
I-0350: Clarification Of Resources/Objects For Residual Information Protection

TYPE: NIAP Interpretation
NUMBER: I-0350
STATUS: Ready for External Repost after Interpretations Board Rework/Review

TITLE: Clarification Of Resources/Objects For Residual Information Protection

COMMENTS DUE BY: Monday, October 15, 2001 to ccevs-cmt@nist.gov

SOURCE REFERENCE: CC v2.1 Part 2 Subclause 6.9 FDP_RIP
CC v2.1 Part 2 Subclause F.9 FDP_RIP

RELATED TO:
[I-0041](#) Object Reuse Applies To All System Resources
[I-0356](#) FDP_RIP Annex: Reuse Of Subject Data Notes

ISSUE:

The focus of the Residual information protection (FDP_RIP) family is not clearly stated in the Common Criteria. The focus of residual information protection is preventing leakage of information from one instantiation of a type of object to another instantiation of that type of object. This should include cleansing of the TSF-internal data structures that are used to construct objects and are visible through the object. However, this aspect doesn't come across clearly in the current words.

STATEMENT

Residual information protection applies to those TSF-internal structures that are visible through the TSF-interface and are used to implement the object for whom residual information protection applies.

SPECIFIC INTERPRETATION

To address this interpretation, the following changes are made to CC v2.1, Part 2 (additions marked thusly; deletions marked ~~thusly~~):

- In Subclause 6.9, paragraph 223 is replaced with the following:

This family addresses the need to ensure that information contained in a resource is not available when resources are deallocated from one object and reallocated to a different object. ~~deleted information is no longer accessible, and that newly created objects do not contain information that should not be accessible.~~ The term "resources" refers to those TSF-internal structures that are visible through the TSF-interface and are used to implement the object for whom residual information protection applies. This family requires protection for information that has been logically deleted or released, but may still be present within the TOE.

- In Subclause F.9, paragraph 887 is replaced with the following:

This family addresses the need to ensure that information contained in a resource is not available when resources are deallocated from one object and reallocated to a different object. ~~deleted information is no longer accessible, and that newly created objects do not contain information from previously used objects within the TOE.~~ The term "resources" refers to those TSF-internal structures that are visible through the TSF-interface and are used to implement the object for whom residual information protection applies. This family addresses all entities meeting the definition of **object** as provided in Part 1, Clause 2 (i.e., entities that contain or receive information, and are acted upon by subjects), but does not address objects stored off-line.

PROJECTED IMPACT:

Negligible impact anticipated.

SUPPORT:

This interpretation clarifies the meaning of resource as used in the FDP_RIP components. It clarifies that the focus of RIP is those portions of the structures that are externally visible.

Additionally, this interpretation provides clarification with respect to the applicability of RIP to "subjects", which in an operating system are typically processes. Of particular concern are the TSF-structures used to construct subjects; the goal is to ensure that any externally-visible information is cleansed so that new subjects start out "clean".

Note that subject residual information is also addressed through FPT_SEP. The distinction is that FDP_RIP addresses subject creation and destruction. FPT_SEP, on the other hand, addresses reuse of externally visible structures.