



conneXions

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Standards Program Office
Bureau des normes

It's Our Anniversary

Exactly one year ago we published our inaugural issue of "Connexions". When we first started, our circulation was just under 500. Today, over 700 key players in the IT&T field are on our mailing list and our circulation is growing each time we publish.

We have received many positive comments on the format and content of "Connexions", and we will endeavour to ensure its quality remains high. If you have any questions or comments we would appreciate them. We also welcome any editorial suggestions pertaining to IT&T standards issues.

In this issue, we take a look at the perilous state of the North American Numbering Plan and the efforts to expand

it so that it meets our continent's increasing needs. In addition, we summarize the TECH TEAM report on SPO's IT&T standards seminars, examine the rapid growth of OSI, and profile a standards database available through the Standards Council of Canada.

On behalf of the SPO, best wishes for the new year.

Bill McCrum
Director

Systems Interconnection Research
(Standards Program Office)

OSI Making Spectacular Gains

The field of Open Systems Interconnection (OSI) is growing at a rapid pace, according to a recent report by Frost & Sullivan of New York. They predict that the U.S. market for OSI will reach \$81.2 billion (U.S.) by 1996, up from \$23.2 billion (U.S.) in 1991.

Reflecting the growing importance of OSI, a new test centre was recently opened in Montreal. The Hewlett-Packard (Canada) Ltd. Protocol Test Centre will specialize in third-party testing of products for conformance to OSI standards. In addition, the Centre will also conduct R&D work on new concepts and tools for OSI testing which they will market worldwide through the Hewlett-Packard distribution network. Initial testing services will cover three main areas -- X.25, ISDN and Frame Relay.

The Department of Communications has been working in cooperation with Hewlett-Packard because it believes the Protocol Test Centre is vitally important to the Canadian information technology (IT) industry, says the SPO's Os Monkewich.

"Conformance testing has a twofold purpose -- it satisfies the manufacturer's testing needs on the way toward product certification, and it helps the consumer feel more confident that the product he buys will meet his requirements," he said. "The demand for the Centre's services will grow because the

OSI global market is expected to make spectacular gains over the next few years."

Monkewich says the Canadian IT industry must ensure its products meet certification criteria if it is to compete effectively in the global marketplace. To this end, the Protocol Test Centre will seek to ensure its test results are recognized worldwide by obtaining the appropriate accreditation. To help the Centre achieve this goal, DSI is working through the Canadian Interest Group on Open Systems (CIGOS) to establish an internationally harmonized Open Systems testing infrastructure.

DSI efforts have paved the way for the establishment of a Working Group under the mandate of the Standards Council of Canada (SCC) Testing Accreditation Sub-Committee (TASC). The Working Group will put in place the necessary elements for accrediting test laboratories in the IT&T field. These elements will include assessor training and internationally harmonized IT&T-specific accreditation procedures.

"The overall goal is to facilitate market access for the Canadian IT&T industry, and to ensure the Canadian user has access to affordable products through a multi-vendor market," Monkewich said.

For more information please contact Os Monkewich at (613) 990-4494, or fax him at (613) 957-8845.



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PROFILE — DR. OS MONKEWICH



Dr. Os Monkewich

Os Monkewich received his Bachelor of Engineering degree from McGill University and Master of Applied Science and Ph.D. degrees from the University of Ottawa, all in electrical engineering. He was Member of Scientific Staff at Northern Electric R&D labs and Bell-Northern Research from 1965 until 1979, when he joined the Department of Communications.

Currently Os manages an OSI laboratory in the Systems Interconnection Research Division, home of the SPO. His research work is in the area of OSI protocol specification, implementation and testing with a focus on national and global standards.

Os is a member of the Canadian Interest Group on Open Systems (CIGOS) Board of Directors, and chairs the CIGOS Open Systems Testing Program Infrastructure Group. He represents CIGOS and DOC on the North American Testing and Certification Policy Council and the

ISO/IEC Committee on Worldwide Recognition of Test Results. Os is also a member of the Industry/Government Open Systems Specification (IGOSS) Group on Testing formed by the US National Institute of Standards and Technology, and of the recently created IT&T Working Group under the Standards Council of Canada Testing Accreditation Sub-Committee. He chairs the CSA/CNO Joint Group on Conformance which is responsible for the development of Canadian positions on conformance topics, and is the project leader in the International Laboratory Accreditation Conference (ILAC) to develop an interpretation of ISO/IEC laboratory accreditation criteria for use in the IT&T field. In addition, Os is the international editor of the ISO/IEC 9646-3 standard for the Tree and Tabular Combined Notation (TTCN) for Abstract Test Suite specification.

Databases Bring Standards to Your Office

The IT&T industry can soon have up-to-the-minute information on standards at their fingertips, thanks to comprehensive databases compiled by the Standards Council of Canada (SCC).

The SCC offers three bilingual databases, available 24 hours a day, to standards-users in Canada and abroad, says Diane Thompson, Manager of the Council's information division. One of the databases, updated monthly, contains information on all National Standards of Canada (NSCs) approved by the SCC, as well as other standards published by the accredited standards-writing organizations the Bureau de normalisation du Quebec (BNQ), the Canadian General Standards Board (CGSB), the

Canadian Standards Association (CSA), the Canadian Gas Association (CGA) and the Underwriters' Laboratories of Canada (ULC).

Another database available to subscribers focuses on federal referenced standards. It holds information on Canadian, foreign and international standards mentioned in Canadian federal legislation.

A third stores data on GATT Technical Barriers to Trade (TBT) notifications as well as draft European standards published by the European Committee for Standardization (CEN) and the European Committee for Electrotechnical Standardization (CENELEC).

Thompson says IT&T companies can also access a database that tracks

the activities of the Telecommunications Standards Advisory Council of Canada (TSACC), including information on its meetings as well as its work schedule. And in the near future, bibliographical data on all finalized and draft standards published by the International Organization for Standardization (ISO), including on JTC1 (ISO/IEC Joint Technical Committee on Information Technology) will be offered. A database on the standards of the International Electrotechnical Committee (IEC) is expected in the Spring. The SCC is also looking into accessing the database of the United Nations International Telecommunications Union (ITU).

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At the IT&T standards seminars sponsored by SPO, it was universally agreed that a computerized list of national and international IT&T standards should be instituted, says the SPO's Ben Ho. To answer this demand, the Department of Communications and TSACC are working with the SCC to develop a subset of the SCC database specifically of interest to the IT&T industry. Currently, users must sift through

standards titles covering a myriad of subjects to find information useful to them.

The SCC databases are easy to access, according to Thompson. For instance, they are available through the SCC on DATAPAC. To find out more about accessing the databases through other networks, Thompson says IT&T companies can contact her directly.

For more information on the SCC Databases contact Diane Thompson at (613) 238-3222, or fax her at (613) 995-4564.

More Phone Numbers Needed

Too many phones and not enough numbers. This is the scenario North America will soon face -- we are quickly running out of phone numbers to meet the market demand.

Next autumn, for instance, Toronto and surrounding areas will be split apart. The area's growth is no longer adequately serviced by just one Numbering Plan Area (NPA) code (416). A new area code (905) will be introduced to ease the pressure and to guarantee the area doesn't run out of seven digit phone numbers. Soon other centres across the continent will face this issue, and an action plan is being put in place to ensure that North Americans will be able to let their fingers do the walking with the familiar 10 number configuration (a three digit area code and the seven digit number).

The Numbering Plan for international telephone service is developed by the CCITT (Recommendation E.163). Canada falls under the North American Number Plan (NANP) in World Zone 1 designated by Recommendation E.163. This zone also includes the 50 states of the USA, Bermuda, Puerto Rico, the Virgin Islands and a number of the other Caribbean islands. Developed in the late 1940s by AT&T, the NANP was administered by AT&T until the early 1980s when Bell Communications Research (Bellcore) assumed this responsibility. Stentor (previously Telecom Canada) has administered the

plan within Canada since NANP's inception.

Numbering is a national issue and requires equitable and efficient management as a bona fide national resource. It was recognized by industry early on that strategic direction for numbering in Canada should reside with a non-partisan Canadian committee. To this end, the Canadian Steering Committee on Numbering (CSCN) was established in 1991 to develop a comprehensive strategy to best represent Canadian industry's interests in number planning and implementation.

The CSCN recognizes that DOC has plenary authority over the national numbering plan and that the CRTC has jurisdiction over the discriminatory use of numbers. At present, the CSCN is chaired by Teleglobe Canada with Stentor as the administrator. The CRTC is an observer on the Committee, while DOC is represented by the policy branch (ADMCP/DGTP/DNS) and the Standards Program Office (SPO) as an ex officio member.

The NANP has enjoyed stability since its inception. Recent advances in telecommunications technologies have resulted in the introduction of a number of revolutionary new telecom services such as facsimile, ISDN and cellular. In turn, these have created an increased demand for new numbers. NANP's current capacity is approximately 914 million numbers. According to

NANP's administrator, the numbering plan is now under profound stress, even with this substantial figure.

In order to expand the capacity of NANP, the administrator has proposed an interchangeable code relief plan. This plan removes the restriction in the present digit assignment of the NPA code -- right now the middle digit of the NPA code can only be 1 or 0 -- making available an additional 640 new codes. This would give NANP an estimated capacity of 6.15 billion numbers, a nearly seven-fold increase in capacity. July 1, 1995 is set as the date by which preparations must be completed for the introduction of interchangeable NPA codes.

The CSCN is working closely with NANP to develop policies and guidelines for the allocation of NANP resources after the implementation of interchangeable NPA codes. The CRTC decision 92-12 allowing competition in the public long distance voice telephone services market will require for the first time in Canada the assignment of Carrier Identification Codes (CICs). These codes, to also be assigned by the NANP administrator, will be used to identify the different long distance carriers in Canada.

For more information please call Andy Kwan at (613) 990-4498, or fax him at (613) 957-8845.

Report On IT&T Standards Seminars Tackles Key Issues

Senior corporate managers and smaller information technology and telecommunications (IT&T) companies should become more involved in setting strategic global standards for the IT&T industry.

These are two of the findings in a report prepared by TECH TEAM Management Inc. on the national and regional seminars on IT&T standards held in May 1991 and June 1992.

Commissioned by the SPO, TECH TEAM was tasked to examine the issues raised in the seminars and develop recommendations. Headed by Denis Hall, TECH TEAM attended two of the seminars, reviewed interim reports and held interviews and a workshop with members of the Canadian IT&T standards community. In addition, a series of telephone interviews were conducted with active members of standards working committees to determine the involvement of large and small Canadian companies in the standards arena.

The report examined a number of key issues including the extent of corporate involvement, senior management awareness, the cost of the standards-making process, and government's perceived and actual role in IT&T standards development. Some of the findings include:

- The vast majority of private sector funding for IT&T standards work is controlled by individual product primes. It is therefore difficult to get financial support for generic standards work or for administrative functions such as Steering Committees.
- Participants from smaller companies spend one third to half of their time preparing for or attending standards meetings.
- Smaller firms can make valuable contributions to standards work, but often lack the human and cash resources to participate fully.
- Senior management has neither the time nor the interest in dealing with detailed technical information pertaining to IT&T standards. More material should be developed that will appeal to senior managers who could have an impact on the standards-making process.
- People involved in standards have to do a better job in communicating existing standards. The end purpose of standards management should not be to get a standard produced. Rather, it should be to get the standard widely accepted in application.
- It is in Canada's interest to promote multinational standards committees. This will minimize the number of work hours for Canadians.
- Government should be a major strategist in standardization activities. There is a role for government in IT&T standards strategy and infrastructure support. But, in general, standards content should be left up to industry players.

- Information technology (IT) standards management can differ from telecommunications (T) standards management because of disparate commercial and technical considerations. Therefore, one solution may not fit both circumstances -- they should be studied on their own merits.
- The Federal Government should make consistent reference to relevant standards in its procurement documents. This exercise will help to reinforce industry interest in supporting the standards processes.

One of the key elements of streamlining the IT&T standards process is staffing, says TECH TEAM'S President, Denis Hall. The report recommends that a full complement of staff should be on board to solve issues pertaining to the process. Because global IT&T markets are rapidly expanding and becoming more competitive, it is imperative the Canadian IT&T industry devote more energy into making sure its voice is heard in the international standards arena.

"We're faced with the dilemma that the volunteer standards community is asking for more people to devote more hours when volunteers are already stretched to the limit in terms of their time. They are asked to not only do the legwork, but to manage the process as well," Hall said.

TECH TEAM's report has been submitted to the SPO and will be made available to interested members of the Canadian IT&T standards community, says Bill McCrum, SPO's Director.

"This report will help us formulate an action plan for the future," said McCrum. "By working closely with bodies such as TSACC and the Standards Council of Canada, we'll be able to make a significant contribution to strengthening the IT&T standards process so that it will benefit all Canadian companies, big and small."

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

"Connexions" is published by the Standards Program Office of the Systems Interconnection Research Division, Department of Communications. 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.