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# I-0470: FPT\_AMT When There Are No Operational Environment Objectives

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TITLE: FPT\_AMT When There Are No Operational Environment Objectives  
COMMENTS DUE BY: Tuesday, July 1, 2003 to [cc-cmt@nist.gov](mailto:cc-cmt@nist.gov)

SOURCE REFERENCE: CC v2.1 Part 2 Subclause J.1 FPT\_AMT  
RELATED TO: <None>

## ISSUE:

A protection profile contains the FPT\_AMT.1 SFR. This SFR states:

"the TSF shall run a suite of tests .... to demonstrate the correct operation of the security assumptions provided by the abstract machine that underlies the TSF".

Consider the case of an ST being evaluated against that PP. The ST in question makes no assumptions about the IT aspects of the operation environment (i.e., the IT environment). Must such an ST contain functions to satisfy FPT\_AMT.1? If not, can PP compliance still be claimed?

## STATEMENT

FPT\_AMT is only applicable when there are objectives or assumptions about the underlying IT environment.

## RECOMMENDED CRITERIA CHANGES

To address this interpretation, the following changes are made to Part 2 of CC v2.1:

- The following is added after Paragraph 1177 in Annex J.1 of Part 2, CC v2.1:

In STs where there are no objectives or assumptions about the underlying IT environment, it is acceptable for a dependency on FPT\_AMT to be met with justification that there are no requirements to test.

Similarly, in such an ST, it is acceptable to claim compliance with a PP including FPT\_AMT with the justification that the SFR FPT\_AMT is vacuously satisfied, under the proviso that the PP does not make any claims on the IT environment.

## SUPPORT:

The CC and CEM make it clear that FPT\_AMT applies to the abstract machine that provides the operating environment:

- ADV\_HLD.x.5c uses the same notion (i.e., "underlying TSF") to refer to the hardware components upon which the TSF has been implemented. In this case, CEM guidance explicitly notes (paragraph 721) that: "If the ST contain no security requirements for the IT environment, this work unit is not applicable and is therefore considered to be satisfied."
- FPT\_AMT.1 requires the "tests to demonstrate the correct operation of the security assumptions..." Security Assumptions are a part of the Environment section of the ST (as opposed to TOE requirements), which implies that

if there are no IT environmental requirements in this section, there is no need for hardware diagnostic tests.

- There is another CC requirement (FPT\_TST.1) that focuses directly on the TOE providing "self tests" (as opposed to environmental tests) to demonstrate the correct operation of the TSF.

Based on this, if there are no assumptions being made about the IT aspects of the operating environment, FPT\_AMT.1 is vacuously satisfied, and the TSF need contain no explicit functions to address FPT\_AMT.1.

Given that a protection profile cannot, a priori, know the operating environment of any compliant STs, PPs will include FPT\_AMT.1 to "cover the bases". If the ST, however, has no IT aspects in the operating environment, it is acceptable for the ST to omit explicitly listing the vacuously satisfied FPT\_AMT.1, noting instead in the PP compliance rationale that the requirement is vacuously satisfied and omitted. PP/ST authors including FPT\_AMT should consider including FPT\_TST as well to cover such situations.