Software Evaluation – Guidance

Information Technology System Definition

Information Technology (IT) Systems are used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, or transmission or reception of DoD data of information regardless of classification or sensitivity.

Summary

Three metrics (whether specified as KPPs or KSAs) that cause testing issues for DoD IT systems are metrics specifying accuracy, timeliness, and data restoral. Although some aspects of data accuracy and timeliness may be assumed from the Net-Ready KPP (NR-KPP), this guidance provides separate examples to address specific accuracy, timeliness, and data restoral issues. Timeliness should be examined as part of early prototyping and discovery testing, thereby allowing for refinement of evaluation metrics between Milestone B and Milestone C. This prototyping and discovery testing should be described in the Milestone B TEMP.

CJCSI 6212.01F defines responsibilities and establishes policy and procedures to develop the NR KPP and NR KPP certification requirements for all IT and national security systems (NSS) that contain joint interfaces or joint information exchanges. The three NR KPP attributes are:

(1) IT must be able to support military operations.

(2) IT must be able to be entered and managed on the network.

(3) IT must effectively exchange information.

Normally, when JITC tests the third aspect of NR-KPP, they assume data transmission must be accurate in order to effectively exchange information, so accuracy issues would be cause to conclude the information exchange was not effective. A hypothetical NR-KPP example can be found in Appendix C of 6212.01F, so one is not included here.

Mission Assurance Category Requirements

Mission assurance category (MAC) requirements for data backup procedures and for disaster and recovery planning directly affect data restoral requirements and can be found in DoD Directive 8500.1 and DoD Instruction 8500.2.

- MAC I:
  - CODB-3 Data Backup Procedures

Data backup is accomplished by maintaining a redundant secondary system, not collocated, that can be activated without loss of data or disruption to the operation.

  - CODP-3 Disaster and Recovery Planning

A disaster plan exists that provides for the smooth transfer of all mission or business essential functions to an alternate site for the duration of an event with little or no loss of

operational continuity. (Disaster recovery procedures include business recovery plans, system contingency plans, facility disaster recovery plans, and plan acceptance.)

- MAC II:
  - CODB-2 Data Back-up Procedures

Data backup is performed daily, and recovery media are stored off-site at a location that affords protection of the data in accordance with its mission assurance category and confidentiality level.

  - CODP-2 Disaster and Recovery Planning

A disaster plan exists that provides for the resumption of mission or business essential functions within 24 hours activation. (Disaster recovery procedures include business recovery plans, system contingency plans, facility disaster recovery plans, and plan acceptance.)

Examples

Software Accuracy Evaluation – Example

Software Timeliness Evaluation – Example

Software Data Restoral Evaluation – Example

References

CJCSI 6212.01F, Net Ready Key Performance Parameter (NR KPP), 21 March 2012

DoDI 5000.02, 7 January 2015