

Voucher Integrity Testing Services

Increasingly, Præsidium is commissioned by operators on a global basis to provide independent evaluations on the security being provided within prepaid and calling card products. The service enables operators to compare the security standards of different vouchers, so that they can select preferred vendors who can provide both strong security protection as well as high quality within their products.

Within the telecoms sector there is no defined standard or accreditation scheme for voucher production. Most vendors will operate their production facilities in line with approved standards for other industries like banking and ISO17799 for information security. Unfortunately, these do not incorporate specific standards for producing voucher products; therefore, in the majority of cases operators are defining their own requirements.

Præsidium has assessed many excellent products which have been almost impossible to defraud and would require considerable skill and techniques for a successful compromise. Conversely, Præsidium has tested many other products where there has been little attention with regard to security by the operator and also no real security advice from the vendor; these have been compromised by Præsidium in seconds - and the loss to operators could be €m's from a concerted attack.

Præsidium have witnessed some vendors providing good sound advice on the technical specification and security considerations for products, whereas others simply provide a basic voucher with minimal consideration to the security risk. For some operators, the design is simply based upon the "look and feel" and the cost of production, with the protection of the telco's revenue being a secondary consideration. Operators often fail to obtain assurances from the vendor relating to the product's overall security or about the level of testing actually being performed.

Operators are now realising that they need to evaluate the risk within their specific market environment against the level of protection present within their product. Præsidium's specialist integrity testing service continues to attract great interest from leading operators, who are looking for an independent risk assessment of what is in essence "money". To date, Præsidium has evaluated vouchers from more than 50 operators globally.

Præsidium's integrity testing encompasses security protection standards against a potential compromise, in order to determine whether the monetary value, the Hidden Recharge Number (HRN), can be obtained for fraudulent use. The testing scenarios are primarily performed against the product's design, material and components, with the findings used to provide an overall assessment of the protection in place.

Præsidium's integrity testing is based upon a number of different elements:

- Overall voucher design
- Artwork
- Voucher body construction
- Level of protection in securing the HRN
- HRN print quality
- External packaging

The testing is then broken down into sub-tests, where the products are subjected to a number of intrusion techniques and their resilience against compromise is scored, after which the results are displayed in a scoring matrix.

The testing and scoring incorporates the following:

1. Reviewing the artwork to determine the colours used, the positioning of the diffusion panel and the ease with which counterfeiting could take place.
2. Evaluation of the voucher body regarding the actual material being used and the specifications, e.g. plastic, paper, thickness, opacity.
3. Assessing the physical protection of the printed HRN relating to numbering, spacing, scratch-off panel integrity and “remove and replace” opportunities.
4. Subjecting the vouchers to a number of specific tests involving:
 - light sources of varying temperature and wavelength
 - heat/steam
 - solvents/adhesives
 - designed security measures
 - scratch panel adhesion and quality
 - brute force attacks
5. Determining the printing of the HRN to identify how many digits can be identified based on the various testing scenarios.
6. Assessing the production quality to determine the consistency within the product being produced.
7. Evaluation of the external packaging to test the feasibility for “remove and replace” techniques.

Præsidium does not limit the testing scenarios to any specific criteria, as the protection has to be against a number of potential compromises and not for an isolated technique. The testing criteria are based upon Præsidium’s experience in an operational environment, having worked with telecom operators on a global basis.

Præsidium provides the vendor with an Integrity Test Report, which includes the following:

- Executive summary of main strengths and weaknesses identified
- Test score summary table
- Sections covering all the test results in detail
- Suggested way forward

Præsidium’s Voucher Integrity Testing Service is designed to minimise risk of voucher compromise by assisting the vendor to:

- Determine and assess the extent of risk within their existing and future products
- Define the corrective actions and improvements required to enhance product security
- Provide an independent risk assessment opinion of the voucher products produced

A recent quote from an international mobile operator group was:

“Præsidium’s testing has highlighted potential areas of improvement in our voucher design and has enabled us to create more focus around this issue in our operating businesses”, stated Paul Waldron, Orange’s Head of Technical Fraud & Revenue Assurance.”

Another quote following a production audit comes from a leading voucher manufacturer:

“Præsidium detected a number of serious risks in the printing process and in the voucher product. The recommendations given have resulted in a completely new and safer printing process and we will launch a modified and more secure type of voucher in the coming months.”

If your company is interested in finding out more about Præsidium's Integrity Testing or any of its consultancy services please contact Præsidium at:

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The logo for Præsidium, featuring the word "praesidium" in a stylized, lowercase, serif font. The text is white and is set against a dark blue rectangular background. The background of the entire page features a pattern of thin, dark blue lines forming a grid or architectural structure.