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Standards Program Office
Bureau de programmation des normes

Your SPO "Connexion"

Welcome to the first edition of "Connexions". Published by the Standards Program Office (SPO) of the Systems Interconnection Division, "Connexions" will introduce you to the key players in our group, as well as to the projects we handle.

We felt the title, "Connexions", was appropriate given our mandate. We're involved in developing national and international standards for information technology and telecommunications (IT&T). Standards are about making connections work, and the SPO's mandate is to connect the Department's standards activities with the work of the Canadian IT&T industry.

We plan to publish "Connexions" quarterly. We envision this newsletter to be an informal forum of discussion on IT&T standards and issues -- your comments would be appreciated.

Bill McCrum
Director
Systems Interconnection Research
(Standards Program Office)

Regions To Participate In IT&T Standards Seminars

Seminars to examine strategic issues in the field of IT&T standards will be held in key centres across the country in February 1992. These seminars are jointly organized by the SPO and the five regions.

The seminars are designed to encourage regional participation in the standard-making process, as well as to inform businesses and governments of the rapid changes taking place in standardization at home and abroad.

These seminars follow the IT&T Standards Seminar held in Ottawa in May 1991. "It was a logical extension to take the issues discussed at the May '91 seminar to the regions for their input," said Bill McCrum, Director of Systems Interconnection Research. "It is vitally important that we solicit the views and experiences from organizations located in different regions across the country."

Issues to be discussed at the regional seminars include the globalization of IT&T markets, the formation of regional trading blocs with market access requirements based on conformance to standards, and the establishment of fast-paced, project-oriented regional standards bodies such as the European ETSI, the Japan TTC, and the U.S. T1 Committees.

The formation of new infrastructures around the world for accreditation, certification and testing of IT&T products based on international standards will also be a topic of conversation. Also on the agenda are an examination of the increasing need for reusable and portable software for industrial competitiveness, and the need for rapid dissemination of information from the IT&T standards development process.

A report will be developed based on the participants' recommendations. Following the seminars, the Department of Communications will work with interested parties to formulate and initiate a Canadian action plan to address the key identified issues.

McCrum added it is crucial that IT&T companies based in the regions add their contribution to all discussions. "Everybody has to work together on the standards question if Canada is to be a world player in this market," he said.

The one-day seminars will take place in Toronto on February 5, in Halifax on February 13, in Calgary on February 25, in Vancouver on February 27 and in Montreal on March 17.

For more information on the regional seminars contact Ben Ho at (613) 990-4496, or fax him at (613) 957-8845.

SPO PEOPLE PROFILE -- BILL McCRUM

Bill McCrum is the Director of Systems Interconnection Research, home of the SPO.

Bill McCrum

A graduate of the Queen's University of Belfast in Northern Ireland, Bill was awarded his Bachelor of Science (honours) in electrical engineering in 1967, and his Master of Science Degree in electronics and communications in 1968.

Bill joined the Department of Communications in 1977 as head of Data Network Interconnection Analysis. In 1978, he became the director of development and engineering for the Government Telecommunications Agency (GTA). In 1979, he returned to DOC's research sector where he set up the department's research activities in Open Systems Interconnection (OSI), which became a separate division in 1986.

Bill is heavily involved in national and international standards activities, and chairs a number of national standards committees. In 1988, Bill was awarded the Engineering Medal for Excellence by the Association of Professional Engineers of Ontario for his work and contribution to OSI research. In 1990, he co-authored a book, "An Introduction to OSI", published by the Computer Sciences Press of New York.

Prior to joining DOC, Bill worked for Bell-Northern Research for nine years.

With the establishment of the SPO in mid-1990, Bill reports directly to the Assistant Deputy Minister of Research and Spectrum.

A Keyboard Standard for Canada

On November 14, 1991 the Canadian Standards Association (CSA) Technical Committee on Text and Office Systems (CSTA/TOS) unanimously approved for publication a Canadian Keyboard Standard for the English and French Languages (CAN/CSA Z243.200).

On December 5, 1991 Treasury Board Information Technology Standards (TBITS) Working Group on keyboard standards recommended the adoption of CAN/CSA Z243.200 as the keyboard standard (TBITS-5) for the federal government. This will be the case if the TBITS ballot, to be conducted in January 1992, is approved. The Quebec Ministry of Communications voted affirmatively at the meeting on November 14, 1991 and will adopt the CSA standard as the keyboard standard for the Quebec government.

CSA hopes to have this standard available for sale in early 1992 and major manufacturers have indicated that keyboards conforming to this new standard could be available as early as the second quarter of 1992.

Development of this standard began in 1986 and resulted in the publication of a two-year "Preliminary Standard" in 1988. The objective of the preliminary standard was to obtain field experience and compliance criteria for the final standard.

When the Technical Committee met in 1990 to finalize the preliminary standard, two proposals were submitted for consideration. The Quebec government requested the preliminary standard be approved as the final standard. The federal government TBITS Working Group wanted the standard compatible with the IBM PC keyboard. Several meetings held to reconcile the two requirements were unsuccessful. Standardization of both requirements as an alternative solution was strongly opposed by the manufacturers. They preferred a single keyboard standard for Canada and not a number of different versions.

The department and the SPO were actively involved in the development of this standard. The CSA/TOS Technical Committee, responsible for the development of office systems standards, including keyboards, is chaired by Ben Ho. The Task Group under this Technical Committee which developed the keyboard standard was chaired by Jean-Yves Fortin of the Communications Development and Planning Branch (DGCP). The ultimate task in resolving the impasse between the two government positions was initiated by the SPO (A. Kwan) who convened a special meeting, consisting of Quebec MOC and Treasury Board representatives, outside the CSA forum. A joint position and proposed revision to the standard were developed at this meeting. These were accepted by CSA and TBITS committee.

For further information please contact Andy Kwan at (613) 990-4498 or fax him at (613) 957-8845.

The Standard Program Office -- Opening the World's Windows

Harmonized international standards for the information technology and telecommunications (IT&T) industry are an issue of paramount importance to Canadian companies battling for the brass ring in this highly competitive global market.

"Standards are the window into a nation, as well as a window out," Perrin Beatty, Minister of Communications, has said. "They are the tools which allow us to compete internationally, to keep ourselves on the cutting edge of the IT&T field."

In mid 1990, the Department of Communications officially recognized the importance of standardization issues to the IT&T sector by forming the Standards Program Office (SPO). The SPO's mandate is to provide a focal point for development of a coordinated DOC view on standards, as well as to offer recommendations and advice on the standard-making process.

"Standards issues and information are vital to the Canadian IT&T industry," said Bill McCrum, Director of Systems Interconnection Research, home of the SPO. "They demand more than a haphazard, uncoordinated approach. Communications channels must be defined and properly managed. This is where the SPO fits in."

The SPO's role

The SPO participates in the development of technical standards, standards policy, new national infrastructures for standards development as well as for exploitation and implementation (e.g. test centres), and a strategic action plan for standards work and resource requirements. It also provides support to government departments' own use of standards.

The SPO falls under the jurisdiction of the Systems Interconnection Research division because of that branch's extensive and intimate knowledge of the government's, as well as the national, regional (world regions), and international standards systems.

In new areas of IT&T standards-related work, for example conformance testing, laboratory accreditation and certification, DOC expertise is required in the negotiation process with government bodies in other countries. This holds true especially for such issues as mutual recognition of accreditation, marking schemes and test results.

According to McCrum, there are many areas where the IT&T industry needs a trusted third party to act as an arbitrator, catalyst and coordinator of standards activity. "For the most part, Canadian industry cannot afford the investment of resources in the sometimes long and complex standards-making process. A DOC expert can promote a variety of Canadian industry's views and share the results across a wide range of interested parties," he said.

A highly competitive market

The IT&T industry is big business in Canada and around the world. The current global market for telecommunications equipment is estimated between $100 and $150 billion annually, of which Canada's share is $6 billion. A goal to increase that share to $20 billion by the year 2000 has been set by the Canada Telecommunications Action Committee.

Currently, the Canadian federal government purchases $1 billion a year of computer and communications equipment impacted by IT&T standards.

"The challenge we, as government and industry, face is to ensure our voices are heard in the standard-making process," said McCrum. "The notion that standards are at the forefront in the struggle for trade is well accepted. Increasingly, standards are becoming a prerequisite for access to markets."

There are two categories of standards -- mandatory and voluntary. Mandatory standards require compliance as a necessary pre-condition for the use, sale, licensing or interconnection of a product or system. Without these standards, Canada's communications systems, in particular radio and broadcast communications, would be in chaos.

Voluntary standards are not required by law. However, they enhance the performance, reliability and value of a product or system. The imposition of voluntary standards often aid in a company's competitiveness.

"With growing business and residential communications needs, the past five years have seen an explosion in new communications standards," said McCrum. "Not only are new systems being added, but virtually every existing system is being enhanced and replaced. It is essential to stay ahead of the game."

For more information on the SPO contact Bill McCrum, Director of Systems Interconnection Research at (613) 990-4493, or fax him at (416) 957-8845.

Global Accreditation, Key to the Future

Now that the world community has put in place the Open Systems Interconnection (OSI) Model and a set of supporting standards, users of IT&T products want to move away from proprietary systems. It is clear that no single vendor can supply systems at the lowest possible cost to meet the diverse requirements of users.

A smart robot arm from Japan may be the best buy to feed the computer controlled lathe from Germany in your fully automated plant. A supercomputer from the United States is your choice for the production process, inventory control and office automation. Fortunately, you have found that the products you want claim conformance to OSI standards. If the claims are true, interoperability among the components will be greatly enhanced. But, who will test them for you to verify conformance? Who will certify their conformance? And who will recognize the certificates?

Answers to these questions determine what IT&T products the user can buy and what markets the suppliers of such products can access. But, suppliers are seeking assurances that costly testing of their products will be required only once, while the users are looking for guarantees that the products they procure will interwork. The competitive, multi-vendor market will rely heavily on worldwide recognition of conformance test results based on a common interpretation of accreditation criteria for test laboratories, and supported by harmonized product certification schemes.

The Department of Communications and the Canadian Interest Group on Open Systems (CIGOS) have been instrumental in paving the way to the establishment of the Hewlett-Packard IDACOM test centre scheduled to open in 1992 in Montreal. Its purpose is to provide conformance testing services in Canada. Other Canadian test centres are also likely to surface. It is now necessary to ensure that such test centres are accredited and their results recognized so that Canadian-tested products do not have to be re-tested.

Os Monkewich, Manager of Protocol and Conformance in DSI has been assigned to work closely with CIGOS and the Standards Council of Canada (SCC) to establish internationally harmonized interpretation of test laboratory accreditation criteria for use in the IT&T field.

"We have made a lot of progress since May 1990 when we first started this work," said Monkewich. "We have learned about the schemes in Canada, Europe, Japan and the U.S. currently in place for testing and certification in other sectors. We have drafted a Canadian interpretation of ISO/IEC Guide 25 criteria and initiated a new project in the International Laboratory Accreditation Conference (ILAC) to develop an internationally harmonized interpretation."

Since mid 1990, Monkewich has participated on the ISO/IEC Program Committee which organized the Gaithersburg Workshop on Worldwide Recognition of OSI Test Results held last May. The workshop was attended by virtually all of the key players and organizations from Europe, the U.S., Japan, Korea, Australia and Canada. "This workshop helped experts from all geographical regions reach a common understanding of the issues that need to be resolved, and to propose a plan of action for the future," said Monkewich.

Monkewich represents CIGOS and SCC on the newly formed ISO/IEC Committee for Worldwide Recognition of Test Results. The participants include representatives from the U.S. National Institute of Standards and Technology (NIST), the Corporation for Open Systems (COS), the European Committee for IT Testing and Certification (ECITC), Japan's Promoting Conference of OSI (POSI), Japan Society for the Promotion of Machine Industry (JSPMI), and others. The overall objective of the Committee is to facilitate the implementation of a global system in which accreditation, voluntary testing and certification processes are harmonized so that they can be accepted in all countries.

"Worldwide recognition of test results based on common criteria and harmonized certifications schemes are essential to the Canadian IT&T industry if we want to compete globally," said Monkewich. "We are working toward making this a reality."

For more information on Global Accreditation contact Os Monkewich at (613) 990-4494 or fax him at (613) 957-8845.

"Connexions" is published by the Standards Program Office of the Systems Interconnection Research Division. It is produced for internal use only, and concentrates on issues of concern to the standards-making process for the information technology and telecommunications industry. For more information please write to us at 300 Slater Street, 16th Floor, Ottawa, Ontario, K1A 0C8, call us at (613) 990-4492, or fax us at (613) 957-8845.