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T&E Rapid Response to the Warfighter

• How does the T&E community, as part of the systems engineering process:
  – Obtain, maintain, and increase its body of knowledge, to assess and project with greater confidence, a product’s potential capability and suitability ($A_o$, Reliability, Deployability, Sustainability) during product development as the product and requirements change?

• Knowledge not limited to quantitative data
“Traditional” T&E Process

Episodic Test Events

Planning

CT Test

DT

DT/OT

OT/DT

OT (Capstone Test)

Testing Over Time

System Maturation

Configuration Changes and Data Reset

Limited Mission Performance

Integration Assessment

Mission Measures

System Attributes (KPPs)

System Performance

Subsystem Attributes

Knowledge

OTRR

OT

MS B
Integrated Test
Knowledge Over Time

MS B

Potential levels of granularity:
Point Observations

Planning

Testing Over Time
System Maturation

CT Test
DT
DT/OT
OT/DT
OT

Subsystem Attributes
System Attributes (KPPs)
System Performance
Limited Mission Performance
Mission Measures Integration Assessment

Knowledge

System Performance
Several Benefits to Dynamic System T&E

• Greater depth and breadth of knowledge

• Greater understanding of impact to changes

• Greater understanding of test cost

• Greater ability to assess product capability at points in time.
Several Challenges to Dynamic System T&E

- Transparency – ability to see across boundaries
- Permeable boundaries – ability to pass information and data (transportability) across boundaries
- Product configuration management
- Graduated Reliability during development
  - Thresholds (maturity measures)