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**EUROPEAN COMMISSION
STATISTICAL OFFICE OF THE
EUROPEAN COMMUNITIES (EUROSTAT)**

**ORGANISATION FOR ECONOMIC
COOPERATION AND DEVELOPMENT (OECD)
STATISTICS DIRECTORATE**

Joint ECE/Eurostat/OECD meeting on the management of statistical information systems
(Geneva, 17-19 February 2003)

Topic III: Efficient management of increasing technical complexity

A NEW DAWN FOR INFORMATION TECHNOLOGISTS

Supporting paper

Submitted by the Office for National Statistics, United Kingdom¹

Summary

Introduction

1. The demands made by our stakeholders in the government and other key national institutions for more timely and accurate data, and the desire for more openness, transparency, and accountability by national governments, together with delivering much more statistical information using new 'internet' based technologies, are the drivers for IS/IT professionals to create and sustain complex technological environments to deliver these expectations.
2. The mass of information created on a daily basis, the historical records, data from previous periods and the new technologies that will provide new media sources - provide a challenge for information managers and information users alike.
3. The use of powerful tools that enable the professional (and the amateur) to examine masses of data means, that National Statistical Institutes must provide significant amount of supporting data (or metadata) to ensure correct and consistent understanding of the information gathered.
4. The role of IT services within statistical organisations has changed greatly from that of a simple service provider to archivist, futurist and key partner in the statistical process. Why has the model changed?

The legacy of data processing

5. The statistical processes of the last 20-30 years were managed separately and were often the result of individual effort and kept isolated from other areas of study in its primary state. The combination of

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hardware and software that prevailed was unable to deal with the large volumes of variables, the different processing and methodological tools or the simple exchange between systems that would enable central repositories and analytical services.

6. The approach to systems development had tended towards art rather than classical control centres. This often favoured the lone practitioner who was now ably supported by emerging software from the humble (but free form) spreadsheet to the more powerful desktop tools such as SPSS, Quicktab and the like. Each generation of production tool created new barriers to more effective use of data, data linking and essential data management practice such as common naming and data preservation procedures.

7. The Government pronouncements of the last four years have contributed to some serious rethinking. The information society and the dependency on cross-administrative boundary working, to deliver new information services, is demanding a stricter and less federated approach. Notwithstanding, the increasing power of the IT capability, the greater need for efficiency and the wider audience for the potential outputs are contributing to a more challenging environment. One where consolidation provides greater quality benefits in both the quality of statistics and the delivery mechanism that support the process.

8. The transformation will be managed along a number of parallel strategic paths but most critical will be the movement away from a data processing chain that is a linear process. The new environment will be a multiple purpose data infrastructure that provides greater immediacy to data access and which services multiple dissemination channels, multiple audiences and a greater need for cross-analysis.

The Information Systems' (IS) organisation of the future

9. The IT provider is now engaged in all aspects of the data processing chain which extends to the delivery of products and services to the individual. The once lengthy process of survey initiation, collection of paper responses, data validation and preparation is now much shortened. Save for the issues of security and authentication statistical organisations are now more likely to use computer aided interviewing methods delivered through new technologies e.g. web based or Interactive Digital TV. These new services will proliferate to all areas of processing emulating the shorter value change often found in social survey work where tools, such as Blaise, provide immediate capture, validation and metadata substructures.

10. Whereas the longer processing chain provided many inspection and control points the new services will have fewer but more complex data and information control features. The IS community will need to be conversant with both the technology and Information Management (the storage, preservation and control of information) aligned to the multiplicity of both capture and dissemination.

11. Indeed the new IS organisation will be furthermore responsible with record management (now electronic records), training (process along with technology), and process design (effective integration of technologies to meet business aims).

12. At the Office for National Statistics (ONS), we are preparing to meet this challenge through a number of IS change steps. ONS IS services are:

- ◆ Standardising & reducing the complexity of the technical architecture that underpins the business of the organisation;
This requires a large redevelopment exercise.
- ◆ Developing an integrated design for all data holdings;
This provides a simpler access and interface for secondary data analysis.
- ◆ Revising the individual skill capability;
To generate a multi-skilled IS worker able to move between technology and process design.
- ◆ Re-addressing the IS service balance;
To move towards a middle-ground (hub) that exploits/utilises partnerships where there is most to be gained.
- ◆ Operating a management architecture focused upon outcomes;

- The roles and objectives of a matrix management structure are clear and non-duplicating.
- ◆ Taking leadership for data standards and compliance with broader government regulation.
This embraces both data design and operational compliance based upon the UK Code of Practice.

The ONS proposition

13. The full paper to be submitted as a basis for discussion in February 2003 will look at how the new management leadership will combine best commercial IT management practice with professional statistical drivers to deliver change and the strategy that enables these changes to be managed in parallel.