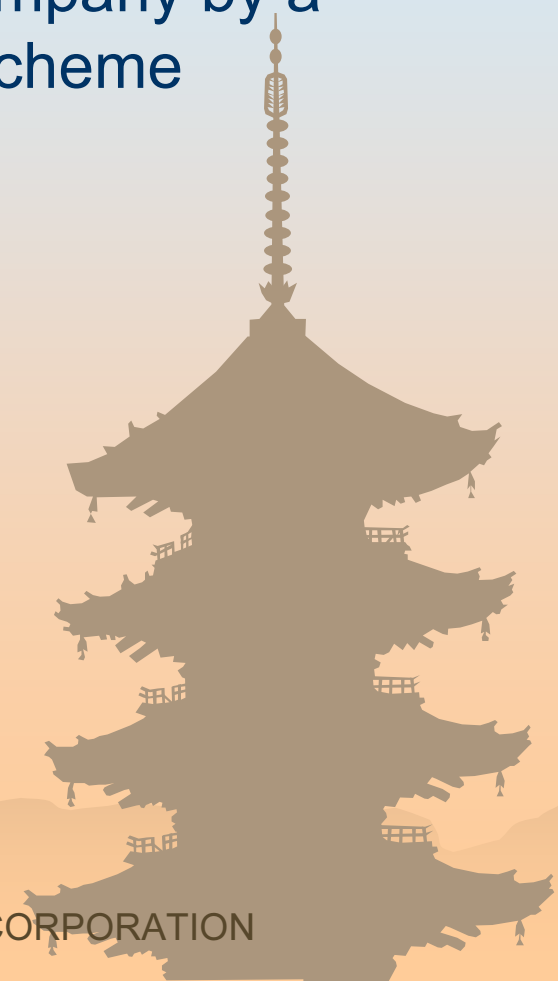


East meets west

Evaluation experiences of a Japanese company by a Dutch evaluation lab under the German scheme

28. Sep. 2005

SHARP CORPORATION
INTEGRATED CIRCUITS GROUP
SYSTEM-FLASH DIVISION
IC CARD BUSINESS PROJECT TEAM
NORIKI IWASAKI

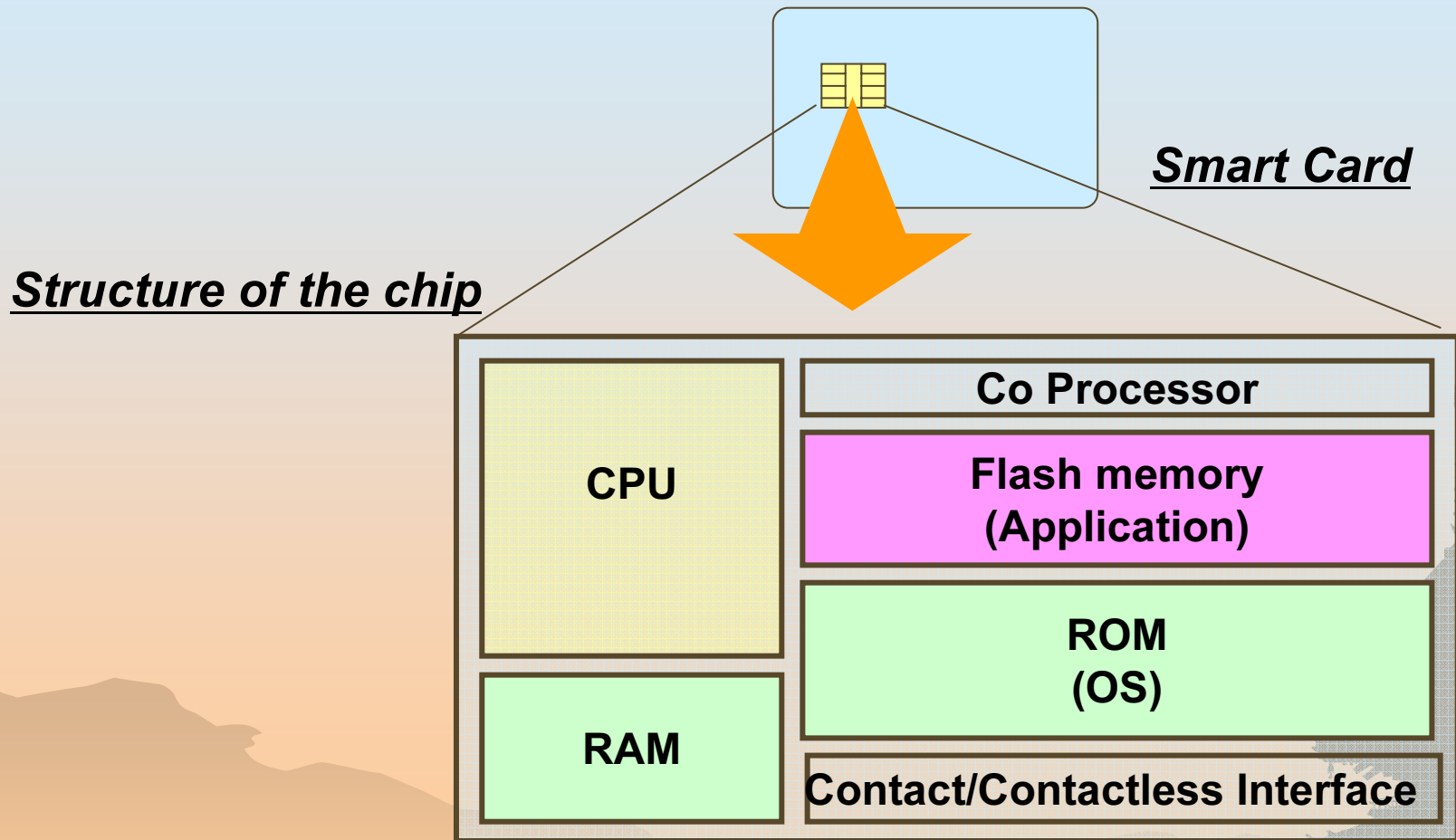


Overview

1. Approach in SHARP toward Smart Card security
2. CC certification (ISO15408) by TNO/BSI
3. Notices of CC certification toward the foreign organization and approach in SHARP
4. Completion process of the security configuration items



Outline of the SHARP's Smart Card



Expansion from ST Confirmation to CC Certification

1. ST Confirmation (July. 2003) : Japan original certification

- TOE: SM4108 LSI for Smart Card security Target Ver.1.7
- Evaluation Assurance Level : EAL4+
- Evaluation Facility : ECSEC (Japan)
- Certification Body : NITE (Japan)

2. CC Certification (Sep. 2005)

- TOE : SM4128, LSI module for Smart Card
- Evaluation Assurance Level : EAL4+
- Evaluation Facility : TNO (Netherlands)
- Certification Body : BSI (Germany)



Selection of the evaluation facility and certification body (CB)

1. The evaluation facility and CB of Europe where the smart card has been prevailing most in the world.
2. The evaluation facility can test both hardware and software of the smart card.
3. The evaluation facility can evaluate not only CC but other certification.
ex.) Security functional testing for credit companies



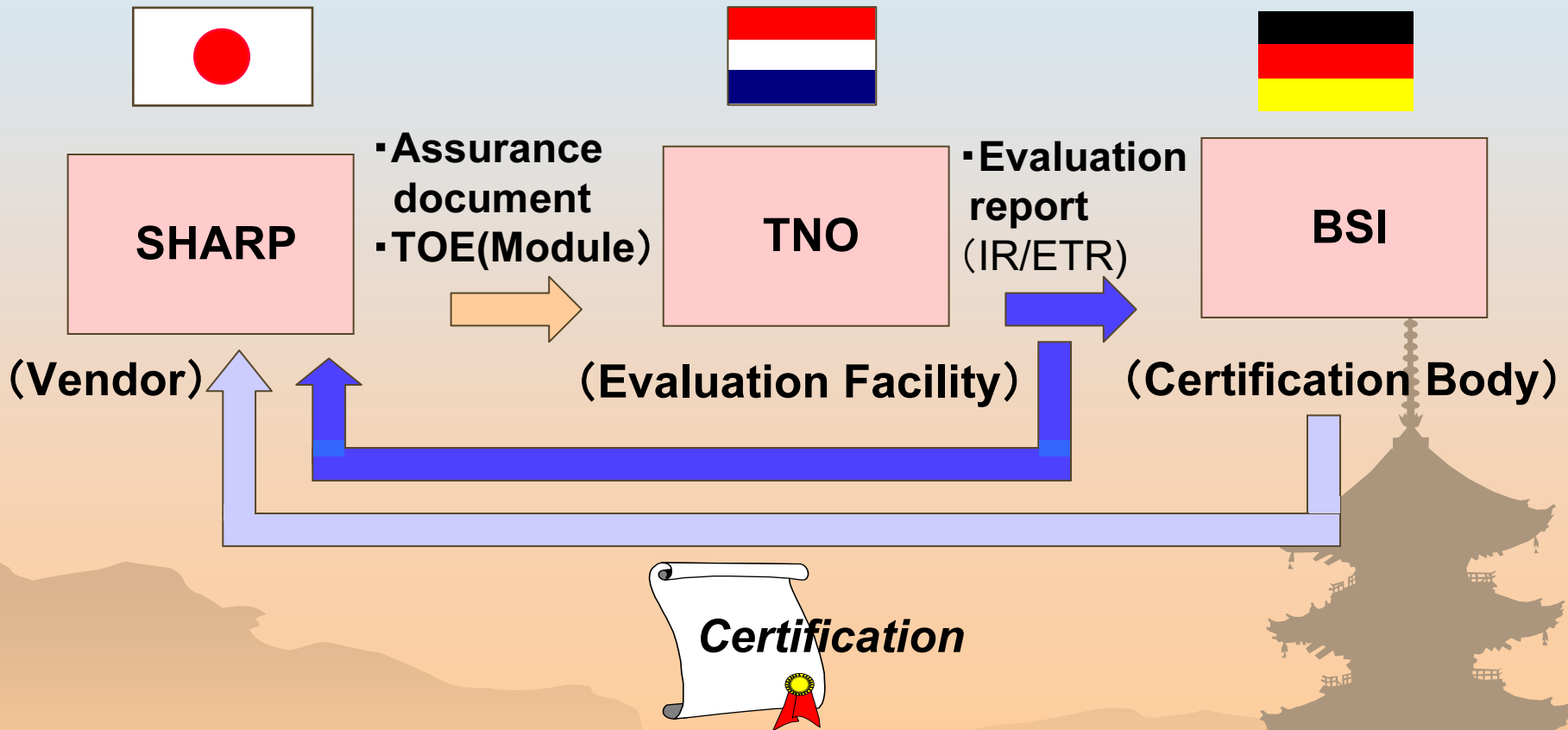
Evaluation facility: Selection the TNO



Certification Body: BSI



CC Certification Flow



Notices of the evaluation/certification process in the foreign facility

1. The countermeasure of language problem

- ① Improvement of the English skill of the engineers
- ② Holding the workshop of the evaluation facility at SHARP
- ③ Making the design document in English, by the engineers themselves, ST、Design document for the chip、QA-check sheet (TNO version).

Management document, manual and evidence for the security are sufficient only by Japanese version. (SHARP shall be required to explain the contents about them at the site audit)

2. The countermeasure of geographical problem

- ① Possible to send the document by e-mail
- ② Timely support by SLE staff.

(SLE:SHARP LABORATORIES OF EUROPE,LTD:UK)



Configuration items for CC evaluation (1)

Functional requirement

Assurance requirement

Security function
of the TOE

Security
assurance of the
module function

Security management
of the development and
production



Security functional test
of the chip (module)

Evaluation of the
design document

Evaluation of the
security management



Configuration items for CC evaluation (2)

Functional requirement

Assurance requirement

Security function
of the TOE

Security
assurance of the
module function

Security management
of the development and
production

Evaluation of the ST

Specification and design
document of the chip (module)



Configuration items for CC evaluation (3)

Functional requirement

Assurance requirement

Security function
of the TOE

Security
assurance of the
module function

Security management
of the development and
production

Evaluation of the
test document

Testing of the
chip (module)



Configuration items for CC evaluation (4)

Functional requirement

Assurance requirement

Security function
of the TOE

Security
assurance of the
module function

Security management
of the development and
production

Answer to the QA check sheet made by the TNO
(All departments relating to the TOE)

Site audit: Check the answer of the QA check sheet and its
evidence (Management documents and the evidence are Japanese)

If we're pointed out as indication for problem, we add the
improvement to the QA check sheet and send it again later.

QA-check sheet

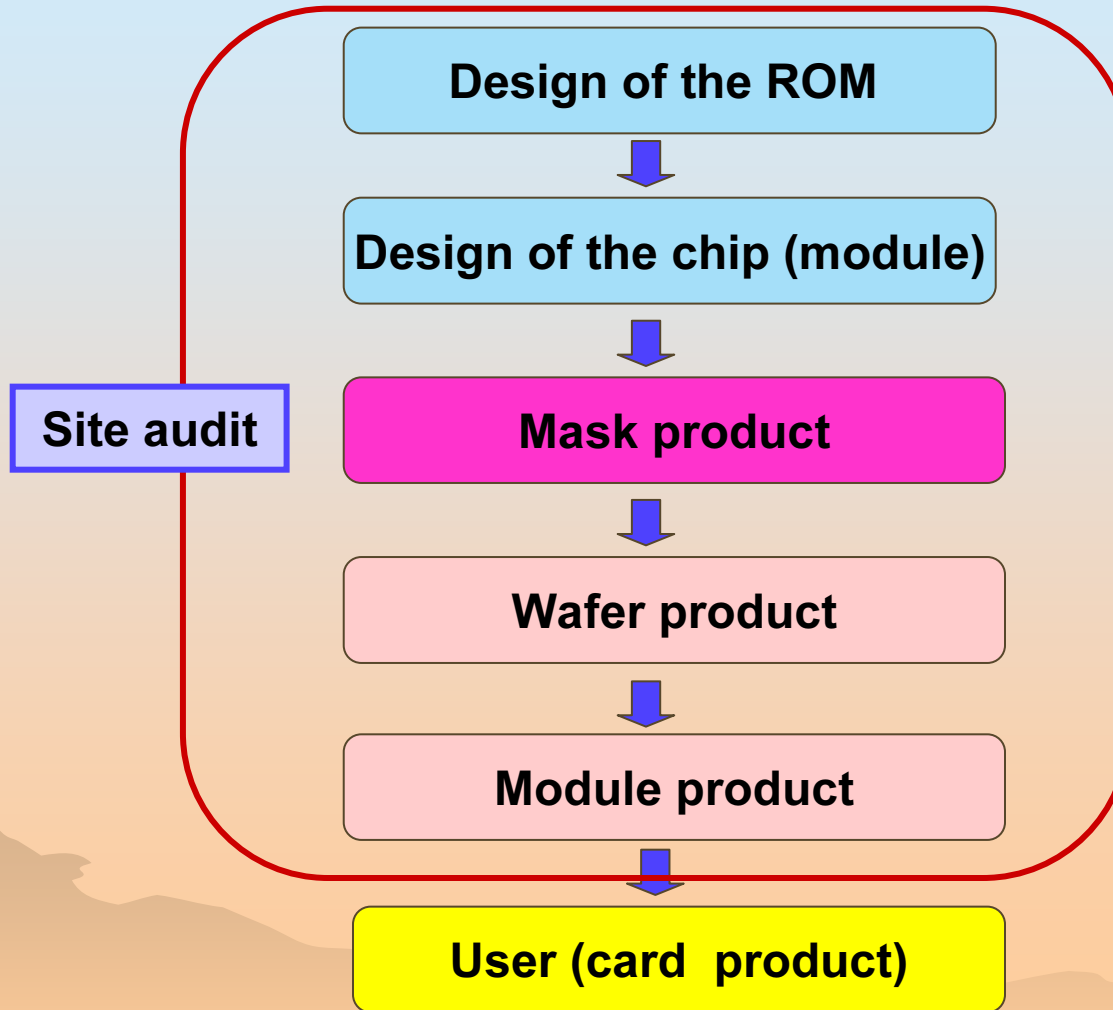
1. Management by uniquely identified
2. Latest version control
3. Development procedure (DR system)
4. Quality management system
5. Security between the department and other department
6. Physical security in the department
7. Management personnel for the security

• ISO-9001 2000
Quality Certification
Approved at Aug.2002

• QS-9000 1998
Quality Certification
Approved at Aug.2002

• ISO15408(CC)
Approved at Sep.2005

Development and production flow



Conclusion

- (1) Considering the importance of the security of the IT product, the demand of CC certification has been increasing rapidly.**
- (2) Sharp gained the experience of having evaluation and certification in facility of foreign country on CC certification.**
- (3) Sharp made the minimum document for the evaluation in English. Management document, manual and evidence for the security are Japanese.**
- (4) SHARP strategically promotes to get CC certification in the smart card or other IT products.**



SHARP

