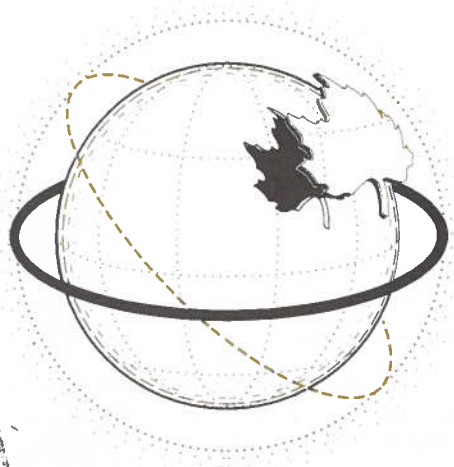
CONNEXIONS



VOL. 2, NO 2, WINTER 1994 STANDARDS PROGRAM OFFICE ✱ BUREAU DES NORMES

Seminar On Telecom Standards For Global Connections

The week of June 5, 1995, telecommunications experts from standards bodies around the world will gather at the Government Conference Centre in Ottawa to discuss cooperation and exchange information on global standardization issues. This event, known as the second Global Standards Collaboration group meeting (GSC-2), will be hosted by the Telecommunications Standards Advisory Council of Canada (TSACC) June 6-8, 1995.

To take advantage of this, and the presence in Ottawa of many prominent members of the international standards community, a seminar is being planned immediately following GSC-2. The seminar, sponsored by Industry Canada, TSACC, the Standards Council of Canada and members of the Canadian IT&T industry, will be held on June 8 and 9.

This schedule will facilitate participation in the seminar by leading figures from the global IT&T standards community. They include the Director of the Telecommunication

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BREAK DOWN THE DOORS!

For an industry committed to breaking down barriers in communication, we have to work especially hard to get our own messages out to our community. Publishing ConneXions at least three times a year is part of our strategy. By keeping you in touch with a selection of important events in the IT&T standards world, at least from our perspective, we're trying to keep the doors of communications ajar.

Opening those doors is what this issue is about. In this edition, we promote the widespread use of TSACC's IT&T standards database, now in the seventh month of a field trial, and update you on what's happening with the marriage of OSI and the Internet. We also briefly look at how technology, particularly IT&T technology, affects the global economy.

And to open the doors wider, we're pleased to announce that we are sponsoring a Seminar on Telecom Standards for Global Connections on June 8 and 9, 1995. Following the Second Global Standards Collaboration (GSC-2) meeting from June 6 to 8, our seminar will pick up where the GSC-2 event left off, and give Canadian IT&T standards players a chance to exchange information, and talk with international colleagues. Hope to see you there.

Bill McCrum
Director
Standards and Interconnection
(Standards Program Office)

IT&T Standards Database An Invaluable Tool

By Jean-Yves Fortin

"I need to be kept up-to-date on the development of Open Systems standards. Where can I find this information?"

"Who is involved in MPEG standardization?"

"When and where are the next Canadian and international meetings on broadband ISDN?"

Thanks to an IT&T standards database developed by the Telecommunications Standards Advisory Council of Canada (TSACC), these questions can be answered with just a stroke of a computer key.

The subject of a field trial was raised in May 1994. This handy database provides the Canadian IT&T community with current information on standards activities in Canada and at the national, regional and international levels. It focuses on activities of standards committees and on working groups involved in IT&T. The 80-odd field-trail participants of this database can find out who are the key players, the type of standards being developed and when committee meetings are scheduled. They also have access to reports from these meetings. The database contains information on nearly 175 committees from 17 standards-writing and related organizations. More than 100 reports and nearly 100 meeting notifications have also been included, with more to come.

The idea for this database was born in June 1992, at a series of IT&T standards seminars organized by the Standards Program Office of the former Department of Communications. Delegates agreed that such a database was a priority — it was important that a central reference for the IT&T community be established. In response, TSACC members participating in the Third Interregional Telecommunications Standards Conference in Tokyo in November 1992, demonstrated an experimental database. After checking that a clientele for the database existed, TSACC, the Standards and Interconnection Division (DSI) of Industry Canada and the Standards Council of Canada (SCC) initiated the field trial.

USER FEEDBACK IS CRUCIAL

Like in any field trial, there are wrinkles in the system that need to be ironed out. But on the whole, users like the database, according to a survey conducted in September 1994. They agree that it plays an important role in disseminating standards information to the IT&T community.

One aspect users appreciate is the ease of accessing the database. Though there are limitations to the software, it is understood that for the field trial it makes sense to rely on the available technologies from SCC instead of developing a costly, new method of distribution. During the trial, access to the database is via Datapac or other X.25 links. The user must have a dial-up capability or an X.25 link and a communication package. Users surveyed say they would also like an Internet connection to access the database. For the moment, such an access is outside the scope of the field trial. However, this method is being investigated for the future.

The content of the database is contingent upon the cooperation of the participating organizations. Because updating the database is a voluntary activity, there are content gaps that may annoy users seeking specific information. This issue is being examined, and a solution will be put in place at the first opportunity. Users have also suggested that

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OSI And The Internet – A Natural Partnership

By Os Monkewich

If Open Systems Interconnection (OSI) and Internet applications could be used with equal facility on all existing networks, the benefits would be phenomenal. Selected features from OSI could provide reliable support for commercial applications over the Internet, without losing the existing installed base of smaller applications. Users would have command of a single information highway that offers economic access to an incredible array of applications and services in a multi-vendor environment. There would be no losers – everyone, from users to suppliers, would profit from such a marriage.

DSI is working in coordination with the IT&T community to make this a reality. In collaboration with Canadian industry, the Treasury Board and the Information Technologies Industry Branch of Industry Canada, DSI contributed to a convincing demonstration of the technical feasibility of OSI/Internet convergence under the project entitled TUBA (TCP/IP UDP with Bigger Addresses). To follow up on this demonstration, DSI has expanded its partnership to include experts from the Government Telecommunications and Informatics Services (GTIS). The next objective is to deploy a selected government-wide service over the proposed GTIS network – the Government Enterprise Network. It is hoped this will encourage wider availability of OSI routing on other networks.

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Standards for Interworking and Economic Change

By David Clemis

This is the first in a series of articles on the economic impact of developing products and services incorporating open international standards. It looks at the economic environment in which the IT&T industry is playing. It is an extract from a paper by Mr. Clemis called Selling to the World. The next instalment will discuss how Canadian firms are developing products and services with standards for sale in the global economy.

Profound changes are taking place in economics theory according to the noted Canadian economist Richard Lipsey. And technology, in all sectors, is driving this shift.

With the evolution from mass production (assembly lines, labour-intensive, non-technical) to knowledge-based production (work teams, technology-intensive, scientific), products and process innovations are becoming increasingly technology- based. Because of the enormous advances made in communications, production can be coordinated worldwide. Technology can offer a myriad of variations of the same product line for consumption in different countries and cultures. Add to this phenomenon the fact that national barriers to trade are being systematically dismantled, and that producers are becoming increasingly knowledgeable about foreign market opportunities, and it becomes obvious that the total economy is on the verge of being globalized. As Lipsey has pointed out, "firms in many industries face competition from firms located literally all over the world". No longer do they only fear the competitor down the road or across town, but they have to contend with rivals in far-flung locales.

How has the IT&T sector benefited?

How has the information technology and telecommunications (IT&T) sector benefited in this new, ever-changing global economy? It has benefited in two ways — as benefactor and facilitator to trade. As a facilitator, the IT&T sector has provided the tools for communications — access to computing through inexpensive and widely-available personal computing systems, communications linkages brought about by the advances in telecommunications, and the global networks which link nations, and enterprises to their customers worldwide. As a benefactor, the IT&T industry has seen phenomenal growth in the demand for IT&T products and services. It provides the basic tools for the continuation and expansion of the world operating in a new economic model that Lipsey refers to as the "techno-economic paradigm".

The question that begs to be answered is when do we reach the saturation point and no more benefit is accrued for the IT&T sector? This query is derived from the traditional economic models which suggest that economic returns from a given activity will decrease as the number of participants increases. Known as the principle of decreasing returns, it assumes a fixed demand level. The new economic model and the actual experience in the marketplace suggests something different, a climate of increasing returns. The more you sell, the bigger the market becomes.

The Emergence of Standards for Interworking

A study of technical standards for interworking by Yale Braunstein and Lawrence White looked at the economic links to technology. Technology compatibility is a major force in the real world — one that complements the new economic theories. The benefits to both consumers and manufacturers are lower costs, more satisfaction to a greater clientele and a better chance for the interworking or exchange of components. The drawbacks are inertia, reduced alternatives and lock-in. Because of this, it is possible for dominant firms to control markets and set de facto standards. However, customers are becoming more technology-literate and are demanding that their systems be compatible and inter-operate. It is fast becoming a world where a single company can no longer dominate because of the call for standards for interworking, hence, the emergence and strength of international standards fora, standards-setting consortia and strategic partnerships between old rivals.

Standards for interworking, universally accepted and demanded, are pushing the direction of product and service development. In Canada, this has been recognized, particularly in some market specialty areas such as Electronic Data Interchange and Document Processing and Electronic Publishing. Articles in future issue of ConneXions will outline how Canadian firms are coping with this phenomenon, and are in fact, competing successfully in the global marketplace.

Database / *continued from page 2*

summaries of the various reports and activities of the committees be made available on the database. This too, is being considered.

WHAT'S IN STORE FOR THE FUTURE?

Up until now, databases have been viewed as a centralized repository of information that users can reach at a distance. With Internet, this is changing. Internet is offering a different model, where databases can be maintained in a decentralized manner and interlinked to create a network. Called the World Wide Web (WWW), it provides a seamless connection to users, and invites more open accessibility. Because it offers E-mail and group discussions, a live link is established to answer questions, respond to standards issues, and bring standards developers and users together. This model is being contemplated as the logical evolution of the IT&T standards database.

A viable and strong database relies on the feedback and participation of its users. TSACC's IT&T standards database and its ongoing field trial are a step in the right direction. If you are interested in joining the field trial, contact Jean-Yves Fortin at (613) 990-4290, fax (613) 957-8845, or via E-mail at jyfortin@clark.dgim.doc.ca for more information.

OSI/Internet / *continued from page 2*

Government Enterprise Network will let users in all departments gain access to common services, applications and data, government-wide. It will provide inter-networking services for both the Internet's Inter-network Protocol (IP) and the OSI Connection-less Network Protocol (CLNP). Among the applications to be included is the OSI Remote Database Access (RDA), which will address interdepartmental and public access. DSI will focus on RDA inter-networking, using a parallel implementation of IP and CLNP protocols to permit routing over either the Internet or OSI networks.

The development will be done on two interworking Pentium computers running UNIX operating systems with special networking software modified to include IP/CLNP channels. The networking software will interface with OSI modules to support RDA. The demonstration of this approach will access information stored on a commercial database product, ORACLE, by means of a database query processor made available to DSI by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST). Before the new system is ported to Government Enterprise Network, it will be thoroughly tested by joint NIST-DSI experimentation over public network routing facilities.

Recently, the Internet Engineering Task Force decided to introduce fundamental changes to the next generation of IP. CLNP is also expected to change. It will take between two and three years before IP's new generation is deployed. In the meantime, DSI is considering how it will contribute to providing optimum benefit to Canadian users. The basic approach to provide connectivity between the OSI and Internet communities, however, will remain unchanged.

Seminar / *continued from page 1*

Standardization Bureau of the International Telecommunication Union, and the Chairman of the European Telecommunications Standards Institute (ETSI) Technical Assembly, among others.

Seminar participants will have the opportunity to exchange information and talk with prominent figures on the global stage of IT&T standards work, as well as with fellow Canadian IT&T industry members. The seminar will give the international experts a chance to share the conclusions and results from the GSC-2 meeting with a wider community.

The seminar's agenda is currently being finalized. When the program is completed, details will be outlined in trade and business media, the Spring issue of ConneXions, and via Canadian IT&T associations and organizations. If you are interested in more information, please contact Ben Ho at (613) 990-4496, fax (613) 957-8845, or via E-mail at hob@cp.istc.ca.

EDI in French

Industry Canada and the Secretariat of the Treasury Board of Québec are co-financing a project to provide the French equivalent to UN/EDIFACT code list titles. Canadian companies will soon have access in English and in French to the 4,470 titles used in Electronic Data Interchange (EDI).

More than 3,000 Canadian organisations currently used EDI for their commercial transactions. UN/EDIFACT is the EDI standard for international commerce.

"ConneXions" *is published by the Standards Program Office of the Division of Standards and Interconnection of Industry Canada. It concentrates on standards issues of technical and strategic interest to the information technology and telecommunications industry. For more information please write to us at 300 Slater Street, Ottawa, Ontario, K1A 0C8, call us at (613) 990-4492, or fax us at (613) 957-8845.*