

Rump session, WEIS2010

# Product-Validation Systems and the Economics of Information Security

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# Economics of information security: Analysis, Analysis, & Analysis.

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- We *understand* problems and mechanisms behind them
  - By Theories,
  - By Empirical studies,
  - And by analyzing policies.



Can we try more development-oriented works (syntheses) ?

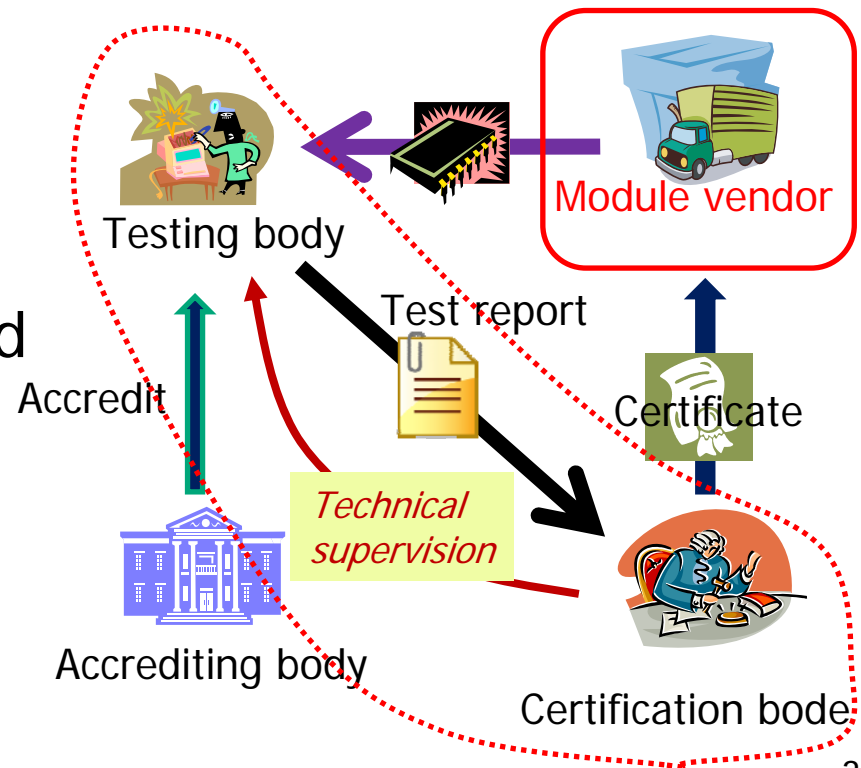
Recently, I experienced an interesting governmental project in this respect.

In the project, we *developed* a guideline for product-validation systems.

- An example: JCMVP (Japan Cryptographic Module Validation Program):

- Full operation started in April 2007.
- Level of a module: level1, 2, 3, or 4.

- Architecture of JCMVP

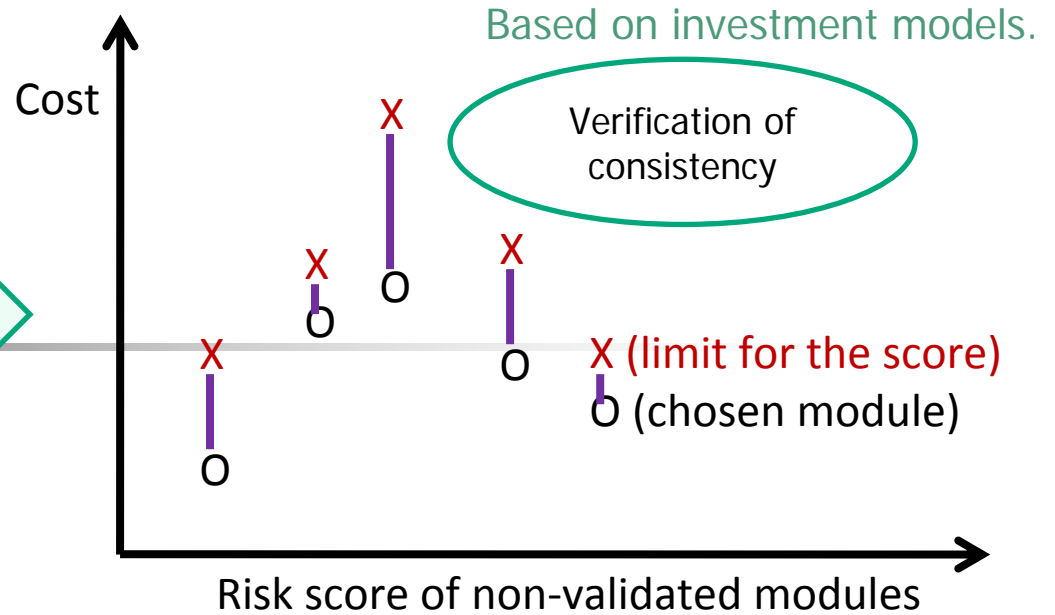
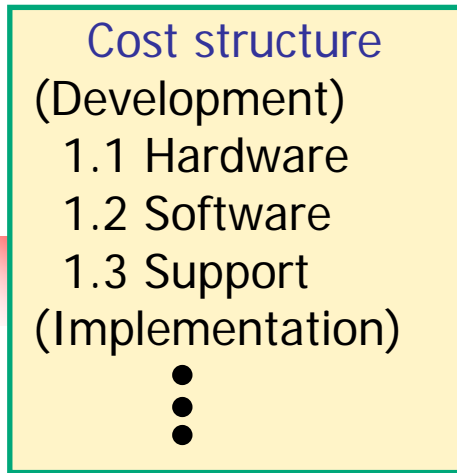




# System vendors want to choose appropriate modules.

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- Obviously, the higher level, the higher security. However, there are problems of cost, complicated restrictions, and so on.
- A governmental view: JCMVP pays attention to small vendors which need help when they make choices.
- Thus, we started to *develop* a guideline, based on best practices and security economics/engineering.



(Step1) Define cost/risk structures.

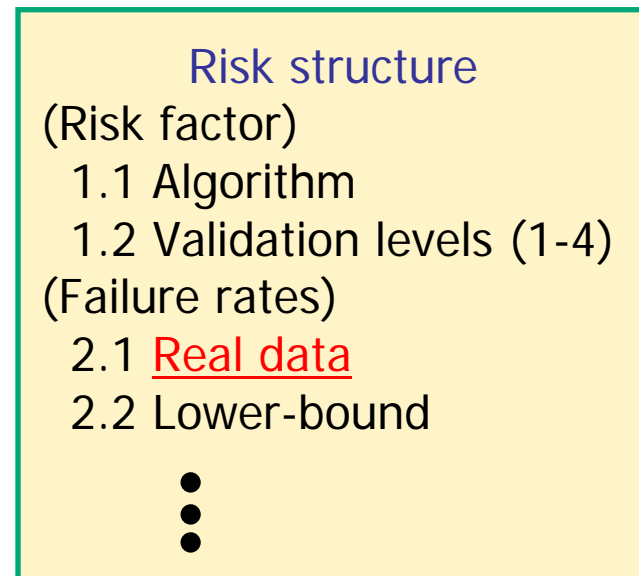
(Step2) Assess parameters for alternatives.


(Step3) Choose a module.

<Do Steps1-3 for all the building blocks in the system/project.>

(Step4) Trust the results so far, and plot them.

(Step5) Verify the consistency of the choices, and get suggestions for the current/next PDCA cycles.





The guideline was released on 20  
May, 2010 (Sorry, only in Japanese).

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- Available at [http://kmlab.iis.u-tokyo.ac.jp/resources/guideline\\_1\\_0.pdf](http://kmlab.iis.u-tokyo.ac.jp/resources/guideline_1_0.pdf)
- Not exclusively for JCMVP; we use a generalized description (so that we can consider other validation systems in the future).
- Current version (not an official guideline but a reference document) is a *minimal* set; it does not use many (potentially applicable) theories.
- Further development and case studies will come.