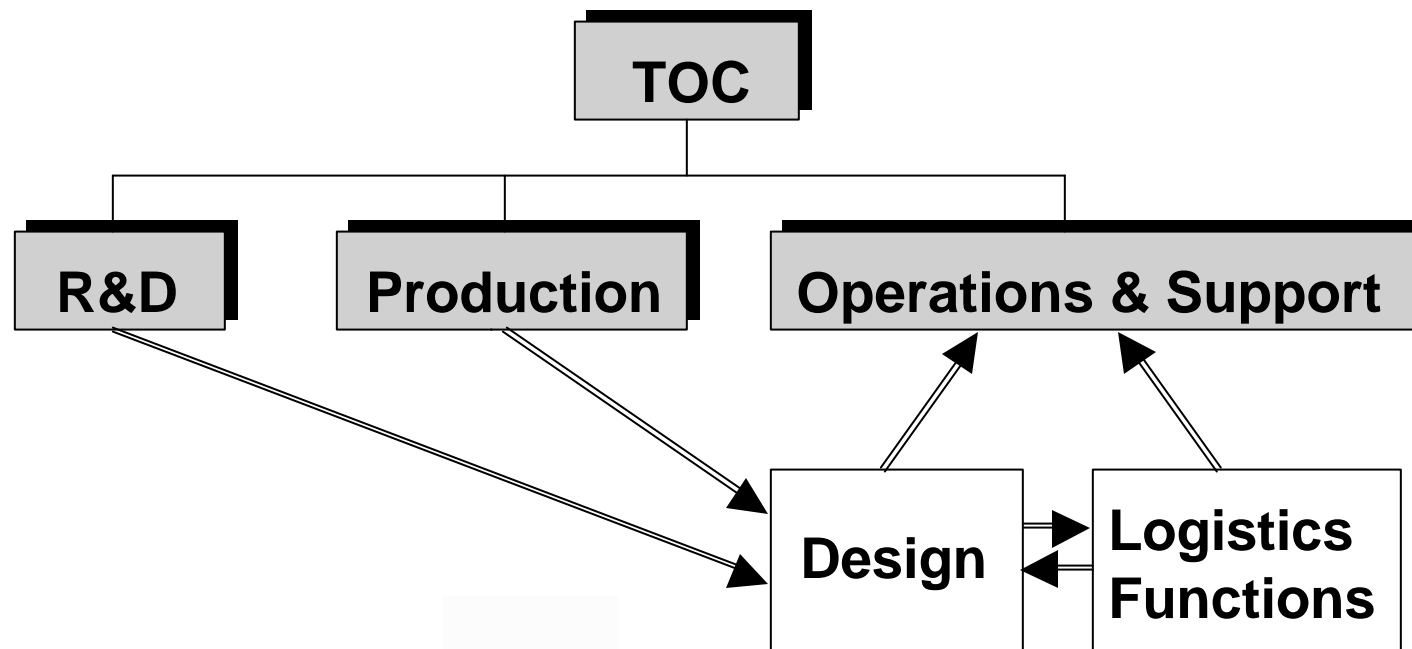
Why Worry About Supportability During Acquisition?

- Support costs are major component of total ownership cost
- Decisions made during acquisition drive support costs and availability
- Relationship between design and requirements for O&S resources

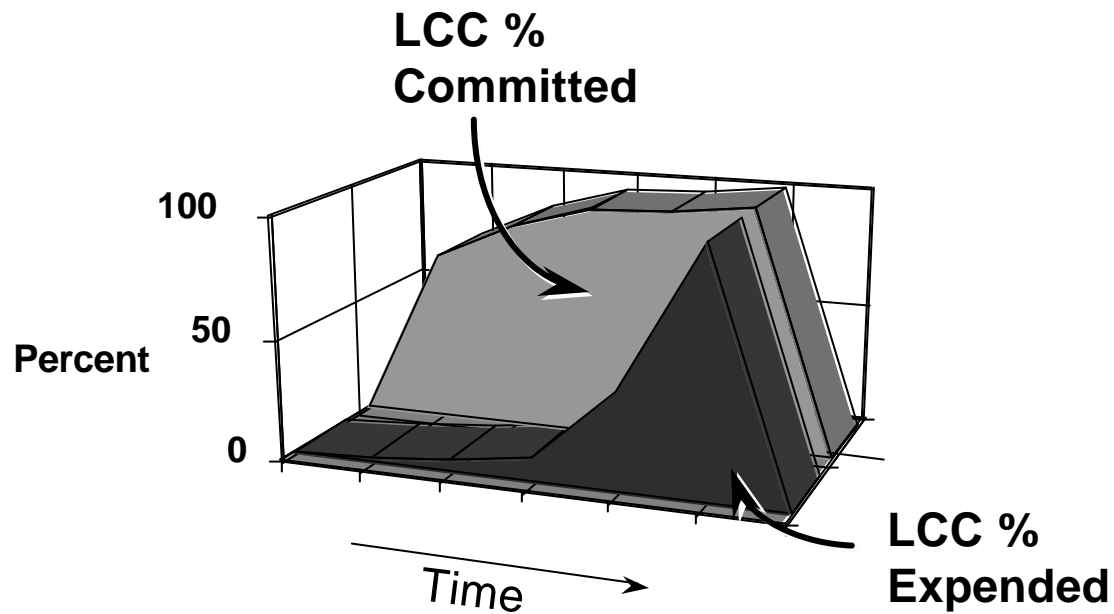
Typical TOC Composition



Total Ownership Cost

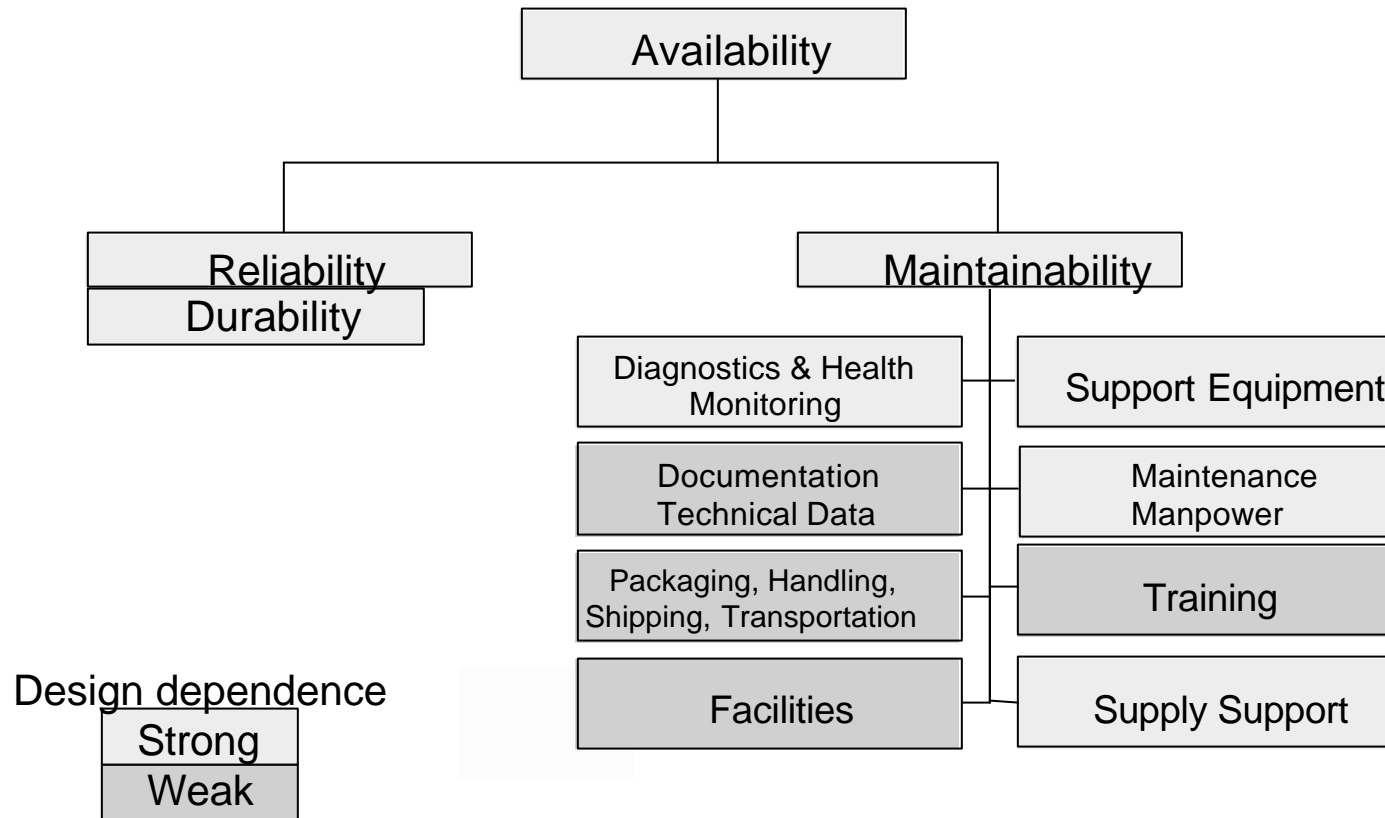


TOC Commitment



Major cost reductions in weapon system support require early recognition of supportability issues and opportunities.

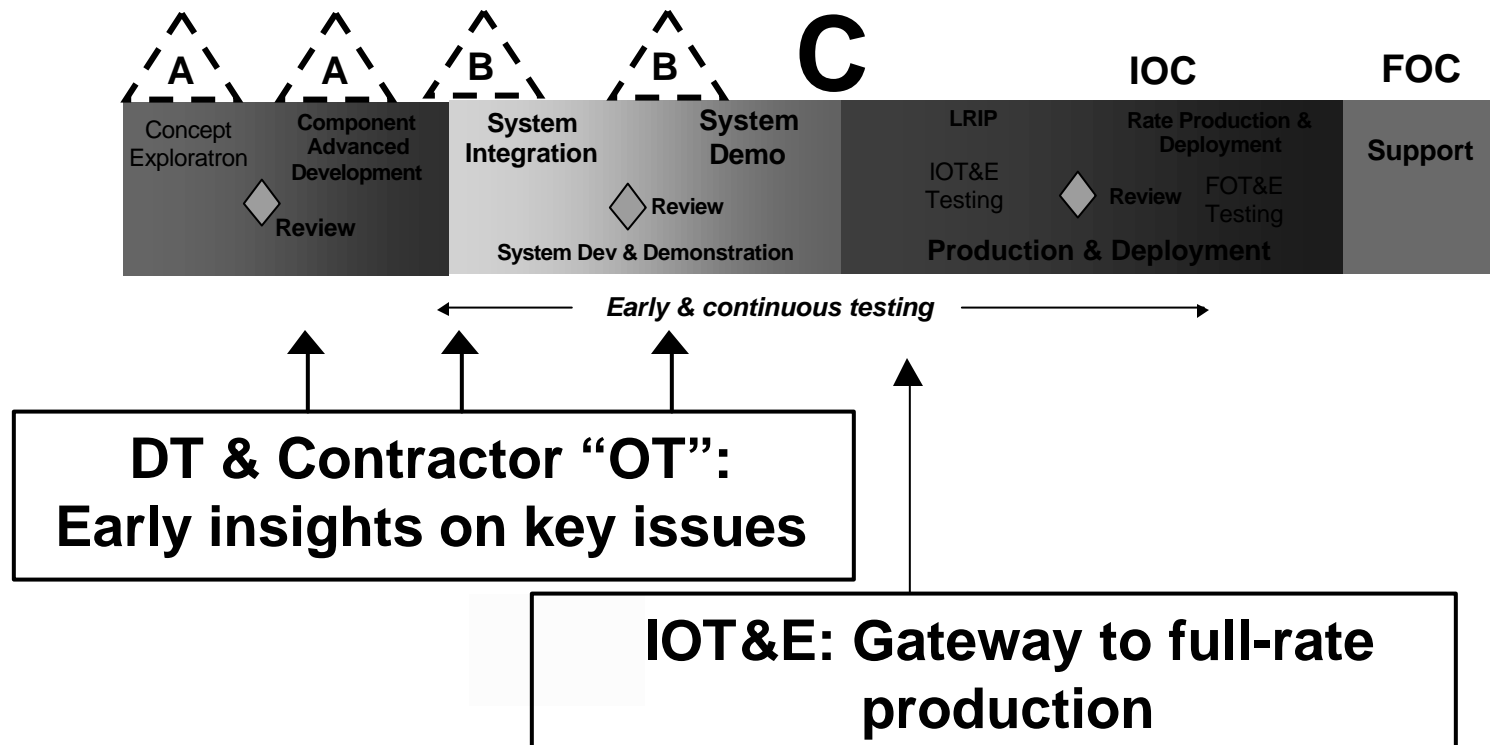
Dependence of Availability on Design



Why Use T&E to Assess Supportability?

- T&E is established as an integral part of the acquisition process
- T&E has gateways and check points for assessments of supportability
- ...at times when the insights can be used to affect cost & availability

Acquisition Timeline



Acquisition Process

**IDEAL: Balanced consideration of TOC,
readiness, performance, and risk**

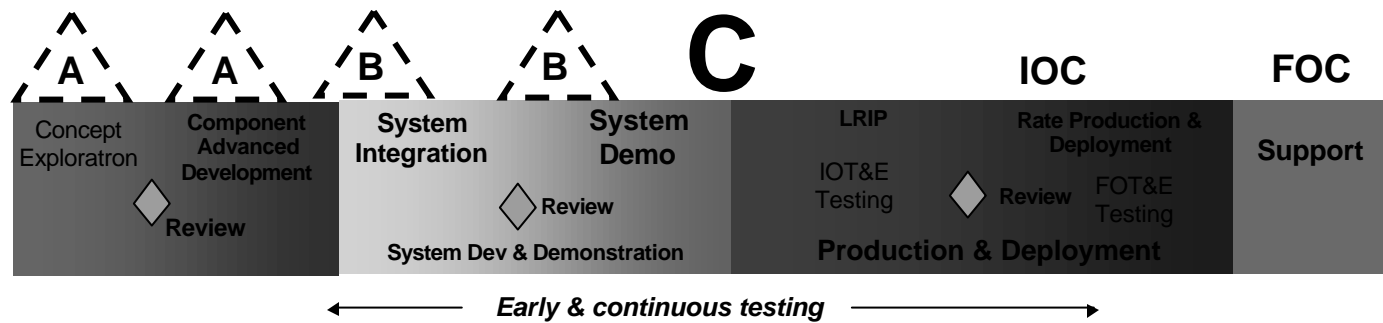
**REALITY: traditional pressures on a program office
- performance, schedule, and acquisition budget -
work against consideration of O&S costs
and supportability**

***T&E is a key opportunity to gain insights
about the first-order causal factors
that drive costs and availability***

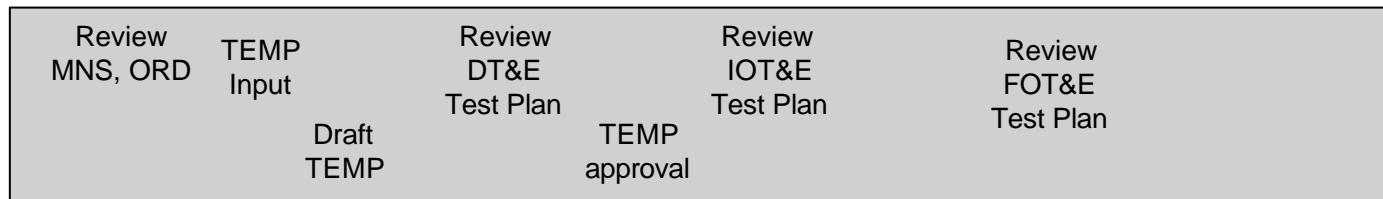
How Can T&E Be Used to Assess Supportability?

- Planning for TEMP - Extract supportability criteria from program docs and analogies.
- TEMP - Include all critical supportability issues
 - ***Objective criteria (e.g., RAM, BIT/BITE)***
 - ***Subjective judgement of the process (T.O.s)***
 - ***Ensure supplemental demos and M&S activities are included to complement tests***
- Test plans for IOT&E, FOT&E - follow through

Acquisition Timeline



T&E Actions



Identify Key Supportability Issues

- Supportability characteristics that will seriously degrade system availability or cost if they are deficient
- Risks associated with
 - *Technology applications*
 - *Support concepts*
 - *Operations concepts*
- Logistics resource drivers

Methods for Identifying Key Supportability Issues

Document Review	Analysis	Modeling & Simulation
List issues & goals from system reqmts documents	Compare with other systems	Construct model of system, including ops & support
Check for coverage of issues & goals in TEMP	Review the elements of logistics support	Analyze the impacts of changes in ops & support variables
	Analyze relations among measures and assumptions	

Review OT&E Plans

- Are all key supportability issues addressed through testing or M&S ?
- Are the nature and the length of tests sufficient to judge with reasonable confidence?
- Are the M&S tools valid and are reasonable data and assumptions used?

OT&E Assessment

- Comprehensive with respect to key supportability issues?
- Major assumptions justified?
- Supportability problems that should receive corrective action?
- Supportability issues that require further T&E?

Summary

Supportability is key to
weapon system success

Supportability depends on design

T&E provides a timely opportunity
to develop supportability insights

Process and tools to evaluate
supportability exist -
Use them to improve acquisitions!