



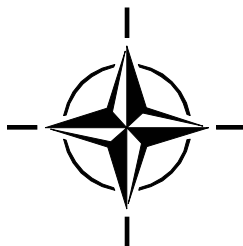
RTO EDUCATIONAL NOTES

EN-IMC-002

Electronic Information Management

(La gestion électronique de l'information)

The material in this publication was assembled to support a Lecture Series under the sponsorship of the Information Management Committee (IMC) presented on 8-10 September 2004 in Sofia, Bulgaria.



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EN-IMC-002

Electronic Information Management

(La gestion électronique de l'information)

Edited by
Prof. Dr. Yaşar Tonta

The material in this publication was assembled to support a Lecture Series under the sponsorship of the Information Management Committee (IMC) presented on 8-10 September 2004 in Sofia, Bulgaria.

The Research and Technology Organisation (RTO) of NATO

RTO is the single focus in NATO for Defence Research and Technology activities. Its mission is to conduct and promote co-operative research and information exchange. The objective is to support the development and effective use of national defence research and technology and to meet the military needs of the Alliance, to maintain a technological lead, and to provide advice to NATO and national decision makers. The RTO performs its mission with the support of an extensive network of national experts. It also ensures effective co-ordination with other NATO bodies involved in R&T activities.

RTO reports both to the Military Committee of NATO and to the Conference of National Armament Directors. It comprises a Research and Technology Board (RTB) as the highest level of national representation and the Research and Technology Agency (RTA), a dedicated staff with its headquarters in Neuilly, near Paris, France. In order to facilitate contacts with the military users and other NATO activities, a small part of the RTA staff is located in NATO Headquarters in Brussels. The Brussels staff also co-ordinates RTO's co-operation with nations in Middle and Eastern Europe, to which RTO attaches particular importance especially as working together in the field of research is one of the more promising areas of co-operation.

The total spectrum of R&T activities is covered by the following 7 bodies:

- AVT Applied Vehicle Technology Panel
- HFM Human Factors and Medicine Panel
- IST Information Systems Technology Panel
- NMSG NATO Modelling and Simulation Group
- SAS Studies, Analysis and Simulation Panel
- SCI Systems Concepts and Integration Panel
- SET Sensors and Electronics Technology Panel

These bodies are made up of national representatives as well as generally recognised 'world class' scientists. They also provide a communication link to military users and other NATO bodies. RTO's scientific and technological work is carried out by Technical Teams, created for specific activities and with a specific duration. Such Technical Teams can organise workshops, symposia, field trials, lecture series and training courses. An important function of these Technical Teams is to ensure the continuity of the expert networks.

RTO builds upon earlier co-operation in defence research and technology as set-up under the Advisory Group for Aerospace Research and Development (AGARD) and the Defence Research Group (DRG). AGARD and the DRG share common roots in that they were both established at the initiative of Dr Theodore von Kármán, a leading aerospace scientist, who early on recognised the importance of scientific support for the Allied Armed Forces. RTO is capitalising on these common roots in order to provide the Alliance and the NATO nations with a strong scientific and technological basis that will guarantee a solid base for the future.

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Electronic Information Management

(RTO-EN-IMC-002)

Executive Summary

Networked information sources and services proved to be an indispensable part of our everyday lives. We get access to a wide variety of bibliographic, full-text and multimedia databases through the intranets, extranets and the Internet. Information and communication technologies available in different settings (e.g., workplace, home, library, and Internet cafés) facilitate our access to such online services as e-banking, e-government, e-learning, and e-entertainment. Although some advanced information processing and networking capabilities are available to us, we still experience difficulties in searching, finding, gathering, organizing, retrieving, and using information. Trying to find information among billions of electronic sources is likened to trying to “drink water from a fire hydrant.” We need well-designed electronic information management systems and services to better manage information that we use in our private and professional lives. Availability of such systems and services is of paramount importance to all organizations large and small.

Electronic information management can be defined as the management of information that is recorded on printed or electronic media using electronic hardware, software and networks. It includes the description of strategies, processes, infrastructure, information technology and access management requirements as well as that of making economic, legal and administrative policies with regards to the management of electronic information.

This publication aims to review current developments in electronic information management. It contains ten papers covering a wide range of topics. The titles of papers are as follows: “Internet and Electronic Information Management,” “New Initiatives for Electronic Scholarly Publishing: Academic Information Sources on The Internet,” “Information Discovery and Retrieval Tools,” “Electronic Collection Management and Electronic Information Services,” “Economics of Electronic Information Provision,” “Metadata for Electronic Information Resources,” “Preservation of and Permanent Access to Electronic Information Resources,” “Electronic Information Management and Intellectual Property Rights,” “Infrastructure of Electronic Information Management” and “The Digital Library – The Bulgarian Case.”

Papers explore several trends, models, and strategic, operational and policy issues with regards to electronic information management. Among them are: customization and personalization of electronic information services; Davenport’s ecological model of information management; current developments in electronic journals, electronic prints, electronic theses and dissertations; initiatives to create a global network of archives of digital research materials (e.g., Budapest Open Access Initiative); features and capabilities of search engines; use of metatags to describe contents of electronic documents; electronic collection management strategies and models (e.g., “access versus ownership” and “pay-per-view”); economics of preparing and providing published information; alternative models of electronic information provision; metadata and resource discovery; digital preservation and archiving projects; intellectual property rights in the digital information environment; the European Union directive on copyright and information society; access control devices (e.g., finger-printing and time-stamping); networking infrastructure for electronic information management; and the digital library initiatives in Bulgaria.

The material in this publication was assembled to support a Lecture Series under the sponsorship of the Information Management Committee (IMC) and the Consultant and Exchange Programme of RTA presented on 8-10 September 2004 in Sofia, Bulgaria.

La gestion électronique de l'information

(RTO-EN-IMC-002)

Synthèse

Les sources et les services d'information en réseau sont devenus indispensables à notre vie quotidienne. Nous avons accès à une panoplie de bases de données bibliographiques, en texte intégral et multimédia par l'intermédiaire d'intranets, d'extranets et de l'Internet. Les technologies de l'information et des communications qui nous sont disponibles dans différents endroits (par exemple le lieu de travail, le domicile, les bibliothèques, les cafés Internet...) facilitent l'accès à des services en ligne tels que la banque en ligne, le gouvernement en ligne, l'apprentissage en ligne et le divertissement en ligne. Malgré la disponibilité de certains moyens avancés de traitement de l'information et de travail en réseau, des difficultés persistent en ce qui concerne l'identification, le recueil, la mise en forme, la recherche et l'exploitation des données. En effet, il serait plus facile de « boire de l'eau d'une bouche d'incendie » que de retrouver certaines informations à partir des milliards de sources électroniques disponibles. Nous avons besoin de systèmes et services de gestion de l'information électronique bien conçus, afin de nous permettre de mieux gérer l'information dont nous avons besoin dans nos vies professionnelles et privées. La mise à disposition de tels systèmes et services est d'une importance capitale pour les organisations de toute taille.

La gestion de l'information électronique peut être définie comme la gestion d'informations enregistrées sur des supports papier ou électroniques à l'aide de matériels, de logiciels et de réseaux informatiques. Elle comprend la description de stratégies, de processus, d'infrastructures, de technologies de l'information et des besoins en gestion d'accès, ainsi que celle de l'élaboration des politiques économiques, juridiques et administratives relatives à la gestion de l'information sous forme électronique.

Cette publication examine les développements récents dans le domaine de la gestion électronique de l'information. Elle contient dix communications couvrant un grand éventail de sujets. Les titres des communications sont les suivants : « L'Internet et la gestion électronique de l'information », « De nouvelles initiatives dans le domaine de l'édition d'ouvrages savants : Sources d'informations universitaires sur Internet », « Outils d'identification et de recherche informatique », « La gestion de la collecte de données électroniques et les services d'information électroniques », « Aspects économiques de la mise à disposition de l'information sous forme électronique », « Les métadonnées pour les ressources d'information électroniques », « La conservation et l'accès permanent aux ressources électroniques d'information », « La gestion électronique de l'information et les droits de propriété intellectuelle », « L'infrastructure de la gestion électronique de l'information » et « La bibliothèque numérique – Le cas de la Bulgarie ».

Les communications examinent différents modèles, tendances et questions stratégiques, opérationnelles et politiques concernant la gestion électronique de l'information. Il s'agit par exemple des aspects suivants : la personnalisation et l'adaptation des services d'information électroniques ; le modèle écologique de la gestion de l'information de Davenport ; l'évolution des journaux électroniques, l'impression électronique, les thèses et les dissertations électroniques ; les initiatives visant la création d'un réseau global d'archives de documents de recherche numériques (par exemple l'initiative « Budapest Open Access ») ; les fonctionnalités et les capacités des moteurs de recherche ; l'emploi de métadescription pour décrire le contenu de documents électroniques ; les stratégies et les modèles de gestion de recueils électroniques (par exemple « l'accès et la propriété » et « le paiement à la carte ») ; les aspects économiques de la préparation et de la diffusion de données publiées ; variantes de modèles de la diffusion d'informations électroniques ; l'identification de ressources et de métadonnées, les projets d'archivage et de conservation numérique ; les droits de propriété intellectuelle dans le contexte de l'information numérique, la directive européenne sur le droit d'auteur et la société de l'information ; les dispositifs de contrôle d'accès (par exemple, l'empreinte digitale et le marquage de l'heure) ; les infrastructures de réseau pour la gestion de l'information électronique et les initiatives visant la création d'une bibliothèque numérique en Bulgarie.

Les textes contenus dans cette publication constituent le programme d'un cycle de conférences organisé par le Comité sur la gestion de l'information (IMC), sous l'égide du Programme des consultants et des échanges de la RTA, et présenté du 8 au 10 septembre 2004 à Sofia, en Bulgarie.

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<p>The internet and intranet are becoming dominant factors in much of what we do with networked information sources and services proving to be an indispensable part of our every day lives. This series of lectures reviews current developments in electronic information management, exploring the difficulties in searching, finding, gathering, organising and retrieving internet and intra/extra-net based information.</p> <p>Access to networked information sources such as the wide variety of on-line bibliographic, full-text and multimedia databases requires well-designed electronic information management systems to better manage the plethora of information available. Understanding the features and capabilities of search engines and the use of metatags to describe contents of electronic documents is of great importance as is the need for customization and personalization of electronic information services.</p> <p>The Series examines state of the art models of electronic information provision, along with a description of some of the strategies, processes, infrastructure, information technology and access management requirements. Finally, initiatives to create a global network of archives of digital research materials and digital preservation and archiving projects are discussed.</p>			





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