Introducing Performance Audit of the use of EDP

a list of references

A project within the INTOSAI Standing Committee
on EDP Audit

EDITOR: Peter Nilsson RRV

The Swedish National Audit Office

Preface

The rapid expansion of information technology poses new and different challenges to the audit community. Many SAIs are on the threshold of an interesting and important development while others have worked in this field for several years.

The goal of the INTOSAI Standing Committee on EDP is to support and promote the development and transfer of knowledge, particularly through the exchange of experience. As part of this challenge Working Group II has developed a reference list covering different aspects of performance audit of the use of IT/EDP in a broad perspective. The list, presented in this report, includes references from professional journals as well as from Supreme Audit Institutions engaged in such audits, and forms a basis for the exchange of information and experience between different SAIs.

In March 1995 a seminar on this theme was held in Stockholm. This seminar brought together auditors from different SAIs to discuss and analyse how we should deal with, and prepare ourselves for, the new IT-environment. The proceedings from the seminar were published by the RRV in July 1995.

Together with the proceedings, the reference list represents experience gained hitherto that others can benefit from.

I take this opportunity to express my gratitude to all SAIs that have contributed to this project.

Inga Britt Ahlenius
Auditor General of Sweden

Convener of Working Group II,
INTOSAI Standing Committee on EDP Audit

1. Introduction

In the future ministries as well as agencies and other auditees will use different forms of information technology (IT) to an ever increasing extent, both in the management and the execution of their duties and responsibilities. IT exerts an influence throughout organisations and operations, and introduces new risks which affect the security, costs and efficiency of agencies. Unfortunately there are far too many examples of projects and systems which do not live up to expectations.

Performance Auditing of the use of EDP is an auditing tool for examining the economy, efficiency and effectiveness of an organisation's activities from an EDP/IT perspective. Today there is a great deal of knowledge possessed by SAIs and other interested parties which have worked for some time in this area. This knowledge should be passed on to others in order that a SAI which has not worked to any great extent in this field does not need to "reinvent the wheel".

The INTOSAI Standing Committee on EDP Audit was formed in 1992 to support SAIs to develop their own knowledge and skills in the use and audit of information technology by providing information and facilities for the exchange of experience, and by encouraging bilateral and regional co-operation. Within this Committee there are three working groups which work with different aspects of audit and EDP. The Swedish National Audit Office (RRV) has been appointed as the convener of Working Group II (Performance Audit of the Use of EDP Systems).

In the Committee it has been observed that there is a great interest among the majority of SAIs to further develop their activities in the field of performance auditing of the use of EDP. At its meeting on October 13, 1993, the Committee discussed different methods of supporting SAIs in this field. The proposal considered best was a reference list of articles, reports and suchlike which would be made easily accessible to all concerned. As the convener of WG II, the RRV was assigned the responsibility to produce a reference list which would provide an introduction to and guidance in this new and challenging field.

2. Aims of the reference list

The reference list targets project leaders and persons in similar positions who have little experience of performance auditing of the use of EDP and who wish to understand the methods and approaches used in the field. We have focused here on material which provides a general picture rather than specific details; which provides an introduction and basic knowledge rather than an analysis of the most recent or most complicated problems.

On March 14-16, 1995, a seminar was held in Stockholm on "Future Risks and Opportunities in the Field of Performance Auditing of the Use of IT/EDP". The documentation for this seminar provides a picture of the state of the art at those SAIs which have been working for some time with performance auditing of the use of EDP. The proceedings from the seminar can be regarded as complementary to and a next step from this report. The proceedings can be obtained free of charge from the Swedish National Audit Office (RRV).

3. The area of Performance Auditing of the use of EDP

Performance audit is defined by the INTOSAI Auditing Standards as "An audit of economy, efficiency and effectiveness with which the audited entity uses its resources in carrying out its responsibilities".

- *Economy* is defined as: "Minimising the cost of resources used for an activity, having regard to appropriate quality". Economy is thus concerned with *spending less* while maintaining the expected quality.
- *Efficiency* is defined as: "The relationship between the output, in terms of goods, services or other results, and the resources used to produce them". Efficiency is thus concerned with *spending well*.
- Finally *Effectiveness* is defined as: "The extent to which objectives are achieved and the relationship between the intended impact and the actual impact of an activity". Effectiveness is thus concerned with *spending wisely*.

Performance auditing of the use of EDP is thus a vast area and there is only partial consensus between different SAIs on what this area should constitute. Different SAIs include different topics in their performance audits of the use of EDP.

Working group II (WG II) within the INTOSAI Standing Committee on EDP Audit, has interpreted performance audit widely. On a general level three levels of analysis are defined:

1. *Performance auditing of EDP/IT systems at different stages of their life cycles.*

This involves a study of methods and techniques used to examine efficiency and productivity, systems acquisition and systems development. It also covers the implementation of systems, and the maintenance, operation and renewal of systems. Questions relating to quality and security are included here.

2. Performance auditing of the management of IT.

This covers the methods and techniques used to examine the way decisions are made on and plans are made for the use of IT, and the quality of basic data used for decision-making purposes. This area also includes performance auditing to examine both compliance with legislation and efficiency in the controls of the use of IT.

3. Performance auditing of the external and societal effects of the use of IT in government administration.

This heading covers methods and procedures for examining, among other things, the range and quality of services, and personal integrity issues.
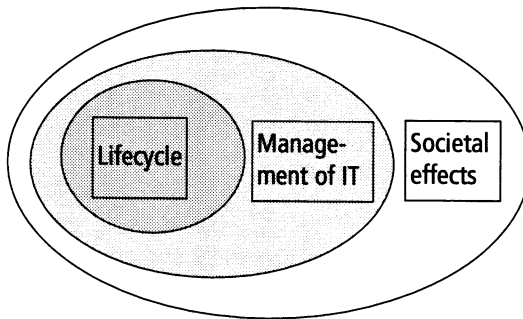

Fig.1: The three levels of Performance Audit of the use of EDP

Performance Audit of the use of EDP can thus be very extensive. A different demarcation is that performance auditing of the use of EDP ranges from general controls and EDP security to programme evaluation.

4. The Structure of the Report

The references are divided into two parts:
1. Articles from different journals
2. Reports from different SAIs

The first part is based on information retrieval from reference data bases. The collection of material has been based on articles and suchlike. We have avoided including books and conference documentation unless recommended by a SAI.

For practical reasons based on the retrieved articles, the material has been classified as shown below. The classification also provides a picture of some of the main topics in performance auditing of the use of EDP.

The classification is:

- Performance Audit of the use of EDP, general material.
- Evaluation of EDP investments.
- Systems development audit.
- Audit of management of information systems.
- Audit and security.
- Fraud and irregularities.

In each area there is a short introduction which is followed by a selection of references in each field.

The limitation of this type of study is that only the material referred to in the reference data bases used can be obtained. Moreover there is a time limitation. The search made was for material published from 1989 onwards. There is thus good topical material that has not been retrieved.

Furthermore, decisions on the inclusion of material have been based on our own assessments. It is possible that other parties would have made other assessments. Nor have we had the ambition of selecting the best material in any "objective" sense. This is, in practice, impossible.

The second part is based on answers received on reports in the field sent in by a selected number of SAIs. The choice of SAIs which were contacted in this matter was based on the answers received in response to a questionnaire distributed by the SAI of India. This questionnaire concerned the Committee's project "INTOSAI EDP directory". Question C26[1] concerned this reference list project.

We asked the SAIs contacted to make a selection from their own reports etc, which could be of use for the target group of this report.

The project group has not made any assessment of the SAIs' recommendations. The selection has thus rested with each individual SAI.

5. The articles

Performance auditing has been defined by intosai. When reading different articles one finds that there are at least two synonyms of performance auditing; value for money audit and operational audit. In the retrieved articles these terms are used more frequently than performance audit.

The border between performance audit and financial audit is not always clear. One will find articles that touch on both these areas. This is mostly evident in articles that discuss EDP/IT security and fraud and corruption.

One will find that the articles sometimes discuss the issues from the perspective of internal audit. It is also often the case that the articles are oriented toward the private sector. From a methodological point of view this should pose few if any problems. The different methods and points of view are useful regardless of the perspective from which the auditor approaches the issue of performance auditing of the use of EDP.

5.1   Performance audit of the use of EDP, general material:

The articles referred to here provide a broad introduction to this area in relation to information technology, the role of the auditor and how to conduct, in a broad sense, a performance audit of the use of EDP. Some of the articles list quite a few topics that, in their view, are part of the performance auditing of the use of EDP. In most of the articles listed a synonym, value for money, is used.

C26: Does your SAI have any documentation, report or guideline that would be of value to other SAIs and which you would be willing to share, within any of the three areas mentioned below?
- Performance Audit of IT Systems at different stages of their life cycle.
- Performance Audit of the management of IT.
- Performance Audit of the external and societal effects of the use of IT in government administration.

The references:

D.R. Sheldon, "Value for Money Auditing of Information Systems", EDPACS (Nov 1990) p. 4-12.

D.R. Sheldon, "Getting Started in Value for Money Auditing of Information Systems", EDPACS (Dec 1990) p. 8-15.

E.F. McNamara, "Carrying Out a Value for Money Audit of Information Technology", The EDP Auditors Journal vol III (1992) p. 39-44.

L. Lawton, "Practical Aspects of Value for Money Auditing in IT", The EDP Auditors Journal vol III (1992) p. 47-50.

C. Nelms, "Auditing Value for Money in IT - An Audit Approach and Program", The EDP Auditors Journal vol III (1992) p. 67-94.

Ross Wesscott, "Information systems auditors' role in the enterprise process review", EDPACS, March 1995, p. 1-8.

5.2   Evaluation of EDP investments

EDP investments are generally considered a high risk area, primarily because there is no "one way" to evaluate the benefits and costs of IT. Traditional concepts such as return on investments (ROI) are not always applicable here. One needs to consider both a cost/benfit analysis (CBA) approach to investments and to incorporate the intangible benefits in the evaluation process. EDP investors tend not to consider risk of investments and invisible or hidden costs. It is also important to be aware of decisions about investments during the systems development process.

   These articles serve primarily as an introduction to EDP investments and the organisation's internal evaluation process. They are not specifically oriented towards the auditor, but as an auditor it is essential to be aware of these issues. The auditor's role may also include the role of an EDP investment consultant.

The references

The Institute of Chartered Accountants in England and Wales, "Cost and Benefits of Information Technology", 1988.

L. Willcocks and S. Lester, "Information Systems Investments: Evaluation at the Feasibility Stage of Projects", Technovation vol 11 no 5 (1991) p. 283-301.

K. Andrew, "How Much Should You Spend on Information Technology?", Australian Accountant Vol 16 no 7 (Aug 1991) p. 48–49.

J. Vowler, "Where is the Profit in IT?", Computer Weekly (Feb 1992) p. 30-31.

J. Evans, "Getting your money's worth", Computer Weekly (Oct 1993) p. 46.

R. Mirani and A.L. Lederer, "Making Promises: The Key Benefits of Proposed IS systems", Journal of system manager (Oct 1993).

J.W. Semich, "Here's how to quantify IT Investment Benefits", Datamation (Jan 1994) p. 45-48.

5.3   Systems development audits

One area of significant exposure and audit risk in an organisation's use of IT is how the system is developed.

There are many different development methodologies which differ somewhat in approach and structure. The articles do however indicate that there are overall similarities in the basic principles of their design philosophy.

From a historical perspective the development process has been broken down into different phases, subject to thorough review and approval before subsequent development projects. This has changed the role of the auditor from "after-the-fact" evaluation to encompass both "before and during-the-fact" participation. This trend is further emphasised by the fact that software maintenance, which refers to all modifications after an application system becomes operational, is

estimated to cost about seventy per cent of the total life-cycle costs of software. This indicates clearly the need of controls.

The references:

M. J. Cerullo and M. V. Cerullo, "Operational Audit of the Information Systems Development Process", Information Technology, (4 1990), p. 199-205.

T. Burns, "The Role of Information Systems Auditing In Systems Development", EDPACS, (August 1991), p. 1-9.

S. Helms, "User Error Control: An Important Role For the Information Systems Auditor On the Systems Development Team", EDPACS, (February 1992), p. 1-5.

R. C. Wu, "The Information Systems Auditor's Review of the Systems Development Process And Its Impact On Software Maintenance Efforts", Journal of Information Systems, (Spring 1992), p. 1-13.

Ken Doughty, "Red flag auditing of information systems development", EDPACS, (December 1994), p. 1-18.

5.4   Audit of management of information systems

This section deals with the audit of management involvement in information system operations.

Periodic review of the information systems function is necessary to determine if costs are in line with services provided, if the users are satisfied with services, and if computer power is effectively used to meet the demands of management.

Operating performance can be evaluated against some other specific criteria, such as internal standards or industry standards, or contractual obligations.

Measuring the benefits of reviews of information systems can be difficult. The articles mention some, for example improved work flow, equipment utilisation, and processing reliability, along with

greater adherence to user schedules. This should result in lower costs and a more smooth-running operation.

The references

A. A.J. Hoffman, "Management Audit of Information Systems", Database (Summer 1989) p. 25-26.

L.F. Capuder, T.C. Thomas, "A Top Down Approach to Auditing the Management of the Information Systems Function", The EDP Auditor Journal Volume IV (1992) p. 47-52.

V. Cerullo, M.J. Cerullo, "Operational Audits of Computer Information Systems: A General Framework", Internal Auditing 8 (1993) p. 44-52.

David Little, Santosh Misra, "Auditing for database integrity", Journal of Systems Management, August 1994, p. 6-10.

Belden Menkus, "Outsourcing may significantly change the nature of information systems auditing", EDPACS, February 1995, p.10-16.

Ryan L. Egerdahl, "A risk matrix approach to data processing facility audit", Internal Auditor, June 1995, p. 34-40.

5.5   Audit and security

Audit and security areas are considered key issues within the area of edp audits and should be considered during all stages in the life cycle.

   The objectives of an EDP security audit can be summarised as the process in which the auditor evaluates the effectiveness of all security procedures that an organisation depends on for preventing, detecting or correcting any data processing errors. A security audit determines that all safety controls, manual and automated, are sufficient to protect, secure, and ensure integrity and reliability of computer data.

The references

G.W. Joseph, "Computer Virus Recovery Planning", Journal of Accounting and EDP (Spring 1990) p. 26-30.

Avery C. Cloud, "An EDP Audit with a twist", Information Executive, Fall 1990, p. 14-15.

G F Morris, "Securing your Computer System with an EDP Audit", Corporate Controller v4n3 (Jan/Feb 1992) p. 36-39.

T Soedjak, "Controlling and Auditing Microcomputer Data Security", EDPACS 19 (1992) p. 4-9.

T Lagana, "Process Computer Audits", ISA Transactions 32 (1993) p. 375-380 Elsevier.

Paul Yapp, Ed Berg, "Comprehensive information system audit - a model in practice - part 1", COM-SAC, volume 22, Number 1 1995, p.1-6.

Paul Yapp, Ed Berg, "Comprehensive information system audit - a model in practice - part 2", COM-SAC, volume 22, Number 2 1995, p. 1-7.

5.6   Fraud and irregularities

The number of frauds and irregularities are growing, and consequently the expectations on the external auditor are increasing. Although the audit techniques used to counter computer fraud have progressed rapidly, the fact remains that each year more and more frauds are being perpetrated.

Computer audit professionals can contribute to the detection and prevention of computer fraud and abuse. By applying the basic techniques of systems-based auditing to a review of working practices within the data processing environment, many issues can be identified. In these references the objective of the audit is fraud and irregularities.

The references

W. H. Murray, "Computer-Related Crime and Auditing in the Nineties", The EDP Auditor Journal, (Volume II 1990), p. 25-30.

L. C. J. Mercer, "Tailor-made Auditing of Information Systems for the Detection of Fraud", Computers & Security, (9/1990), p. 59-66.

D. F. Bentley, "Computer Auditing - An Aid to Fraud Investigation", Computer Law & Practice, (July/August 1991), p. 250-256.

P. Quest, "Computer Fraud - the Auditor's Approach", The Computer Law and Security Report, (Sept./Oct. 1991), p. 19-22.

R. Dixon, "Audit Developments and the Detection of Computer Fraud", International Journal of Computer Applications in Technology, (Vol. 4 No 4 1991), p. 207-216.

Mark M. Pollit, "Computer Forensics: An Approach to Evidence in Cyberspace", 18th National Information Systems Security Conference, Baltimore, Maryland, October 10-13.

6. Reports from Supreme Audit Institutions

In the questionnaire distributed by SAI India on the INTOSAI EDP directory, a question was asked concerning this publication. The answers to the questionnaire and further contacts showed that there were some 15 SAIs which had programmes for the performance audit of the use of EDP, and which had produced reports which could be made available for other sais which were interested.

Below is a list of those countries which, at the request of this project, have provided information about their own reports which they feel can be of interest to others. Replies were received from 13 of the 15 SAIs approached. These SAIS are:
Australia, Austria, Canada, France, Hong Kong, Israel, Japan, Republic of Korea, The Netherlands, Republic of South Africa, Sweden, The United Kingdom and The United States.

The titles reflect the language the papers, reports etc. are written in. The project has not made any categorisation of the reports. Many of them reflect more than one category or area within the field of Performance Audit of the use of EDP.

6.1 Australia

	#5	DASETT	IT management - Antarctic Division
1990-91	#24	DVA	PAPAS
1991-92	#10	DSS	U&SB
	#12	DEET	Management of IT
	#29	ATO	Conversion of IT systems
	#43	DAS	Conflict of interest
	#52	DILGEA	IT management
1992-93	#5	ATO	Electronic lodgement service
	#9	UC	Administrative computing systems
	#12	DPIE	IT environment
	#24	DOF	Interface systems
	#37	AFP, ASC, DPP, DHHLG, DIEA	
			Financial management systems (FINEST)

	#38	A-G's, DAS, DOF, Comcare	IT Acquisitions
1993-94	#2	ABS	IT Security
	#4	Various	Payment and outsourced service contracts
	#7	DSS	Data matching (not by IT audit)
	#13	ANSTO	Purchase of supercomputer (not by IT audit)
	#19	Defense	Computer environment, SSRP
	#31	CSIRO	IT Security
	#40	DEET	IT Security
	#44	DIEA	Electronic capture of passenger card data
1994-95	#6	ATO	IT Security

Contact Address:

Ms Sharon Winks
Director
Information Management Branch
Australian National Audit Office
GPO BOX 707
Canberra ACT 2601
Australia
tfn: +61 . 6 . 203 7798
fax: +61 . 6 . 203 7777

6.2 Austria

Republik Österreich - Tätigkeisbericht des Rechnungshofes - Verwaltungsjahr 1991, Verwaltungsbereich des Bundesministeriums für Land- und Forstwirtschaft, 1992. (P.B.)

Republik Österreich - Tätigkeitsbericht Land Niederösterreich Verwaltungsjahr 1993, Prüfbericht Krankenhaus St. Pölten; EDV-Gebarung. 1994. (P.B.)

Republik Österreich - Tätigkeitsbericht Land Niederösterreich Verwaltungsjahr 1993, Prüfbericht Stadtgemeinde Horn- Krankenhaus 1994. (P.B.)

Republik Österreich - Tätigkeitsbericht für das Land Steiermark Verwaltungsjahr 1993, EDV im Land Steiermark 1994. (P.B.)

Republik Österreich - Tätigkeitsbericht für das Land Salzburg Verwaltungsjahr 1988 und 1989, Amt der Landesregierung. 1992. (P.B.)

EDP Sicherheitsbericht. (w.v.)

Contact address:

MinR Dr. Peter Bürger   (P.B.)
Director of Audit
Rechnungshof/Court of Audit
Dampfschifferstraße 2, 1033 Wien
Österreich

MinR. Dr. Wolfgang Viernstein   (w.v.)
Dierctor of Audit
Rechnungshof/Court of Audit
Dampfschifferstraße 2, 1033 Wien
Österreich

6.3   Canada

Renewing Government Services Using Information Technology, September 1996, Report to Parliament.

Systems Under Development: Managing the Risks, October 1995, Report to Parliament.

Information Technology: Reaping the Benefits and Managing the Risks, November 1994, Report to Parliament.

Systems under Development, Best Practices Symposium, Symposium Proceedings, September 1993.

Contact Address:

Office of the Auditor General
240 Sparks Street
Ottawa, Ontario

KIA OG6
Canada
tfn: +1 . 613 . 995 3708
fax: +1 . 613 . 952 6344

6.4 France

Guide de verification sur l'informatique et le controle des administra-
tion, organismes et enterprises du secteur public. Cour des Comptes.
Avant propos des documents remis aux stagiaires. Seminaire de
Dakar, Novembre 1994. Cour des Comptes.

Contact Address:

Hervé Barbaret
Cour Des Comptes
13 Rue Cambon
75100 Paris RP
France
tfn: +33 . 1 . 42 98 95 00
fax: +33 . 1 . 42 60 01 59

6.5 Hong Kong

The computerisation of Companies' Registry Indexing System in
the Registrar General's Department.

The computerisation of urban land registration records in the
Registrar General's Department.

Delay in the computerisation of property maintenance in the
Architectural Services Department.

Inadequacies in the use of financial appraisal in computer projects.

Inadequate strategic planning for provision of computer services to
Government departments.

Management and control of end-user computing within the
Government.

22

Disaster recovery planning for government computer installations.

The billing of water accounts in the Water Supplies Department.

The Urban Ticketing System of the Urban Services Department.

Implementation of a computerised Batch Payment System for the processing of building term maintenance contracts work orders in the Hong Kong Housing Authority.

Data sharing in the government.

The management and control of information technology in the Hong Kong Housing Authority.

Computerisation of land information in government.

The Government's mechanism for monitoring the progress and costs, and evaluating the results of computerisation projects.

Contact address:

Josephine NG
Audit Department
26/F, Immigration Tower
7 Gloucester Road
Wanchai
Hong Kong
tfn: +852 . 2829 4235
fax: +852 . 2824 2087
e-mail: audjwfn@hk.super.net

6.6 Israel

The Data base on Psychiatric Hospitalizations. Ministry of Health, Annual Report 40.

Contact Address:

State Comptroller´s office
P.O. BOX 1081
Jerusalem 91010
Israel
tfn: +972 . 2 . 23 71 59
fax: +972 . 2 . 38 49 78

6.7   Japan

EDP Cost Estimation for Public Highway Construction.
(FY 1976 Audit Report - An audit finding on system planning).
Japan Highway Public Corporation.

Computer Processing contract-out. (FY 1978 Audit Report - An audit finding on system planning). Japan Small Business Corporation.

Automobile Security Liability Re-insurance Data Processing.
(FY 1984 Audit Report - An audit finding on system planning).
Ministry of Transport.

System Design of the Digital Electronic Exchanger Remote Control System. (FY 1989 Audit Report - An audit finding on system development). Nippon Telegraph and Telephone Corporation.

Contact address:

Mr. Noriaki Katsuno
Board of Audit, Japan
3-2-1 Kasumigaseki
Chiyoda-ku, Tokyo
100 JAPAN
tfn: +81 . 3 . 35 81 32 51
fax: +81 . 3 . 35 92 18 07
e-mail: kys00366@niftyserve.or.jp

6.8   Republic of Korea

Computerized Government Accounting Systems and EDP/IT Audting: Korean Experience. August 1996, The Board of Audit and Inspection. The Republic of Korea.

> *Contact Address:*
> **Division of Administrative Management and International**
> **The Board of Audit and Inspection**
> **25-23 Samchung-dong**
> **Chongro-ku, Seoul, 110-230**
> **Republic of Korea**
> **tfn: +82 . 2 . 7219-290**
> **fax: +82 . 2 . 7219-297**

6.9   The Netherlands

All these audits are printed in Dutch.

Safeguarding Information of a Fiscal System within the European Union (22 December 1994, section in semi-annual report).

Management of Information Security (23 May 1995).

Management of Contracts for Governmental Payment Services (22 June 1995, section in semi-annual report).

Financial Relation between Ministry and Social Housing Bodies: Grossing-up Claims and Debts (14 May 1996).

Population Registration System (30 August 1996).

Information Security at the Tax Authorities (9 April 1997).

Sectoral Descriptions of Information Relations (24 October 1997).

Management and Archiving of Digital Records (7 April 1998).

Electronic Exchange of Employee Data in the Social Insurance Sector 5 November 1998).

Financial management Regional Police (15 December 1998).

Approach of the Millennium Problem in the Social Insurance Sector (20 April 1999).

Approach of the Resolution of the Millennium Problem in relation to Public Safety (2 September 1999).

Management of Private Data at the Tax Authorities (11 November 1999).

The Millennium Problem and the Health Sector (16 December 1999).

Quality of the Information Provision at two Public Bodies (10 May 2001).

The management of Governmental Payment services (17 May 2000, section in semi-annual report).

System Development in connection with the Improvement of Policy Budgeting and Accounting (16 May 2001).

Other publications printed in English:

Anja Lelieveld, *Government-wide Audits of Managerial Control of EDP/IT*, In: Performance Auditing of the use of EDP: Future Challenges (Proceedings from the INTOSAI Working Seminar on the Theme of Future Risks and Opportunities in the Field of Performance Auditing of the use of IT/EDP, March 14-15 1995, Stockholm, Sweden).

Thea D. de Haan, *The Position of IT-auditing within the Netherlands Court of Audit*, In: Performance Auditing of the use of EDP: Future Challenges (Proceedings from the INTOSAI Working Seminar on the Theme of Future Risks and Opportunities in the Field of Performance Auditing of the use of IT/EDP, March 14-15 1995, Stockholm, Sweden).

Thomas Wijsman, *The Netherlands government's information security*, In: Performance Auditing of the use of EDP, Nr. 2 (Proceedings from the INTOSAI Standing Committee on EDP Audit, 2nd Working Seminar in Stockholm, Sweden, 12-13 May 1998).

Henk van der Geest, RE; Management of IT contracts checked in practice; Performance Auditing of the use of EDP 2, Proceedings from INTOSAI Standing Committee of EDP Audit 2nd Working Seminar i Stockholm, Sweden 12-13 May 1998.

IT as Object of Audit; Results of a Questionnaire in 9 SAIs, 20 February 2001.

Thomas Wijsman, Auditing a Networked Public Sector, In: Proceedings of the 3rd Working Seminar of the Standing Committee on EDP Audit , 14-16 May 2001 in Ljubljana, Slovenia (in press).

Publications by other parties:

CobiT 3rd Edition, obtainable via http://www.isaca.org/cobit.htm

BS 7799 obtainable via http://www.bsi-global.com/Information+Security+Homepage/index.xhtml

Information Security: Advances and Remaining Challenges to Adoption of Public Key Infrastructure Technology (GAO-01-277) downloadable via http://www.gao.gov/

> *Contact address:*
> Thomas Wijsman
> The Netherlands Court of Audit
> tel.   +31 70 34 24 327
> fax   +31 70 34 24 352
> t.wijsman@rekenkamer.nl

6.10 Republic of South Africa

Special Report of the Auditor General concerning central computer services in the central government. Rp 30/1993. ISBN 0-621-15332-x.

> *Contact address:*
> **F. C. Terblanché**
> **Office of the Auditor General**
> **P.0. BOX 446**
> **Pretoria 0001**
> **Republic of South Africa**
> **tfk +27. 12 . 324 2874**
> **fax +27 . 12 . 323 7389**

6.11 Sweden

Dnr 1989:393. Rätt data?

FU 1991:6 Nöjda kunder till lägre kostnad. Problem och möjligheter i stordatormiljö.

F 1991:21. IT/ADB-samverkan inom offentlig sektor - en inventerande studie.

Fg 199I:II. ADB i samverkan.

F 1992:2. Fe1 data kostar!

RW, F 1992: 14. Asyl-projektet vid Statens invandrawerk.

F 1993 :21. Att investera i kontorstiormationssystem, - process, problem och erfarenheter.

F 1993 : 34. Myndigheterna och informationsteknologi - IT.

RRv 1994:9. LADoK Studiedokumentationssystem för universitet och högskolor.

RRV 1994:11. Försvarets utveckling av informationssystem.

RRV 1994:31. BättreADB-projekt.

RRV 1994:35. RAR polisens rationella anmälningsrutin.

RRV 1994:36. NUTEK, EU och IT-industrin.

RRV 1995:15. Performance Auditing of the use of EDP, future Challenges. Proceedings from the INTOSAI Working Seminar on the theme of Future risks and Opportunities in the Field of Performance Auditing of the use of IT/EDP. March 14-15,1995, Stockholm, Sweden.

RRV 1995:59. Informationssamverkan och IT inom miljöskyddet.

> *Contact address:*
> **RRV**
> **BOX 45070**
> **S-10430 Stockholm**
> **Sweden**
> **tfn: +46 . 8 . 690 40 00**
> **fax: +46 . 8 . 690 41 00**
> **e-mail: @rrv.se**
> **www.rrv.se/english.html**

6.12 The United Kingdom

6.12.1 Audit Commission Reports:

Guidelines for the development of Computer Systems, 1986.

Acquisition of IT - A Good Practice Guide, 1992.

High Risk / High Potential. A Management Handbook on
IT in Local Government, 1994. ISBN 0118861069.

Computer Fraud Survey, 1985. ISBN 011701285.

Survey of Computer Fraud and Abuse, 1987.

Survey of Computer Fraud and Abuse, 1991.

Survey of Computer Fraud and Abuse Supplement, 1991.

Opportunity Makes a Thief - An analysis of computer abuse, 1994.
ISBN 0118861379

Contact Address:

Publications Section, Audit Support
Audit Commission
Nicholson House
Lime Kiln Close
Stoke Gifford
Bristol, UK
BS12 6SU
Tfn: +44 . 117 . 9236757 extension 214 (Andy Mitchell).

6.12.2 National Audit Office:

The Implementation of the National Probation Service Information
Systems Strategy, 2000-2001. ISBN 0102909016

The Cancellation of the Benefits Payment Card Project, 1999-2000.
ISBN 010556947x

Inland Revenue/EDS Strategic Partnership: Award of New Work,
1999-2000. ISBN 0105567280

The Private Finance Initiative: The Contract for the Defence Fixed Telecommunications System, 1999-2000. ISBN 0105567116

Government on the Web, 1999-2000. ISBN 0105566276

The United Kingdom Passport Agency: the passport delays of Summer 1999, 1998-1999. ISBN 0102835993

The 1992 and 1998 Information Management & Technology Strategies of the NHS Executive, 1998-1999. ISBN 0102646996

The Home Office: The Immigration and Nationality Directorate's Casework Programme, 1998-1999. ISBN 0102620997

Contact Address:

Information Centre
National Audit Office
157-197 Buckingham Palace Road
London, UK
SW1W 9SP

tfn: +44 . 207798 7264
e-mail: enquiries@nao.gsi.gov.uk

6.13 U.S.A.

Executive Guide: Improving Mission Performance Through Strategic Information Management and Technology.

Accessing Internal Controls in Performance Audits.

Government Auditing Standards

Assessing the Reliability of Computer-Processed Data

Contact Address:

Donald R. Drach
Deputy Director, Office of International Audit
Organization Liaison
U.S. General Accounting Office
Room 7806
441 G Street, NW
Washington, D.C. 20548
U.S.A.

tfn: +1 . 202-512-4707
fax: +1 . 202-512-4021
e-mail: lehmanp@gao.gov
www.gao.gov

Controls in an Information Systems Environment: Objectives, Guidelines and Audit Procedures, the Audit Procedures. EDP Auditors Foundation Inc.

For information contact:

EDP Auditors Foundation, Inc.
P.O. Box 88189
Carol Stream
Illinois, U.S.A.