



ITU NEWS

OCTOBER 2000

IP Networks
xDSL
Multimedia Communications
Privacy and Security
E-Commerce
Wireless Communications
Coordination
Internet
Access
VoIP
IMT-2000
3G

***World Summit
on the Information Society
set for 2003***



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Editor-in-Chief (ad interim)
Patricia Lusweti
Production Editor (English)
David Gray
Production Editor (French)
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Alfredo Ponce
Art Editor
Dominique de Ferron

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EDITORIAL OFFICE AND SUBSCRIPTIONS

Tel.: +41 22 730 5234/5250
Fax: +41 22 730 5321
E-mail: itunews@itu.int
Regular mail:
International Telecommunication Union
Place des Nations
CH-1211 Geneva 20 (Switzerland)

ADVERTISING INFORMATION

Editorial Calendar/Media Kit
Tel.: +41 22 730 5234
Fax: +41 22 730 5321
E-mail: patricia.lusweti@itu.int

ONLINE EDITION

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Reforming ITU



Change is taking place everywhere, and ITU is no exception. While we can justifiably boast of having spent the last one hundred and thirty-five years building the global information infrastructure, we must now truly reform our organization to manage what we helped create. To do this, we must have a common understanding and vision of what we want ITU to be in these changing times or risk an unwanted decline in the Union's role.

Many players in this fast-paced telecommunications industry are impatient to see profound reforms that will preserve and strengthen ITU's international credibility. The onus is on us to adopt an unsentimental approach to our Union's past and design a new strategy based on our strengths. We must not let tradition drag us under.

An open debate is going on in the Working Group on ITU Reform, set up following a decision of the Plenipotentiary Conference (Minneapolis, 1998) to give reform another chance. Through this group, ITU's constituents are reviewing the management, functioning and structure of the Union, as well as the rights and obligations of the entire membership.

The Reform Advisory Panel (RAP), which I set up during ITU TELECOM 99 to advise me on how to chart the Union's future, proposed a set of bold and sweeping recommendations in March this year. I reported RAP's observations and conclusions to the Council in July and circulated them to all our Members in August. RAP comprised ministers and other senior government officials, industry CEOs, regulators and operators.

As ultimate beneficiaries of our work, RAP members put forward proposals they considered imperative to maintain the Union's relevance. In particular, they highlight the need to define better the respective roles of the public and private sectors who make up the ITU membership. They recommend that ITU's decision-making functions should reflect the modern, competitive telecommunications environment in which the private sector plays the lead role while the regulatory agencies act as an arbitrator for the wider public interest.

In radiocommunications, the thrust is on ITU taking a stronger role in facilitating regional, interregional and bilateral harmonization of spectrum use and orbital slots, including dispute resolution. The reform process should review the problems involved with "paper satellites". Processes should be simplified to reduce the backlog in satellite coordination.

In standardization, the general feeling is that ITU's role in the future will depend on how quickly it can act and whether it can add value or enhance quality, for instance by adding global legitimacy and transparency to standards developed elsewhere.

Turning to development, there is a rapidly changing paradigm for the regulation of telecommunication markets, scarcity of regulatory expertise and human resources have become a widespread phenomenon. ITU should expand its focus from technical assistance towards helping developing countries establish pro-market regulatory frameworks and close the digital divide.

On policy matters, ITU needs to provide a forum where national regulatory authorities from around the world can discuss key issues and obtain input from those to be regulated. The Union's secretariat could collect and collate best practice regulatory policies from different countries and act as a repository for benchmarking statistics in its area of expertise.

Strategic change is a matter of survival, requiring extraordinary foresight and audacity. I encourage all our Members to participate actively and constructively in the on-going reform debate. In so doing, we can all help in reforming ITU to survive and thrive.

Yoshio Utsumi
Secretary-General
International Telecommunication Union



The ITU Secretary-General's interim report* on the reform process

As reported in earlier issues of ITU News, Resolution 74 of the Plenipotentiary Conference (Minneapolis, 1998) instructed the ITU Secretary-General to seek advice on further changes to improve the organization and working methods of the General Secretariat. He is required, under this resolution, to report to the Council notably on strengthening the financial base of the Union and on the management of human resources.

In order to obtain expert advice, a Reform Advisory Panel (RAP) was convened, comprising high-level representatives from the public and private sectors, and chaired by Maria Livanos Cattai, Secretary-General of the International Cham-

ber of Commerce (ICC). At its second meeting, in March 2000, RAP produced observations and recommendations**, addressing issues that are fundamental to the reform of the Union.

In the search for additional inputs and professional expertise, the Secretary-General has requested the Joint Inspection Unit (JIU), an

independent evaluation body of the United Nations, to conduct a review of the management practices of the Union. The study should focus on improving the organization of the ITU secretariat, its working methods and overall efficiency.

This report by the Secretary-General is interim in nature. Its purpose is to identify the major problem areas, excluding those specific to

* This article is an extract of the Secretary-General's report to the ITU Council at its 2000 session in July.

**The complete RAP report along with a list of the Panel's members was published in the April issue of ITU News, pages 8–12. It is available on our website at <http://www.itu.int/newsroom/reform/02-RapRecs.html>. The report can also be obtained on request from ITU via e-mail at itumail@itu.int or fax at +41 22 733 7256.

the Union's three Sectors, that may hinder the execution of ITU's mission. It is based on discussions within RAP. The final report by the Secretary-General, including suggested solutions, will be presented at a later stage of the reform process.

Meeting the objectives of the ITU membership

The purposes of ITU are set forth in Article 1 of the Constitution, and are elaborated in the strategic plan. However, the needs of the telecommunication community in terms of international cooperation are rapidly changing, due to major and profound trends sweeping through the industry. These trends include the convergence of new technologies, the accelerating pace of restructuring in the industry, the entry of new companies and the development of new services, as well as the recent establishment of independent regulators.

In many Member States, the telecommunication sector has shifted from a monopolistic structure to a community of interests that includes ministries, regulators, network operators, as well as equipment and service suppliers. The majority of the world's telecommunications are now handled by firms which are largely privately-owned and which operate in competitive markets. Consequently, global actions concerning telecommunications must now reflect the growing importance of the private sector and of independent regulatory agencies in telecommunications.

ITU has not yet revised its structure to respond to this growing trend towards an industry model based on diverse and sometimes conflicting interests.

There is no clear separation at ITU between technical or operational matters and other activities, such as the Radio Regulations and certain types of recommendations (e.g. those dealing with numbering or accounting rates), that have policy or regulatory implications.

Little consideration has been given to reforming ITU to better accommodate the sometimes different needs of key government entities, in particular those of independent regulatory agencies. The requirement to refocus ITU's activities is particularly urgent in the case of ITU's development mission where the immediate need

is more for policy and regulatory assistance rather than for the transfer of technology.

Policy issues, broadly defined, are currently spread among several different sections of ITU. For instance tariff and numbering issues are handled within the ITU Telecommunication Standardization Sector (ITU-T); sector reform and telecommunication indicators within the ITU Telecommunication Development Sector (ITU-D); the World Telecommunication Policy Forum (WTPF) and Strategic Planning Workshops within the General Secretariat. Consequently, there is overlap and duplication of work.

The current dispute settlement mechanism of ITU is no longer adequate and is not suited to today's competitive telecommunication market where the different players have many potentially conflicting interests.

RAP made a number of recommendations in this area in a report drawn up at its March meeting. One of the recommendations is that the respective roles of the public and private sectors in ITU need to be defined better. While recognizing the traditional strengths of the Union in radiocommunications, standardization and development, the report points to new areas of focus for each of the Sectors. It recommends that ITU provide an international focal point for discussion of telecommunication policy and regulatory matters and serve, in its area of competence, as a facilitator to resolve differences in national policies and rules that might hamper the growth of the Internet and e-commerce. It further recommends that the secretariat could create a centre for regulatory expertise, which would serve as a proactive "knowledge centre". The report also proposes a review towards possibly expanding the Union's existing dispute settlement procedures.

ITU meetings and decision-making procedures

The pace of the development of telecommunication technologies and markets for telecommunication services is accelerating at a tremendous rate. The membership is expecting a similar acceleration in the activities of ITU, and quicker

decision-making, at lower cost. The Union is requested to respond more rapidly to evolving policy and technical issues.

At present, decision-making at ITU is largely restricted to the Member States. The majority of the world's telecommunications are now handled by firms which are largely privately-owned and operated, and whose interests are often no longer the same as those of Member States. Yet the private sector has no direct voice in such key decisions as the establishment of the budget and prioritization of the Union's activities.

The present types of Union meetings do not fully respond to the needs of the many newly-formed regulatory agencies, particularly those from developing countries.

The traditional reliance on consensus as a basis for decisions at ITU meetings can sometimes make it difficult to provide effective or timely solutions and this often creates unfortunate delays in the proceedings, and ultimately can result in solutions which are only partial in scope.

The agendas of some ITU conferences, particularly those of radiocommunication conferences, have become overloaded and unmanageable.

RAP recommends that decision-making at ITU, and in particular in the Council, needs to reflect better the changed roles of the private and public sectors in telecommunications. In this respect, the report contains further recommendations concerning ITU's working methods and management. These recommendations include a revamping of the powers and composition of the Council, an emphasis on advance consensus-building to shorten major meetings, carefully planned agendas, and the use of limited expert groups to handle urgent policy issues. Some RAP members concluded that a reduction in the number of working languages would greatly reduce costs and increase efficiency.

The financial base of the Union

The financial system of the Union, based on the voluntary class of contribution and the contributory unit, has been in place for a long time. To some extent, the unit selection process ties the interests of Member States to their level of

contribution in a way that the standard United Nations system, based on the size of the national economy, would not. The switch to a biennial budget and the adoption of an activity-based budget structure have made it easier to gauge the relative importance of each Union activity, including the extent to which each activity makes use of the infrastructure and support services in the Bureaux. However, a number of problems concerning the financial system have emerged in recent years that require attention.

Measures to gain new sources of revenue, largely through the introduction of the principle and modalities for cost recovery, have not led to greater funds being available for new projects, but rather have resulted in the substitution of a reliable source of funds (the contributory unit) with a less reliable one (cost-recovery income).

Some Sector Members have expressed the view that they are unable to earmark the funds they contribute to specific Sectors and have reduced their contribution to a minimum, preferring instead to use the mechanism of voluntary contributions to achieve their aims. Some have simply reduced their contribution, claiming they can no longer afford to pay for ITU services in a competitive environment.

The retention of a ceiling on expenditure (rather than the ceiling on Members' contributions recommended by ITU-2000) and the placing of cost-recovery revenues under this ceiling (instead of leaving them outside), make it extremely difficult for the Secretary-General to meet the costs of the ever-increasing demands expressed by the membership.

RAP recommended that once the decision-making balance in ITU between the public and private sectors has been revised, the financing balance should also be changed accordingly.

The secretariat

Structure of the secretariat

In the rapidly changing telecommunication environment, the range of services requested by the membership from the secretariat has become very diverse and subject to constant change, reflecting the nature of the telecommunication market. To respond to those demands, the secretariat must

be in a position to mobilize human resources quickly in order to tackle new and urgent issues. At the same time, ever-tighter financial constraints require greater efficiency on the part of the secretariat.

Nonetheless, the structure of the ITU secretariat has failed to adapt to the changing needs of its membership and, in its current form, frequently prevents the type of rapid and decisive executive action that is needed if the Union is to play a vital role in the fast-changing telecommunication environment.

With the current ponderous procedures of a yearly cycle for obtaining approval from the membership, there is a lack of organizational flexibility to start working on urgent and new issues quickly.

The sharply segmented structure of the secretariat, headed by elected officials, fosters the development of a spirit of sectionalism, and often impedes attempts to ensure that the secretariat has a unified vision of the work and mission of ITU. It impedes staff mobility, deprives management of the flexibility to adjust to new challenges, and hinders efforts to adapt quickly to new trends and to respond speedily to the changing needs of the membership.

There is no mechanism to group together related areas of work that do not easily fit within one of the three Sectors or that overlap among the Sectors. It is hard to provide comprehensive responses to the needs of the membership or to offer one-stop shopping for assistance and advice.

RAP recommended that the Secretary-General should be given greater authority and responsibility for the day-to-day operation of the Union and observed that the current method of electing officials is lengthy and inefficient. It also recommended that a special external group be appointed to produce concrete reform recommendations against fixed deadlines for deliverables.

Human resources management

The changing needs of the membership mean that management must be able to adjust the competencies of staff smoothly and quickly so as to be able to provide high-quality responses to new requirements. However, the division of

the secretariat among three Bureaux, plus the General Secretariat, can sometimes hamper the effective management of human resources. Under the present ITU working methods and management system:

Staff mobility within the organization is limited.

Management lacks flexibility to obtain the right competencies among the staff to be able to adjust to the new needs of the industry.

While maintaining the traditional technical competence of the staff, the present framework makes it difficult to recruit or develop staff skilled in new areas so as to meet the changing needs of the membership.

Staff members lack proper incentives that would more clearly reward significant accomplishments.

Administrative and operational management procedures do not reflect the best industry practices.

RAP recommended that ITU management consider using methods from the private sector, such as a more horizontal approach towards key issues, for better coordination between Sectors and the use of performance excellence and cost-effective management.

ITU TELECOM

ITU regularly organizes worldwide TELECOM exhibitions and forums on a cyclical basis. ITU TELECOM was, and continues to be, a valuable tool for the dissemination of the newest technologies and for networking among people. For decades, it was seen by the ITU membership as a highly efficient mechanism to support telecommunication development worldwide.

However, many other TELECOM-like events, managed by the private sector, have emerged, and ITU TELECOM now faces severe competition.

Participation in TELECOM events has become very costly, and, at this point in time, major exhibitors are evaluating the merits of the ITU TELECOM events.

RAP recommended that a reassessment of TELECOM events should be an important part of the reform process.

Council 2000 decisions

After eight days of tough discussions under the chairmanship of Attorney Kathleen G. Heceta, Director II at the Department of Transportation and Communications of the Philippines, ITU's governing body reached important conclusions, some of which are highlighted below.

This year again the Council (Geneva, 19–28 July 2000) was chaired by a woman, Ms Heceta, who took over from Lyndall Shope-Mafole, Plenipotentiary Minister of Communications at the Embassy of South Africa in Paris. “Deliberate or not, the election of two women in a row, one at the end of the 20th century and now as we start the 21st century presents a firm conviction in support of gender equality”, Ms Heceta said, opening the governing body's annual session. She praised the initial heroic vote of confidence given to women at the last Plenipotentiary Conference (Minneapolis, 1998) to serve as an inspiration to many qualified women seeking gender equality and also for the world to recognize that society as a whole would benefit from equal participation of women and men in policy and decision-making.



Kathleen
G. Heceta

Photo:
A. de Ferron
(ITU 000053)

(UNCTAD), and the United Nations Industrial Development Organization (UNIDO), which were now directing their efforts towards information and communication technologies. He highlighted the challenges which the Council had to grapple with. In particular, he used the success of IMT-2000 to show how ITU can stay at the forefront of technological change. “IMT-2000 will also set a new model for standards-development in a future in which ITU plays the role of coordinating the work carried out elsewhere in private-sector forums rather than doing the whole task alone”, he said.

Mr Utsumi stressed the need for greater visibility if ITU is to assert its leadership role in the global debate on information and communication technologies. He addressed a number of burning financial issues, highlighting some of the worrying signs that include the trend by Sector



Yuri Grin
Vice-Chairman
Council 2000

Photo:
A. de Ferron
(ITU 000054)

ITU Secretary-General, Yoshio Utsumi, remarked that the entire ITU was facing strong competition from other international organizations such as the United Nations (UN), the United Nations Conference on Trade and Development

Members to contribute to the minimum extent possible. He urged the Council to develop a shared vision of what ITU should become in the new millennium so that the Working Group on ITU Reform (WGR) can move ahead.

ITU reform process

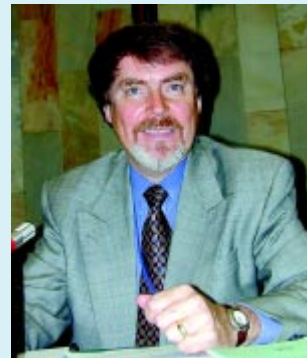
The Council held a useful debate on the status of the reform process and has taken steps to clear the way for what promises to be an arduous task. Firstly, the secretariat has been instructed to forward the summary record of this important debate, along with a report dealing with the review and improvement of the management, functioning and structure of ITU, to WGR members for consideration at the Group's third meeting due to take place in Geneva from 6 to 10 November 2000. This summary record is also to be circulated to all Members of the Union. Secondly, Member States and Sector Members are urged to contribute to, and as far as possible participate, in the work of WGR. Finally, the Council will set aside two to three days at its 2001 session to discuss the report of WGR and the reform process. As Ms Heceta put it: "Our challenge is how we can structure, manage or even reconfigure the Union, its officials, and staff, to adapt to the fast evolving and challenging environment to sustain the Union's membership and contributions for the pre-eminent role that the Union must play in the 21st century." These measures were taken noting that while WGR had held two meetings since its inception in June 1999, it had encountered difficulties in making progress.

World Summit on the Information Society

The Council has decided to proceed with preparations for a World Summit on the Information Society to be held in 2003 under ITU's leadership in close cooperation with interested UN agencies. The aim of the summit is to develop a common vision and understanding of the information society and to draw up a

Leadership of the Council is granted according to the principle of rotation among the different regions of the world. It was the turn of Region C (Eastern Europe) to provide a Vice-Chairman. Yuri Grin, Director-General at the International Department of Russia's Ministry of Communications and Information was unanimously appointed to this position.

Standing Committee on Finance. Like in 1999, this Committee was chaired by Bruce Gracie (right), Senior Adviser, International Organizations at Industry



Canada, with Frédéric Riehl (left), Deputy Director, Office fédéral de la communication (Switzerland) as Vice-Chairman.



Standing Committee on Staff Matters. Like in 1999, this Committee was chaired by Gheorghe-Adrian Bocsan (right), Coordinator, International Relations, Agence nationale des communications et de



l'informatique (Romania), with Mette J. Konner (left), Head of International Section, National Telecom Agency (Denmark) as Vice-Chairman.

strategic plan of action for concerted development towards realizing this vision. The summit will also define an agenda covering the objectives to be achieved and the resources to be mobilized. This decision of the Council is based on a feasibility study carried out in 1999 by an ITU task force, in cooperation with a number of UN agencies who, in the last decade, have gained experience in organizing summits.

The scope and nature of this ambitious project will require strategic partnerships with public and private entities that will be actively sought in the coming months. Two countries, Switzerland and Tunisia, have already expressed interest in hosting the event. The venue will be decided before year-end 2000 to enable the host country chosen to initiate preparations for the summit (see pages 11–15).

Third World Telecommunication Policy Forum (WTPF)

The third WTPF will be convened in Geneva from 7 to 9 March 2001 in order to exchange views on the theme of Internet protocol (IP) telephony — one of the topics of high-current interest to the ITU membership. This Policy Forum is expected to come up with a report and, if possible, opinions for consideration by ITU Members and relevant ITU meetings. Like the two previous WTPFs, discussions will be based on a report from the Secretary-General incorporating the contributions of Members. This report will be the sole working document of the Forum and will be circulated at least six weeks before the opening of the event. Participation in the Forum is open to Member States, Sector Members and small- and medium-sized enterprises, with the media and public attending as observers. A draft agenda was also agreed and will include:

The general implications of IP telephony for the ITU membership with respect to the telecommunication policies and regulations of ITU Member States; the implications of IP telephony for developing countries, particularly with respect to policies and regulatory frameworks, as well as technical and economic aspects; and the impact of IP telephony on operators, notably in terms of the financial challenges and commercial opportunities it presents.

Actions to assist Member States and Sector Members in adapting to the changes in the telecommunication environment due to the emergence of IP telephony, including analysis of the current situation (e.g. by case studies) and formulation of possible cooperative actions involving ITU Members to facilitate adaptation to the new environment.

Actions to assist Members in meeting the human resource development challenges presented by new telecommunication technologies such as IP telephony, in particular, skill shortages and the need for education and technology transfer.

Strategic planning workshops

The New Initiatives Programme, endorsed by the Council in June 1999, will be continued through the holding of additional workshops within the budget levels approved under the 2000–2001 biennium. This decision has been taken to ensure the continuing relevance and leadership of the Union in an era of volatile technological change. One of the objectives of the workshops is to generate high quality, researched information that can be useful particularly for policy-makers and regulatory agencies, especially in developing countries. The Council discussed the results of the two workshops held since its previous session last year and considered them important and useful. The first one dealt with electronic signatures and certification authorities (Geneva, 9–10 December 1999) and the second with IP telephony (Geneva, 14–16 June 2000). Regarding these pioneer workshops, the Council has instructed the Secretary-General to undertake further studies with a view to identifying the role that ITU can play in electronic commerce, authentication and IP telephony, as well as their legal implications for Member States.

Furthermore, the Council has approved a set of guidelines for the organization of future strategic planning workshops. A website will be developed for each workshop in order to disseminate all relevant information and documentation to the membership. Information generated will also be disseminated via the ITU News and media releases (as is the current practice), as well as other distribution channels, including publications.

Cooperation Agreement between ITU and WTO

The Council has approved the conclusion, on a provisional basis, of a Cooperation Agreement between ITU and the World Trade Organization. Further, it has authorized the Secretary-General to sign this Agreement on behalf of the Union. The Agreement will be submitted to the 2002 Plenipotentiary Conference for examination and action, if deemed appropriate.

Morocco to host the 2002 Plenipotentiary Conference

The Council endorsed the invitation of Morocco to host the next Plenipotentiary Conference in Marrakesh for a duration of four weeks from 23 September to 18 October 2002, subject to the concurrence of the majority of the Member States of the Union. The invitation was extended by the Government of the Kingdom of Morocco during the Minneapolis Plenipotentiary Conference in 1998.

Agenda, timing and venue of WRC-2003

When considering Resolution 800 (Istanbul, 2000), which contains the draft agenda for the

next world radiocommunication conference, the Council endorsed the recommendation to convene WRC-2003 for a period of four weeks and also approved the agenda. As for the venue, Venezuela has indicated its intention to host WRC-2003. Confirmation of this offer will depend on the outcome of negotiations between the Government of Venezuela and the ITU. On the question of timing, the Council noted two alternative sets of dates: 9 June to 4 July or 16 June to 11 July 2003. Attempts to separate the radiocommunication assembly (RA) and WRC in time and place failed to garner support and RA will, as always, precede the conference but its duration will be shortened from one week to three days. Similarly, the duration of the Conference Preparatory Meeting (the second session) will be shortened from two weeks to one week.

Limited free online access to ITU recommendations

The Council approved the proposal put forward by the secretariat to provide a free subscription to online recommendations for one subscriber per Member State and one per Sector Member. In the case of non-ITU Members,



The Council endorsed the invitation of Morocco to host the next Plenipotentiary Conference in Marrakesh for a duration of four weeks from 23 September to 18 October 2002, subject to the concurrence of the majority of the Member States of the Union
Photo:
A. de Ferron
(ITU 000051)

they have been granted free online access for the first three downloads of recommendations per person per year from the Electronic Bookshop.

A number of other measures taken to improve the current ITU electronic commerce facilities and the consideration of possible Web advertising were also endorsed. While the loss of revenue of these measures was estimated at CHF 1.1 million, pressure to grant some degree of free online access to ITU recommendations had come from Sector Members, particularly from the ITU's Telecommunication Standardization Sector (ITU-T) in the light of the practices of other competing standards-development organizations. "ITU must follow the best practice among standards-development organizations and, to ensure that the Union's competitive position is not eroded, this probably means that free online access is inevitable. The difficulty will be how to fill the hole that this will leave in our income", the Secretary-General said.

Geneva Diplomatic Community network (GDCnet)

The GDCnet project is a brainchild of ITU. Linking as it does the Geneva-based permanent missions and international organizations, GDCnet seeks to improve the efficiency and working methods of these entities by offering them a more extensive and effective use of electronic tools through stable, high-speed connections. Based on a business plan for the long-term future and sustainability of GDCnet as an independent venture from ITU, the Council has authorized the opening of a special account (with effect from 28 July 2000) to be used for receiving funds from donors and contributions from other international organizations.

At present, GDCnet is jointly funded by ITU, the World Intellectual Property Organization (WIPO), UNCTAD, the UN Office in Geneva, the Governments of Japan and Italy, as well as a number of private companies which are partners in the project (Swisscom, Alcatel, Cisco). GDCnet connects 64 permanent missions, including 18 from least developed countries, and expects to connect 40 others between now and year-end 2002, at which time the project will be handed over to a management body, possibly the United Nations International Computing Centre or to an

In brief

"Internet: challenges, opportunities and prospects", has been approved as the theme of World Telecommunication Day 2001.

Following the withdrawal of the offer by Trinidad and Tobago to host the 2002 World Telecommunication Development Conference, two countries in the Asia region (one of which is Malaysia) indicated interest. The Secretary-General was authorized to undertake the necessary consultations.

The Arab States Regional Preparatory Meeting for the World Telecommunication Development Conference will be held in Alexandria (Egypt) from 17 to 19 October 2000. A similar meeting for Europe will take place in Sofia (Bulgaria) from 28 to 30 November 2000.

Two regional TELECOM events are scheduled for 2001, one for the Middle East and the Arab States and the other for Africa.

independent external contractor. GDCnet will have cost CHF 5 376 000 by year-end 2002.

Cost recovery for the UIPRN and UISCN registrar functions

The Council has given ITU the go-ahead to implement the registrar function for universal international premium rate numbers (UIPRN) and universal international shared cost numbers (UISCN) as from 3 January 2001. However, this function will only be implemented if ITU-T Recommendations E.169.2 and E.169.3 are approved by the World Telecommunication Standardization Assembly (Montreal, 27 September–6 October 2000).

It has also decided to set the registration fee, on a provisional basis, at CHF 200 per number issued and to increase the 2000–2001 budget by CHF 139 000 (to be covered by corresponding cost-recovery income). A progress report on the UIPRN and UISCN services will be made in the Financial Operating Report to the 2002 session of the Council.

Date and duration of the 2001 session of the Council

The next Council session will take place in Geneva for a two-week period from 18 to 29 June 2001.

World Summit on the Information Society set for 2003

The compelling reasons

Looking around the world today, there is no doubt that we are in the midst of a great revolution; perhaps the greatest revolution that humanity has ever experienced! The industrial society that marked the 20th century is rapidly giving way to the information society, which promises ever more fundamental changes

in all aspects of our lives: knowledge-sharing, social behaviour, economic and business practices, political engagement, media, education and health, leisure and entertainment. But are we able to take full control of this transformation wrought-up by the pace of progress in information and communication technologies (ICT)?



Whatever the answer to that question may be, modern society must at least endeavour to manage the information revolution in a manner that benefits all citizens and all sectors of activity.

For ITU to contribute its part to this big challenge, its Plenipotentiary Conference (Minneapolis, 1998) passed a resolution calling for the holding of a World Summit on the Information Society. Resolution 73 reaffirms ITU as the organization best able to seek appropriate ways for developing a telecommunication sector that is geared towards economic, social and cultural development. The resolution goes on to recognize the central role which telecommunications must play in the emergence of the information society. In the words of the resolution, “the globalization of telecommunications must take account of a harmonious evolution in policies, regulations, networks and services in all Member States”. Furthermore, ITU is required to fulfil its tasks in an environment where telecommunications are playing an increasingly decisive and driving role at the political, economic, social and cultural levels.

Three recent events have also drawn the attention of world leaders to the information society. In June 2000, a meeting of the G8 countries drew up the Okinawa Charter on Global Information Society. A month later the United Nations Economic and Social Council (ECOSOC-2000), which took place in New York, focused on the role of ICTs in sustainable development. Within ITU itself, the World Radiocommunication Conference (Istanbul, May–June 2000) created the platform for achieving anytime, anywhere communications via mobile systems, by identifying sufficient spectrum for the deployment of IMT-2000 (third generation mobile systems).

Besides these events, a number of countries have adopted “information society” initiatives and the matter is being (or will be) debated actively in several regional organizations. An example of this is the Asia Pacific Information Society Summit to be held in Tokyo in November 2000.

What they say...

There is little doubt that the emergence of the information society poses new challenges for governments, the private sector and civil society. But the advent of new information and communication technologies (ICT) can also empower individuals and communities to improve their lives in ways not possible before. It is therefore important to define clearly the challenges resulting from the development of ICT and agree on shared approaches as society moves from a machine-based to a knowledge-based society. — [ITU Secretary-General, Yoshio Utsumi, following the decision of Council 2000 to proceed with preparations for the World Summit on the Information Society.](#)

The shift to a digital, knowledge-based economy, prompted by new goods and services will be a powerful engine for growth, competitiveness and jobs. In addition, it will be capable of improving citizens' quality of life and environment. — [Presidency conclusions on “An Information Society for All”, Lisbon European Council, March 2000.](#)

Information and communications technology is one of the most potent forces in shaping the 21st century. Its revolutionary impact affects the way people live, learn and work and the way government interacts with civil society. ICT is fast becoming a vital engine of growth for the world economy. It is also enabling many enterprising individuals, firms and communities, in all parts of the globe, to address economic and social challenges with greater efficiency and imagination. Enormous opportunities are there to be seized and shared by us all. — [Okinawa Charter on Global Information Society, drawn up by the G8 countries.](#)

The world has entered the early phases of another technological revolution. I wish to focus here on a technological shift that is already transforming social and economic life: the digital revolution. At present, a yawning digital divide still exists in the world. There are more computers in the USA than in the rest of the world combined. There are as many telephones in Tokyo as in all Africa. This digital divide can, and will, be bridged. — [UN Secretary-General, Kofi Annan to the Millennium Assembly, “We the People: the Role of United Nations in the 21st Century. Building Digital Bridges”.](#)

Efforts to bridge the international divide, as in our societies, crucially depend on effective collaboration among all stakeholders. Bilateral and multilateral assistance will continue to play a significant role in building the framework conditions for IT development. International financial institutions, including multilateral development banks, particularly the World Bank, are well placed to contribute in this regard by formulating and implementing programmes that foster growth, benefit the poor, as well as expand connectivity, access and training. The International Telecommunication Union (ITU), the United Nations Conference on Trade and Development (UNCTAD) and the United Nations Development Programme (UNDP) and other relevant international forums, also have an important role to play. The private sector remains a central actor driving IT forward in developing countries and can contribute significantly to the international efforts to bridge the digital divide. NGOs, with their unique ability to reach grassroots areas, can usefully contribute to human resource and community development. IT, in short, is global in dimension, and thus requires a global response. — [Okinawa Charter on Global Information Society, drawn up by the G8 countries.](#)

The great challenge in a period of unprecedented growth and prosperity was to assist the over two billion people living in poverty to get their share of development and growth through information technology. — [Makarim Wibisono, President of ECOSOC-2000.](#)

Our big goal should be to make connection to the Internet as common as connection to the telephone today. When we talk about bridging the digital divide we mean that everybody ought to have access to a computer, everybody ought to have access to the Internet and everybody ought to know how to use it. Eventually this digital divide will deprive businesses of the workers they need. It could also widen inequality in our society between people based on who's connected and who's not. — [Bill Clinton, President, United States.](#)

Yet, despite all these efforts, the inherently global nature of knowledge-based societies makes it vital for international dialogue to take place and for worldwide approaches to be considered in order to avoid the creation or emergence of conflicting frameworks.

A summit with a difference!

“The summit will provide a unique opportunity for all the players involved to join forces, in a concerted and coordinated effort, to find ways of bridging the digital divide and exploit information technologies in order to eradicate poverty. Furthermore, the summit should serve as a platform for promoting sustainable development based on a partnership in which the ground rules have been laid down with the utmost transparency at the very highest level”, says Mohamed Harbi, ITU's Head, Strategic Planning, External Affairs and Corporate Communication Units. The event aims to bring together Heads of State, executive heads of United Nations agencies, industry leaders, non-governmental organizations, media representatives and partners from civil society. It will be preceded by regional preparatory meetings and by one or two ministerial conferences.

While ITU will play the leading role in this massive undertaking, it will not be acting alone. It will be joined by governments and other UN agencies who voiced overwhelming support for the event at a session of the Administrative Committee for Coordination (ACC), the forum that brings together annually, executive heads of organizations of the United Nations common system (see ITU News, No. 4/99, pages 28–29).

The private sector too will play a big role. One reason is that the information society revolution is largely brought about by services and applications developed by businesses. Another is that the private sector can be a key actor in bridging the digital divide.

ITU is well placed to bring together all stakeholders, given its long-standing tradition where both national governments, industry and user groups work closely together — today the Union's membership consists of 189 Member States and 626 Sector Members representing companies and organizations with an interest in telecommunications.

"The world summit should not be just another event where people get together, at considerable cost, adopt a pious declaration and leave, immediately forgetting what has been decided. This summit, which will be unique in terms of both the nature and quality of the participants and the broad range of issues to be addressed, should lead to concrete actions for the development of telecommunication infrastructures — the physical medium used by all the new information and communication technologies — and for the coordination of appropriate regulatory policies in all these new fields", remarks Mr Harbi.

Next steps

A high-level organizing committee made up of executive heads of UN agencies interested in the summit will be set up soon under the leadership of ITU Secretary-General, Yoshio Utsumi. Its mandate will be to launch the preparatory activities and define the summit's themes and anticipated outcome. The committee will work closely with the selected host country, through an executive secretariat (also to be set up soon). So far, Switzerland and Tunisia have expressed keen interest in hosting the event.

As for the themes, they must be broad enough to ensure a comprehensive approach to the issues. The suggestions below have been made to guide the work of the organizing committee in proposing an agenda.

Building the infrastructure: the role of telecommunications, investment and technology in creating the information society infrastructure and bridging the digital divide.

What they say...

Nevertheless, one gulf will not be easily bridged — that is the division between the information rich and the information poor. Justice and equity demand that we find ways of overcoming it. If more than half the world is denied access to the means of communication, the people of developing countries will not be fully part of the modern world. For in the 21st century, the capacity to communicate will almost certainly be a key human right. Most of the world has no experience of what readily accessible communications can do for society and economy. Given the fundamental impact of telecommunications on society and the immense historical imbalances, telecommunication issues must become part of general public debate on development policies. The ITU is a body of crucial importance for South Africa and indeed the entire African continent. We need a vast expansion of our communication and information network. The ITU, as the principal driving force behind international policy, technological development, cooperation, and skills transfer is an indispensable agent in this regard. — [Nelson Mandela at ITU TELECOM 95 \(when he was still President of South Africa\).](#)

While the so-called digital divide is news right now it is not new. It is merely the digital expression of divides we have had for hundreds of years. We realize there are new struggles we must tackle. There are new solutions we must create — new solutions that will endure — that will enable everyone to participate in this digital world. — [Carly Fiorina, CEO, Hewlett-Packard.](#)

The Internet and education are truly the two great equalizers in life for countries, companies, and individuals. Bringing the Internet to least developed countries and managing the infrastructure with trained, skilled workers is essential in today's increasingly global economy. — [John Chambers, CEO, Cisco Systems.](#)

Everyone favours ending ignorance, suffering, and waste. But preferring to solve problems, rather than managing their consequences, we favour concrete efforts that promise definite solutions. We think it is the most effective way to create real change. — [Larry Ellison, Chairman and Chief Executive Officer, Oracle.](#)

KEY INDICATORS FOR THE WORLD TELECOMMUNICATION SERVICE SECTOR

(USD billions)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2002
Telecom market revenue (current prices and exchange rates)												
Services	396	419	461	491	530	615	673	702	744	792	840	925
Equipment	112	119	132	138	161	182	213	237	260	290	320	375
Total	508	539	593	630	691	797	885	939	1004	1082	1160	1300
Telecom services revenue breakdown (current prices and exchange rates)												
Services Telephone ¹	356	373	394	410	444	497	508	500	500	480	460	410
International ²	33	37	43	46	47	53	53	54	56	58	60	60
Mobile	11	15	23	33	47	75	104	129	154	192	230	315
Other ³	29	31	44	48	39	43	61	73	90	120	150	200
Telecom services capital expenditure (current prices and exchange rates)												
Total ⁴	115	124	131	134	138	155	166	161	167	171	175	180
Other statistics												
Main telephone lines (millions)	520	546	574	606	644	691	740	792	844	905	970	1115
Mobile cellular subscribers (millions)	11	16	23	34	55	91	145	214	319	472	650	1000
International telephone traffic minutes (billions) ⁵	33	38	43	48	56	62	71	80	90	100	110	130
Personal computers (millions)	120	130	150	170	190	230	260	320	370	430	500	670
Internet users (millions)	2.6	4.4	6.9	9.4	16	34	56	92	145	257	385	600

Notes: All data in millions of current USD converted by annual average exchange rates. Country fiscal year data aggregated to obtain calendar year estimates.

¹ Revenue from installation, subscription and local, trunk and international call charges for fixed telephone service.

² Retail revenue.

³ Including leased circuits, data communications, telex, telegraph and other telecom-related revenue.

⁴ Note that the data of the growing number of new market entrants are not always reflected in national statistics.

⁵ From 1994 including traffic between countries of former Soviet Union.

Source: ITU, 2000.

Opening the gates: universal and equitable access to the information society, meeting the needs of the developing world.

Services and applications: the implications of the information society for economic, social and cultural development.

The needs of the user: consumer protection, privacy and security, as well as relevant content reflecting cultural diversity and the right to communicate.

The Table above shows how the main infrastructure components of the information society, telecommunication networks, mobile communications and the Internet are evolving. By the time

of the summit, there will be more than one billion users of both fixed-line telephones and mobile phones and more than half a billion Internet users.

Up-to-the-minute information on the summit is available at <http://www.wsis.itu.int>.

For more information on the World Summit on the Information Society please contact the ITU focal point: "Mohamed Harbi, Head, Strategic Planning, External Affairs and Corporate Communication Units, International Telecommunication Union, Place des Nations, CH-1211 Geneva 20 (Switzerland). Tel.: +41 22 730 5571. E-mail: harbi@itu.int".

IP telephony

China country case study

In less than a year, IP telephony in China had moved from a de facto illegal status to the centre of telecommunications development, and prospectively as one of the world's largest markets. What happened? This article provides some insights, and is the first in a series to be published from ITU's recent country case studies on IP telephony*. The articles in this series are intended to serve as a "warm up" in the run up to the third World Telecommunication Policy Forum scheduled for March 2001 on the theme of IP telephony.

The government's IP telephony initiative

China's IP telephony market formally opened on 28 April 1999, with the Ministry of Information Industry (MII) issuing licences to government-affiliated telecommunication bodies: China Telecom, China Unicom, and Jitong Communications. These licences covered a six-month trial phase in a total of 26 selected cities (see Table 1).

To understand the government's push for an IP telephony network alternative, various forces of Internet development in the country need to be put into context. By 1995, China already had an

Internet "grey market". The imminent arrival of commercial Internet access, its convergence with existing data traffic, its perceived importance to sustained economic development, along with the

types of content that were being transmitted, motivated the government to commercialize access to the Internet (see Figure 1). It also motivated the Ministry of Posts and Telecommunications (now the MII) to refocus its attention on the Internet having underestimated its early significance.

Within two years, the Ministry of Posts and Telecommunications had achieved its goal of market dominance. But its



Beyond cost savings, IP telephony technology will change the communications industry as new features and applications are developed

Photo: Clarent Corporation (ITU 000060)

* The IP telephony case studies are prepared under ITU's New Initiatives Programme and are directed by Ben Petrazzini, Policy Adviser, Strategies and Policy Unit (Ben.Petrazzini@itu.int). They can be found at <http://www.itu.int/iptel>.

implementation of a centralized network administration meant that by 1998 there was once again a grey market in the provision of various Net-based services mainly by Internet service providers, computer shops, and local cable television networks. Certain networks were successfully bypassing China Telecom's ATM network.

One interesting element of the grey market activity is the tale of two brothers in the southern Chinese province of Fujian. In 1998, the Chen brothers had begun offering IP telephone services through their computer store in the city of Fuzhou, but soon saw their equipment seized for operating illegally. The Internet phone service offered by the Chens from their store allowed customers to make international calls at half the rate charged by mainstream operators.

In their defence, the brothers pointed out that the only telecommunication regulations which appeared to directly relate to their service were the 1993 Provisional Arrangement for the Approval and Regulation of Decentralized Telecommunications Services. This Arrangement contained a list of so-called value-added services, for which a licence was required. The brothers argued that as computer services were not listed, they could not be considered a telecommunication service. While the Chens lost their original hearing, they won their appeal at an appellate court, where local officials agreed with them that offering IP telephony service was not explicitly prohibited under existing administrative rules and regulations.

With the gate now opened there was widespread recognition that a

ban on IP telephony would be a difficult position to maintain. Almost overnight there was a change of attitude from blocking IP telephony (in much the same way that call-back operators had been banned) to making it a key part of the government's emerging telephony, data and Internet agendas. By year-end 2000, China's public telecommunications switching capacity is expected to exceed 180 million circuits, making it the world's largest network.

The trial phase

Using IP telephony as a lever to liberalize the international services market in China has prompted aggressive roll-out plans. China Telecom was the first of the three carriers to launch services in an initial roll-out covering 25 cities. The roll-out

Table 1 — Testing IP
Cities selected for IP telephony trial, primary equipment suppliers, and local access numbers in 1999

Company	Primary equipment supplier*	Local access number	Trial cities
China Telecom	VocalTec	17900	Beijing, Changchun, Changsha, Chengdu, Chongqing, Dalian, Dongguan, Fuzhou, Guangzhou, Hangzhou, Harbin, Jinan, Kunming, Nanjing, Qingdao, Shanghai, Shenyang, Shenzhen, Suzhou, Tianjin, Wuhan, Xiamen, Xian, Zhengzhou, Zhuhai
China Unicom	Cisco	17910	Beijing, Chengdu, Chongqing, Dalian, Fuzhou, Guangzhou, Hangzhou, Nanjing, Shanghai, Shenzhen, Tianjin, Xiamen
Jitong	Clarent	17920	Beijing, Dalian, Dongguan, Guangzhou, Hangzhou, Ningbo, Qingdao, Shanghai, Shenzhen, Tianjin, Wuhan, Xiamen
Source: Ministry of Information Industry, China.			

* In October 1999, China Telecom announced a deal with Clarent for a new dedicated IP-based "Economy International Direct Dial" phone service. The prepaid calling card is called YiTong in Chinese, which means "will provide even more prosperous communication over time".

was fairly small in financial terms, with the two-million dollar project utilizing 100 E1 connections (E1 being the European digital signal level 1) with a capacity of 2.048 Mbit/s. However, using VocalTec equipment (both hardware and software), the network was rated as one of the fastest IP telephony roll-outs to date, taking just two months. To build a circuit-switched network of comparable size and capacity would have taken one and a half years and cost three times the amount. By

international direct dial traffic by 2003. With a customer base in excess of 2 million cellular phone subscribers, China Unicom did, however, stand to benefit enormously given that it had previously collected no revenue for outgoing international calls. Initially though, China Unicom was required to carry IP telephony traffic over China Telecom's digital data network until its own IP backbone (built in association with strategic supplier Cisco) was completed.

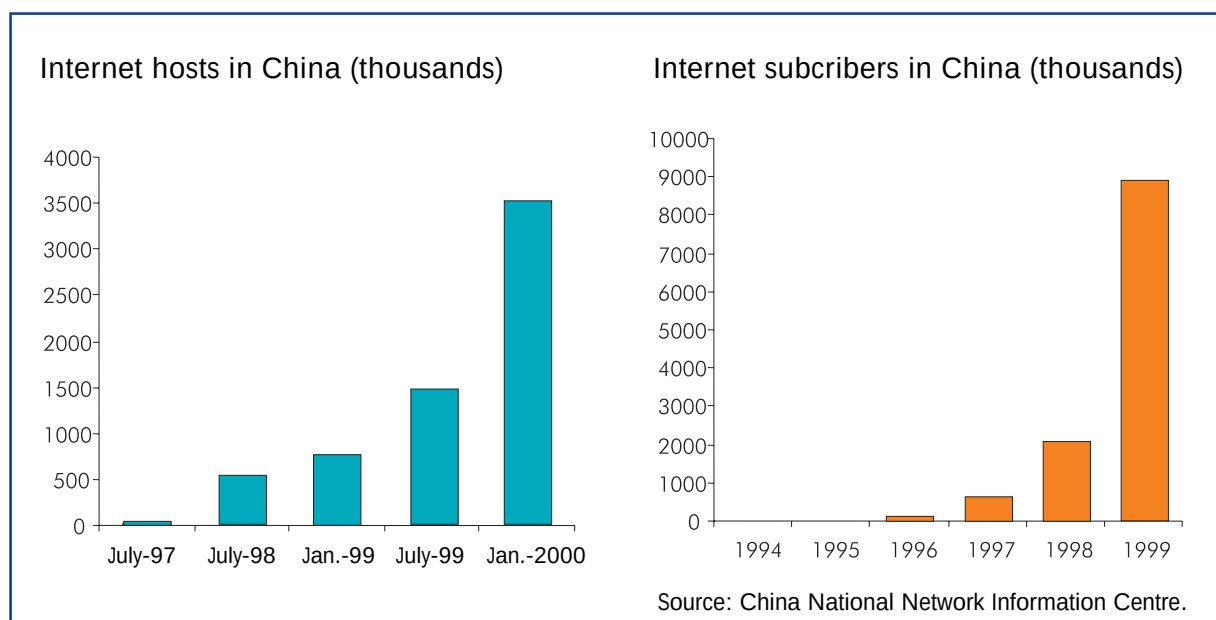


Figure 1 — Internet growth in China

November 1999, the company had increased from 16 to 50 the number of countries to which its IP telephone cards provide service.

By contrast, in terms of investment, China Unicom had stated that it would invest USD 241 million during 1999 to complete its IP telephony trial in 12 test cities and build up a data and computer network covering as many as 90 additional cities.

Between June and November 1999, China Unicom had acquired nearly 700 000 customers through its 12-city trial programme. Its network reached full capacity in only 80 days instead of the six months predicted at the start of the operations. China Unicom, for example, plans to have IP telephony gateways in 250 of China's biggest cities by year-end 2000. It publicly aspires to a 50 per cent share of China's

During the trial phase, the three companies issued IP telephone cards with face values of CNY* 50, 100, 200, 300 and 500. The cards contained a unique account number for use from any phone from within the service areas of the respective companies. To access the service, a user entered the local access number of the vendor, account number, area code, and telephone number. The telephone charges were then deducted from the account.

At Jitong's sales offices in Shanghai, more than 2000 people lined up (some of them from as early as 02h00) to buy the IP telephony cards when they went on sale on 19 May 1999. From

* 100 CNY converts to USD 12.08 at the exchange rate of 28 August 2000.

June to August 1999, the total revenue from sales of IP telephone cards was estimated at USD 35 million, with an annual potential of 150–200 million. Jitong employed a small army of people through 15 sales agencies to “market” their cards and, in their first month of service, was able to sell some 50 000 in just five cities. Yet, compared with Jitong’s strong IP sales force, China Telecom’s IP cards sales were like “the shy blossom of roses”. China Telecom set up only one sales counter at the Beijing Long-distance Telephone Exchange Bureau, and issued only a very limited number of IP cards. While the cards sold out quickly, the difference in emphasis and effect was telling. Even with limited attention to the market, the Beijing Telecom office had over 500 people a day signing up for telephone service during the first two days after the announcement. Previously, the office handled about 20 telephone subscriptions per day.

China Netcom was the fourth carrier to be licensed to try out IP telephony services. The company launched these services across 15 cities in October 1999. One of its first commercial offerings later that year was pre-paid VoIP telephony to the Chinese expatriate community in the United States and Japan.

At the end of 1999, MII announced that new Internet regulations were being drafted for submission to the State Council and that existing IP telephony licences would be extended and new ones awarded, once these regulations were published.

On 30 March 2000, MII granted licences to China Telecom, China Unicom, Jitong and China Netcom for commercial operations of IP telephony services. It also indicated that another licence would be granted to China Mobile for the provision of IP telephony services using the wireless application protocol (WAP).

Pricing structure

The MII’s initial pricing structure for the trial phase showed the potential consumer appeal of IP telephony. The price pressure from IP telephony on traditional telephone services had already been made clear when, on 28 February 2000, the MII announced major price reductions in existing telephone service and installation fees.

Internet gatekeepers

Main providers of Internet access to the public

China Public Computer Network (ChinaNet) is run by the operator of China’s national public telephone network China Telecom and is the dominant Internet access provider. Often referred to as the 163 Network after the number users dial to gain access to it (see “Going on-line in Beijing”), ChinaNet is also the effective international gatekeeper by virtue of the fact that all networks must go through China Telecom’s international telecommunications access.

China Public Multimedia Network (169 Network), more often known by its dial-up access number, 169, is an attempt by the government to build a China-specific content platform for domestic users. Effectively, an America Online style platform, it does not provide direct access to the Internet, but rather creates a Chinese intranet, allowing the government to provide cheaper access and Chinese-language content.

Golden Bridge Network (GBNet) provides the commercial alternative to ChinaNet. Run by Jitong, a State-owned company formerly linked with the now abolished Ministry of Electronics Industry, GBNet has focused primarily on the corporate market.

China’s Education and Research Network (CERNET) is the principal academic network. It is centred upon Beijing’s prestigious Qinghua University and links together the universities, schools and education and research institutes. It is still technically distinct from the main public network in such a way that websites which are blocked by the government on ChinaNet will often be accessible from CERNET.

China Science and Technology Network (CSTNet) is similar to CERNET, but significantly smaller in scale: it connects subsidiaries of the Chinese Academy of Sciences.

During the initial trial stages, domestic long-distance charges were levied at USD 0.04 per minute, while international long-distance calls were charged at USD 0.58 per minute. Long-distance calls to Hong Kong, Macau and Taiwan were charged in two ways. When calling from mainland China (except Shenzhen) to Hong Kong, from mainland China (except Zhongshan and Zhuhai) to Macau, or from mainland China to Taiwan, the charge was USD 0.30 per minute. When calling from Shenzhen to Hong Kong, or from Zhongshan or Zhuhai to Macau, the charges were USD 0.18 per minute.



Teething problems

Several technical issues appeared early in the trial phase, but were quickly resolved. Firstly, there was limited access capability (in cities where the service was available), so that certain customers had to dial local long-distance for access, thereby incurring higher charges. This problem was dealt with by the provision of national access numbers. Secondly, all three networks experienced serious traffic congestion and dropped calls as they failed to cope with the levels of traffic — particularly during peak periods. As a result of the traffic load and slow response time, a high percentage of calls were not picked up on the first attempt. The gateway for Beijing Telecom, for example, had to go through a capacity upgrade only weeks after the service was introduced. Finally, voice quality was poor because of deep compression, traffic load, and possibly lost packets. These problems were alleviated after network expansion and

new management tools were implemented by all three service providers.

Going forward: the growth of the China IP market

The MII is expected to extend IP telephony services across the country and to grant licences to other groups such as the Ministry of Railways, Shenzhen China Motion Company, as well as Posts and Telecommunications Administrations (either under their own domains or, more likely, under a sub-domain of China Telecom) and perhaps the State Administration of Radio Film and TV. Government estimates already suggest that the IP telephony market will amount to some USD 12.2 billion by 2002.

There is a general consensus that IP telephony based on packet-switching technology will eventually replace the traditional telephone technology. To this end, the government has established an IP telephony standards group, consisting of 27 domestic telecommunications research institutes and equipment manufacturers to:

- Establish a set of technology standards for IP telephony in China.

- Support and facilitate interconnection among Chinese IP gateways.

- Evaluate the four existing test networks (China Telecom, China Unicom, Jitong and China Netcom).

- Support deployment of domestic IP products.

- Work on laws and regulations relating to IP telephony.

Conclusion

Since the trial phase, the IP telephony market in China has been expanding at a rapid pace. Ironically, by the start of 2000, with the government ready to open the market to new competing licensees, many within the three existing competitors — China Unicom, Jitong and China Netcom — already questioned the basic business proposition for IP telephony in the country. A recent revision of China Telecom's prices meant that all three competitors were looking for replacement revenue streams with long-term growth potential. Nobody doubted the importance of IP services, nor that voice traffic in China would increasingly be IP traffic. However, IP telephony as a stand-alone business proposition has rapidly become questionable.

Since the trial phase, the IP telephony market in China has been expanding at a rapid pace

Photo:
Lars Ålström
(ITU 980146)

Can ITU reform?

Let's talk about it!

The International Telecommunication Union has embarked on a debate on how to transform itself into a more relevant organization in a fast-paced industry. To keep the debate alive, we intend to publish a series of articles under this new column "Can ITU reform? Let's talk about it!" between now and June 2001 when the Council (ITU's governing body) will meet to review progress. We are delighted to give this platform to Members to express their views.

Balanced ITU reform starts at the top

Michael D. Kennedy
Corporate Vice-President
Motorola



It would be the last to suggest that countries and companies give the ITU secretariat decision-making authority over their substantive agendas at the ITU. Member States and Sector Members have legitimate reasons to control their own destinies while participating in all ITU activities. Reform in these areas should be undertaken too. However, it is time to allow the Secretary-General to do the job we all elected him to do: manage support of ITU's activities in the most efficient way possible. The Secretary-General should be held accountable for the efficient and effective day-to-day operation of the entire ITU secretariat.

He should be the chief executive of the secretariat — a "Director-General".

I am concerned that there is an unspoken view by some players in the ITU that a fragmented and decentralized secretariat reinforces the leading role in the organization of Member States and Sector Members. This view is based on the belief that the substantive work of the Sectors must be driven "bottom-up" by the membership,

while a cohesive and centralized secretariat could become a threat advocating its own "agenda".

When Members seek to make ITU pre-eminent by keeping the secretariat weak, they are abdicating their own considerable responsibility.

ties for supervisory oversight. An effective ITU is not one where the secretariat is relegated to an exclusively administrative or logistical support role. Nor is it one where the secretariat and the Members are locked in incessant combat.

An effective ITU can be one where both the secretariat and Members identify and envision meaningful change, energize all participants around winning ideas, instil an edge for bold decisions that outperform expectations and execute for significantly better and faster results. Such an ITU requires complementary and balanced reform at the top — an executive role for the Secretary-General and an Executive Committee of the Council.

The current position of the ITU Secretary-General is not commensurate with the expectations of Members for continued efficiency and economy in operation of the secretariat. A federated structure reduces the ITU to management by ceaseless negotiations among competing power centres and interests. A pre-occupation with internal matters keeps the Secretary-General hobbled from playing the leadership role on telecommunications in the global policy-making community. Such a crippling situation cries out for reform at the top.

As reform of the secretariat necessitates a redefinition and strengthening of the role of the Secretary-General, similarly the membership's supervisory oversight role of the ITU requires a strengthening of the Council. While the Council has been successful in progressively reducing the duration of its meetings, it is, at the same time, often tasked to undertake more and more review responsibilities. This is because the Council is often asked to oversee unfinished or ongoing substantive business, in various ITU conferences and meetings. The result is an over-worked Council, a blizzard of mandated reports to the Council from the Secretary-General and

an aggressive oversight responsibility that is not being fulfilled as well as it should be.

Balanced and complementary reform at the top starts solving these problems by addressing and strengthening the position of the Secretary-General and the Council as a package that retains the central role of Members in the ITU, while envisioning and energizing a Secretary-General and a unified secretariat under increased Council oversight.

Reform of the Secretary-General's position should include:

Revising the position to Director-General as the sole elected official of the ITU at the Plenipotentiary Conference.

Deputies of the Bureaux of the Union's Sectors would be appointed by the Director-General, following

appropriate consultation with the membership at the Council or at appropriate conferences of the Sectors themselves.

The Director-General's recommendations for Deputies shall be based on merit, proven experience and regional balance and shall avoid politicization or campaigning for the positions.

The ITU's entire secretariat is accountable and reports to the Director-General, who is responsible for management of all its activities.

A streamlined secretariat reporting to the Director-General will facilitate providing new and timely services to Member States and Sector Members.

As a "check and balance" on the strengthening of the post of Secretary-General, a complementary enhancement is necessary in the Council with the creation of an Executive Committee. The Executive Committee could consist of 10 of the 46 Members of the Council and should be elected by the Council on a yearly basis. The Executive Committee should meet twice between the Council meetings and review, analyse and prepare options for decision by the

A federated structure reduces the ITU to management by ceaseless negotiations among competing power centres and interests

A stronger Council working with a chief executive of the ITU secretariat translates to a better and more efficient organization for the entire membership

full Council on all key budgetary and oversight issues. In its work the Executive Committee should consult on an ongoing basis with the Secretary-General in order to present for final decision or ratification by the Council, issues and options, that are comprehensively prepared from the perspective of Member States. A stronger Council working with a chief executive of the ITU's secretariat translates into a better and more efficient organization for the entire membership.

Finally, the ITU must return to its previous role of being a facilitator of the global policy dialogue where ministers,

other senior government officials and CEOs can discuss issues and agree on principles that keep the "information economy" open and growing in all countries.

Developments in the global telecommunications market-place are fundamentally changing the way people communicate in a way that brings power to the person:

The Internet has come to wireless communications.

Internet and wireless have enabled personal networks for consumers and network operators.

A new generation of multimedia wireless devices is on the horizon, including devices with simplified complexity designed to amplify human capability.

Alliances and mergers are transforming wireless operators into providers with a truly global reach capable of economies of scale that reduce cost of converged services to consumers.

Internet companies are emerging as transport, service and content providers in competition and cooperation with the traditional telecommunication operators.

Senior executives in the private sector need a global forum to discuss with senior government policy makers to reach mutual understanding and acceptance of changes that are occurring "at Internet speed"...

Competition among cable, wireline and wireless providers is heating up for "last-mile" broadband access.

Senior executives in the private sector need a global forum to discuss these, and other such fundamental changes, with senior government policy makers to reach mutual understanding and acceptance of changes that are occurring "at Internet speed". While jarring at times and sometimes not fully understood on a policy level, these changes are eagerly embraced by the market-place because they empower the individual.

Presently, there is no such opportunity for quality dialogue and reflection. Therefore, as part of the ITU reform process, I believe that the Secretary-General needs to use his leadership to find a way for ITU to enable global discussion and understanding of such issues among senior executives and government policy makers, and, more importantly, to find ways to channel our conclusions into quick action to em-

power and enrich individuals throughout the world. One way to proceed could be for the "senior level dialogue" to reach broad conclusions between the private sector and government policy makers on several key issues and then for the ITU World Telecommunication Policy Forum

to work on specific projects of facilitation or implementation, such as was done for the GMPCS-MoU.

The need for bold reform is self-evident. For too long, the de-

... Presently, there is no such opportunity for quality dialogue and reflection

bate has only touched the margins of reform and we have been comfortable with a gradual, evolutionary approach preferring to concentrate on improving process and procedure and thereby not maximizing the results of our efforts. This time it is imperative that reform "at the very top" give us measurable results in efficiency and management of the ITU. Otherwise, we all squander the opportunity to move the ITU into the 21st century as an organization that is positioned for excellence in serving its 189 Member States and over 600 Sector Members.

Memorandum of Understanding

The International Telecommunication Union, the United Nations Development Programme (UNDP) and the United Nations Development Fund for Women (UNIFEM) recently signed a Memorandum of Understanding (MoU) that will enable more women to shape the information and communication technologies (ICT) and policies of the 21st century.

Signed by UNIFEM Executive Director Noeleen Heyzer, ITU Secretary-General Yoshio Utsumi and UNDP Administrator Mark Malloch Brown, the new MoU seeks to ensure that the impact of ICTs on women is incorporated in policy dialogue and decision-making. These agencies will encourage

Three United Nations agencies have signed a new agreement to ensure that women benefit from the communications revolution.

jointly monitor and evaluate the implementation of women's empowerment in national development plans around the world.

This MoU is one of several recent strategies being put in place to promote gender equality in the ICT world. Recommendations that emerged

from the Global Knowledge II Conference in Malaysia in March 2000, the Beijing Platform for Action review and the Global Dialogues convened by the Society for International Development in Hannover in June 2000 call for:

- gender analysis of telecommunication policies in every country;

- data disaggregated by sex, as well as qualitative assessments of the use of ICTs;

- placement of women on boards of directors and in the leadership of information technology companies, as well as in ministries of telecommunications.

At a meeting of the United Nations Economic and Social Council (ECOSOC) in New York in July 2000, a high-level panel of experts made numerous recommendations on ICTs and gender equality, which aim to:

- eradicate factors that restrict equal access to ICTs by women and men;

- encourage gender-equal recruitment and retention of women and men in ICT companies;

- build capacity to produce local and appropriate content;

- support women's organizations so that they can participate more effectively in transformations made possible by ICTs.

In the words of Ms Heyzer, the MoU is an opportunity "to create an environment in which ICTs also act as a vehicle to support equality and connections between countries, ethnic groups, and men and women".



From left to right: Yoshio Utsumi, Noeleen Heyzer, and Mark Malloch Brown (ITU 000052)

governments and the telecommunications industry to recruit, employ, train and advance women's fair and equitable access to ICTs.

In particular, the new agreement establishes general principles and identifies areas in which the three agencies will cooperate to enable women to participate in, and benefit from, the current communications revolution. As part of their new collaboration, the three agencies will

TROUBLE IN PARADISE?

INTERNATIONAL VOICE TELEPHONE TRAFFIC TRENDS

For the telecommunications industry, the business of providing international telephone calls has historically been a type of paradise. Rising volumes of international traffic were fuelled by globalization and the replacement of telex by fax for text communication. Falling costs and high prices, sustained by a monopoly environment, generated lucrative income that often helped subsidize less profitable areas of the telecommunication business such as local calling. But recent trends suggest there is trouble in paradise.

Growth in international telephony has been like a roller coaster over the last quarter century, always positive but subject to wide swings (see Figure 1).

Research has shown that the ups and downs have been quite closely related to economic, social, regulatory and technological changes in the wider economy. The growth periods can be split into three:

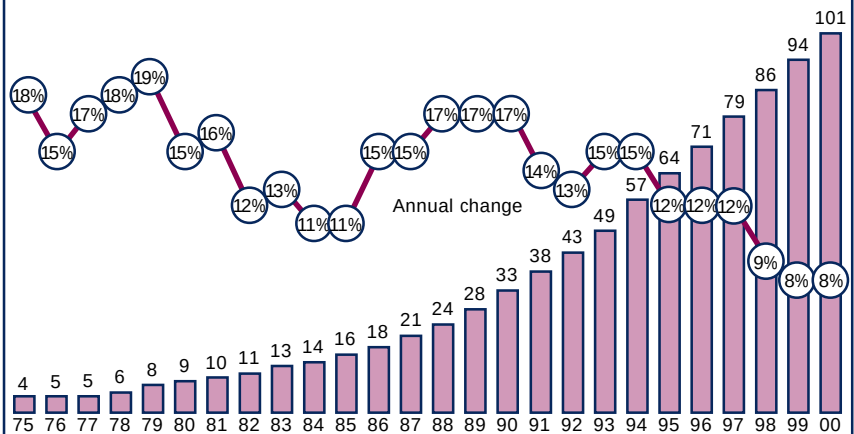
Between 1975 and 1982, international calling expanded at an impressive rate, tied to the growth of network infrastructure and the global economy. For example, a sharp fall in world output in 1982 resulted in a decline in the growth rate of international calls.

A second period covered the boom years from the mid-1980s to the mid-1990s. Fax took off and world trade, travel and tourism rose. While this period saw the beginnings of competition, in markets such as the United States, the United Kingdom and Japan, demand was to avert price competition and, in continental Europe at least, incumbent public telecommunication operators continued to hold sway.

The period since mid-1995 has been much less exciting. Volume growth has declined to single digits and revenues have started to fall in many markets. What has gone wrong?

As we enter the millennium, the linkage between international telephone traffic growth and economic growth seems to have become weaker. Growth in overseas calling has been declining over the last half decade, despite a fairly

Figure 1 – A quarter century of talking. Global international telephone calls (billions of minutes)



Note: Traffic over public switched telephone network. The year 1999 is an estimate and 2000 is a forecast.

Source: ITU, 2000.

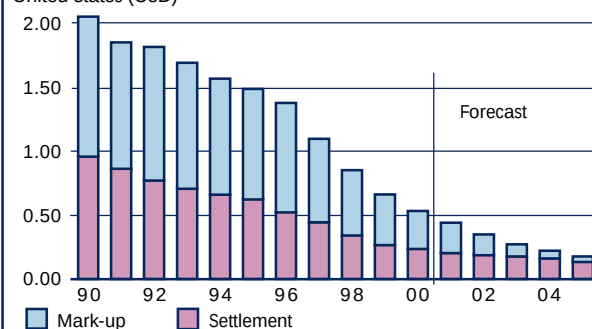
rigorous global economy. What is behind this slowing growth? One factor is the relatively inelastic nature of demand. The growth rate in the local access network (i.e., the number of fixed and mobile telephone subscribers) exceeded international calling growth for the first time in 1997. As a result, international minutes per telephone subscriber have been declining. Many of these new subscribers are from developing countries, where incomes are low and the propensity to make international calls is small. But even in developed markets, cheaper prices have tended to generate smaller telephone bills not necessarily longer calls or more of them. A second factor appears statistical. Technological and market changes are impacting the measurement of international traffic. For example, overseas calls routed over private leased lines and the Internet may be showing up as national rather than international traffic. It may be that traffic continues to grow, but is just not being measured.

Ironically, growth in international calling has been declining even though prices have been falling sharply. One of the main reasons is because of drops in settlement rates – the per minute charges to which international carriers

agree for carrying each other's calls. Settlement rates have been tumbling not only because of competition and alternative routing but also because of political pressure, especially from the United States. Countries that do not negotiate lower settlement rates may find their incoming international calls routed via third countries where rates are lower or over the Internet, where there are no per minute termination charges. Politically, countries are under pressure to move their accounting rates to the levels proposed by the United States Federal Communications Commission (FCC) Benchmark Order and the ITU Focus Group (for more information on the Reform of the International Accounting Rate System see www.itu.int/intset).

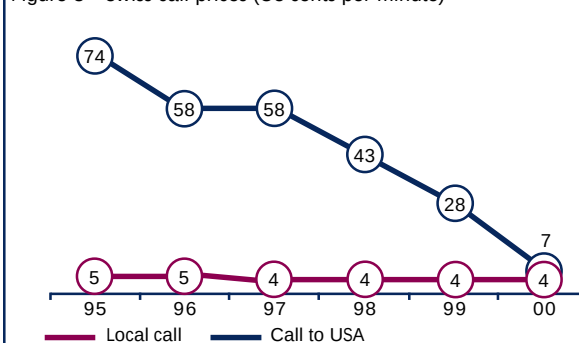
The fall in settlement rates has been accelerating. Figures from an annual ITU survey show that, while rates fell by 4 per cent per year between 1992 and 1996, the rate of decline accelerated to 12 per cent per year between 1996 and 1998 and has subsequently increased to more than 20 per cent per year. Rates between competitive markets have fallen even faster. As a result, the average price of a one-minute call to the United States fell from over two

Figure 2 – Average retail price of a one-minute call to the United States (USD)



Source: ITU adapted from FCC and national data (34 countries).

Figure 3 – Swiss call prices (US cents per minute)



Source: ITU, 2000.

US dollars per minute in 1990, to a milestone of less than one dollar in 1997 and to a little over 50 US cents today. Based on these trends, the average price of a call to the United States will be under 20 US cents five years from now (see Figure 2).

The prices of international calls will converge with that of a local call. Take Switzerland for example, where a call to the United States today is one-tenth of what it was five years ago and is just 3 US cents more than a local call – and the same as a national long-distance call (see Figure 3).

If prices for international calling have fallen so dramatically, why has traffic not risen? One reason is because consumers have not necessarily increased the amount of time they spend making fixed-line calls. The stagnancy in the market for international telephone calls is dramatic when contrasted with other traffic streams, such as mobile communications or the Internet. For instance, in the United Kingdom, fixed telephone calls to mobiles surpassed international calls at year-end 1998 and are now one and half times greater (see Figure 4).

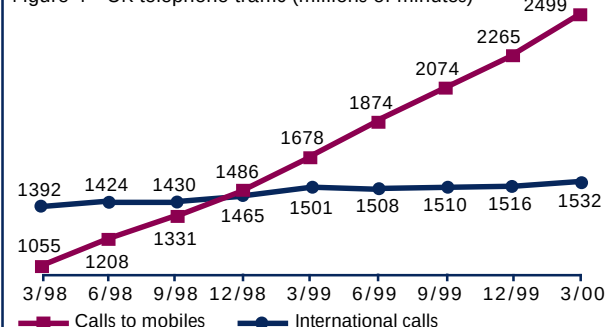
In the Hong Kong Special Administrative Region (SAR), minutes of dial-up Internet traffic surpassed total international traffic (incoming and outgoing calls) early in 1998 and is more than four times greater today (see Figure 5). While minutes of dial-up Internet traffic has now surpassed outgoing international traffic in many countries, what other evidence is there that IP-based traffic and services are surpassing those of circuit-switched networks? One indicator is revenue, where turnover from international calls has been declining while those from data communications and Internet service provision have been rising. In Germany, Deutsche Telekom's international telephone revenues declined by 33 per cent in 1999 while revenues from data communications rose by 12 per cent and those from its on-line services, by 40 per cent. These new sources of revenue are now twice as much as Deutsche Telekom's international traffic revenue.

Another way of measuring the growth of Internet traffic compared to international calls is circuit usage. There are now more international private line cir-

cuits – typically used for Internet traffic – than public telephone circuits in use by United States carriers. This crossover took place during 1998. In routes to Europe, PSTN circuits are actually in decline though in other parts of the world, such as the Caribbean or Africa, voice traffic is still dominant (see Figure 6).

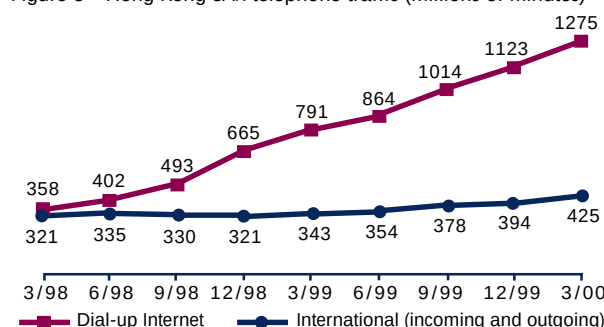
International Internet bandwidth is a further important measurement as it reflects the capacity of that network to process traffic such as e-mail and Web page browsing. The geography of Internet bandwidth – typically measured in megabits per second – reflects US dominance. More than 95 per cent of interregional Internet capacity flows to and from the United States (see Figure 7). This is a result of the historical Internet strength of the US reinforced by accelerating returns to scale. Most content is located in the US so users abroad need to have connections there to download the information. Furthermore, it is often cheaper to use an Internet connection to the US to route traffic to other countries than to have a direct connection to those countries. One sore point is that, unlike international telephone traf-

Figure 4 – UK telephone traffic (millions of minutes)



Source: ITU adapted from OFTEL.

Figure 5 – Hong Kong SAR telephone traffic (millions of minutes)



Source: ITU adapted from OFTA.

JULY - AUGUST - SEPTEMBER 2000

Figure 6 – Number of international circuits in use worldwide and by region in 1998 (thousands)

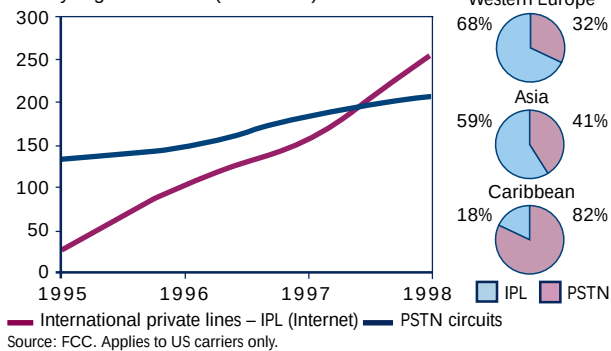
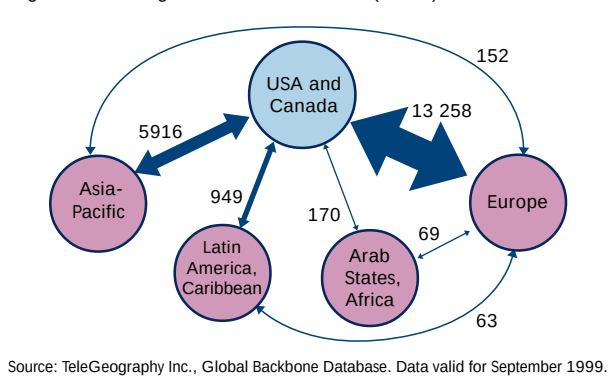


Figure 7 – Interregional Internet backbone (Mbit/s)



fic circuits where costs are shared, most non-US Internet Service Providers must pay the full cost of a leased circuit to the US. In the future, measurement of international bandwidth may be a more

relevant measure of international telecommunication flows than minutes. That is because international voice calls will just be one more stream of bits routed over the Internet. As IP-networks

expand and the Internet grows, ITU hopes to compile more of these types of indicators that help to measure the true extent of the digital divide.

Telenor Carrier Venue 2000



The international telephone traffic analysis in this INDICATORS UPDATE is based on presentations made by ITU staff at the second annual Telenor Carrier Venue, held in Svolvær (Norway) from 29 to 31 August 2000. Svolvær is not your typical conference venue. It is a small fishing port in the Lofoten islands, north of the Arctic Circle and accessible by ferry or small plane from the Norwegian mainland. The event attracted over 100 participants from telecommunication carriers around the world. Telenor Global Services defines its business as "WorldWide Termina-

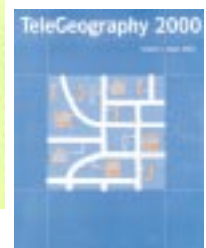
tion": that is, the routing of calls that neither originate nor terminate in Norway. These modern day commodity traders, buying and selling international telephone minutes, reflect the dramatic transformation of the telecommunication industry. In the past, telephone companies in each country negotiated with their correspondents in every other country to agree on a price to exchange each other's telephone traffic. Rates changed infrequently. Today, a company's direct correspondents may be fewer in number but there are dozens of companies that offer to get your traffic where it needs to go and prices change daily. Routing changes that once took months to fix can now be undertaken almost instantaneously. Least cost routes are becoming increasingly convoluted, with voice traffic following almost as many hops as IP traffic. For example, when Cuba temporarily closed direct

international telephone circuits to the United States, traffic was quickly re-routed from the United States to Switzerland, forwarded to Chile and then sent on to Cuba. For the minutes' traders in Lofoten, business was good. But how soon will it be before their jobs are performed by computer chips that trade automatically on international bandwidth exchanges to get the best routing deals? For the moment, human relationships still matter in this business and Telenor is working hard to make sure that it can stay ahead of the game.



TeleGeography Inc.

The ITU has been collaborating with the international telephone traffic consultancy, TeleGeography Inc., for a number of years. Cooperation includes sharing of international traffic data and joint work on the Direction of Traffic series of reports on international traffic trends. The first was produced in 1994. The latest, published in late 1999 on the theme of trading telecom minutes, is the third. TeleGeography, based in Washington, D.C., produces an annual report on international telecommunications. The company has recently become more involved in Internet analysis and in early 2000 produced an Internet report entitled Hubs and Spokes. Befitting its name, TeleGeography also designs maps showing global traffic flows and submarine fibre cable and satellite infrastructure (see www.telegeography.com/).



BOLIVIA COUNTRY PROFILE

The Republic of Bolivia is located in South America. Bordered by Brazil, Paraguay, Argentina, Chile and Peru, this landlocked country is home to three contrasting environments: the Andes mountains and high plains; sub-Andean valleys; and tropical flatlands. Lake Titicaca, the world's highest and fourth largest, is partially situated in Bolivia.

The population of Bolivia was estimated at 8.3 million in June 2000, of which 37 per cent live in rural areas. The largest urban area is La Paz – one of the highest cities in the world at an average altitude of 3640 metres – with 1.6 million inhabitants. Bolivia has the biggest indigenous population in Latin America. There are three official languages: Spanish, plus the Indo-American Aymará and Quechua.

Bolivia has a low per capita income compared to its neighbours and consequently poorer levels of life expectancy, school enrolment and literacy. It is imperative that it boosts economic development in order to catch up. Consequently, it has been liberalizing a number of economic sectors, including telecommunications.

The Bolivian telecommunications industry structure is quite distinct from other countries. Local service is provided by telephone cooperatives (of which there are 14 today), each with a monopoly licence for a particular geographic area. The largest telecommunication company, Empresa Nacional de Telecomunicaciones (ENTEL), has an exclusive licence for national and international long-distance services and provides local service in areas with no telephone cooperatives. ENTEL was privatized in 1995. Unlike most other countries, where proceeds from the privatization of the telecommunication operator went to the State, ENTEL was capitalized through the sale of 50 per cent of its shares to STET International (part of Telecom Italia) for USD 610 million. This sum is to be reinvested in the company. The remaining 50 per

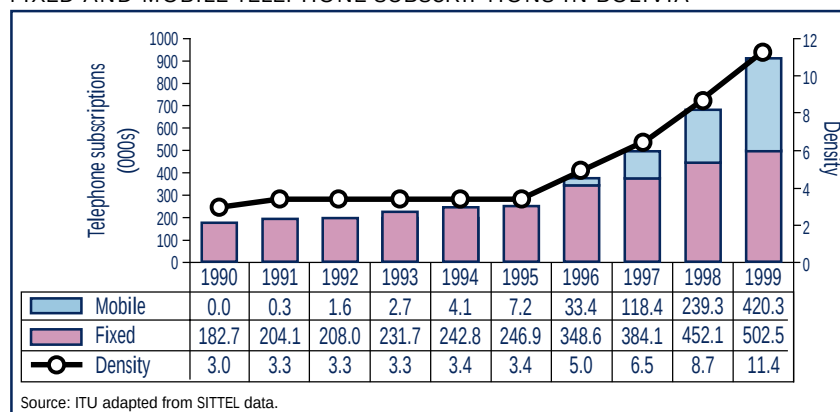


cent is owned by all Bolivians through national pension plans.

Regulatory and policy-making decisions are the primary responsibility of the regulator, the Superintendencia de Telecomunicaciones (SITTEL). The existing industry structure, based primarily on monopoly service providers, will change in November 2001, when the six-year period of exclusivity granted to ENTEL and the cooperatives will expire.

standard) mobile cellular telephone service was introduced in 1991 by TELECEL, now fully owned by Luxembourg-based Millicom. ENTEL entered the market in 1996. The cellular duopoly will soon change with the newly licensed joint venture between the US company, Western Wireless, and local telephone cooperative, COMTECO, planning to launch personal communication services (PCS) in November 2000. Since the introduction of cellular competition and later, pre-paid service, the number of subscribers has increased steadily. In 1999, mobile cellular telephone density reached 5.2, only one percentage point behind fixed-line density. In Santa Cruz, the second largest city, the number of cellular subscribers has surpassed the number of fixed lines. However, the majority of cellular telephone lines are also concentrated in the three main cities and departments (about 90 per cent).

FIXED AND MOBILE TELEPHONE SUBSCRIPTIONS IN BOLIVIA



Only about six per cent of Bolivia's inhabitants have a fixed-line telephone, one of the lowest levels of teledensity in Latin America. The figure is even glimmer when considering urban-rural disparities, as about 80 per cent of all lines in service are in the three largest cities. Fixed-line growth has been low as teledensity only increased from about 5 in 1996 to 6.2 in 1999. Analogue AMPS (advanced mobile phone service – a North American analogue

SITTEL has the important mandate of developing strategies when the market is fully opened late 2001 in order to enhance universal access to telecommunication services. This includes responsibility for establishing an implementation plan for the Rural Telecommunications Development Fund. Bolivia is one of the ITU Internet Case Studies; additional information about the country can be found at www.itu.int/ti/casestudies/index.htm.

Human resources development

Mastering communications management

As part of a joint ITU and Cable & Wireless Training Scheme, a new Master of Communications Management (MCM) programme will be launched as a pilot project in January 2001 to develop strategic management knowledge and skills. David Mellor explains the MCM concept. Mr Mellor is Chairman of the Special Group on Human Resources Development within ITU's Telecommunication Development Sector (ITU-D), President of the United Kingdom Telecommunications Academy (UKTA) and Director of Public Policy and International Scholarship at Cable & Wireless.

A new pilot programme set to make a difference

The fundamental changes occurring in the industry today are bringing into focus new opportunities and needs for education and training. In recognition of these changes, ITU's Telecommunication Development Sector has launched a major educational and training programme, which is being heavily supported by United Kingdom interests, including the British Foreign and Commonwealth Office, Cable & Wireless and UKTA.

Aims and objectives

As the latest ITU-led initiative in training, the MCM programme is an integral part of the Global Telecommunications University project envisaged in the Buenos Aires and Valletta Action Plans of 1994 and 1998, respectively. This masters course will be available to students throughout the world, and should provide a firm basis upon which to build future training programmes. Already, ITU's Human Resources Development Unit and Cable

& Wireless, who will be running the project, have identified funding for 30 scholarships.

Initially, the programme will be delivered in English but the objective is to facilitate delivery in French and Spanish as well. The MCM programme represents a coherent and integrated degree course enabling students to develop an understanding of the complex challenges facing the communications sector and design, develop and implement appropriate strategic and operational responses to these challenges.

An important feature of the programme is that it addresses directly the needs of communications personnel from both the developing and developed world, enabling them to acquire strategic management knowledge and skills. The approach demanded from all candidates might best be summarized as "feet on the ground but eyes on the horizon". In other words, candidates will take into account the evolving political, socio-economic, and technical realities of their national

and regional environments while at the same time acquiring an understanding of how to manage strategic planning, regulatory, financial, people and technology issues.

Rationale

Management competencies in the telecommunications sector are in rapid transition. However, the full implications of the new management challenges created by the interleaving of technical, regulatory and market issues is often being perceived obliquely rather than assessed systematically by managers.

The pace of change in both developing and developed countries has frequently left managers in communication organizations with only a limited understanding of the wider industry picture on which to base their analysis and decision-making.

formed by the growing importance of IP-based networks. In very competitive markets, the provision of high value-added services at minimal cost to consumers and the exponential growth of e-commerce are forcing communication operators to re-evaluate the strategic goals of their organization and, consequently, the nature of their operations.

Consolidation among several communication players in the developed world through mergers and acquisitions has led to the revaluation of core activities and, in some cases, the adoption of project and partnership management approaches with corporate customers, suppliers, and with competitors.

The MCM offers a distinctive, new programme model responsive to the learning and competence requirements of communication managers in both the developing and developed world. It engages the candidates, their organization, the delivery teams in an outward-looking partnership that will enable the programme to evolve at the same pace as the external communications environment.

The differentiator in communications management

Just like ITU and Cable & Wireless, other international organizations and communication operators and higher institutions of learning have undertaken a number of initiatives to address the discrete strategic and operational communications learning needs of management personnel. However, by definition, these "discrete" actions have only been able to respond in a piecemeal fashion to the competence requirements of managers in communication organizations.

Institutions and universities have attempted to provide a response to these new competence requirements by designing and offering masters-level programmes in communications which appear to combine technical, operational and some strategic management/policy education. However, a closer look at the syllabuses shows that technical education is still predominant in terms of course content and credit accumulation.

In many masters-level communication programmes of the United States, education is geared towards a population often assumed to



David Mellor (left) and Hamadoun Touré, Director of BDT, during the launch of the MCM Programme at TELECOM 99 (ITU 000055)

In developing countries, the privatization of incumbent operators and the gradual liberalization of domestic markets have forced management teams to address regulatory, commercial and competitive challenges for which their primarily technical education has not prepared them.

In developed countries, the extensive fixed line and mobile telephony markets are being trans-

have little or no prior experience of communications or management concepts and practice. Similarly, a number of European masters and diploma programmes in communications focus on the same population and place a predominant emphasis on technology rather than sector-specific strategic management.

Target audience

All candidates on the MCM programme will have had at least five years communications management experience and an honours degree from a United Kingdom university or its equivalent. Normally candidates will have already achieved, or have the potential to achieve, senior general or functional management positions in their organization.



A view of the Cable & Wireless campus (ITU 000057)



The MCM programme represents a coherent and integrated degree course enabling students to develop an understanding of the complex challenges facing the communications sector (ITU 000056)

individuals) will largely be drawn from the industry, ITU and other relevant international agencies.

The course

The MCM course was developed in partnership with the University of Strathclyde and will be delivered at Cable & Wireless at Coventry (United Kingdom), a purpose built education and training centre. The course structure is typical of a full-time masters degree programme, comprising a project and a set of compulsory subjects covering the

Advisory panel

Whilst full responsibility for the degree, its content, delivery and modes of assessment remain with the University of Strathclyde (United Kingdom), an advisory panel will be established to provide a sounding board for new training modules and ensure that the degree remains focused on the delivery of "useful learning" to its target audience. Membership of the advisory panel (to be composed of not more than nine

communications environment, technology and market interactions, strategic business planning in communications, modelling tools and techniques for communication markets, organizational change and technology in a competitive environment, the principles and practice of communication policy, and communications management. Courses will be delivered by a team of staff from the University of Strathclyde, supported by guest lecturers from the industry.

E-commerce for developing countries

More than 80 countries have started deploying electronic business infrastructure thanks to ITU's EC-DC project.

Less than a year after ITU signed a partnership agreement with the Geneva-based World Trade Centre (WTC) and WISEKey S.A., deployment of e-business infrastructure has started in more than 80 countries. This infrastructure is being funded from a USD 2.5 million in-kind contribution made by WISEKey to a trust fund set up under the agreement to help implement ITU's Electronic Commerce for Developing Countries (EC-DC) project, which aims at enabling developing countries to use existing infrastructure and services to join the digital economy through non-exclusive partnerships with the industry.

"We are very pleased with the level of response received both from beneficiary countries and from industry partners who contribute to making this ambitious project a reality", said Yoshio Utsumi, ITU Secretary-General. "The EC-DC project is an ITU initiative that demonstrates the value of e-commerce in providing entrepreneurship and empowerment to developing nations in a digital world", he also said.

The project is implementing secure e-business solutions and services in developing countries, providing an easy start-up solution to entrepreneurs. In a digital economy, these solutions and services are required to enable the exchange of mission-critical business transactions to be conducted in real time and across multiple market sites with other buyers and suppliers for financial transactions, procurement, asset management and other trading resources.

Under the EC-DC project, participating countries can benefit from first-class security, trust and

services for e-business transactions under affordable conditions by pooling and sharing available resources. Countries lacking secure trusted infrastructure, digital certification and electronic payment facilities

can use those of other project participants. They can do so through WTC's global network infrastructure of 328 centres in more than 100 countries as well as through WISEKey certification services. For many developing countries, this represents the only cost-effective way of accessing e-commerce.

In addition to the potential economic benefits, the project is creating an environment to stimulate investments and development of an infrastructure based on information and communication technologies.

"By bringing together the relevant players from the public and private sectors to create the conditions for sustainable development and access to new technologies, EC-DC is an example of how ITU is playing a leading role in assisting developing countries to bridge the digital divide", said Hamadoun Touré, Director of ITU's Telecommunication Development Bureau.

The enormous scope of the project and the level of interest it has generated have led to the extension of its initial implementation phase. To speed up implementation, the support of leading multinational IT companies is being enlisted. These include companies such as Oracle, Baltimore Technologies Ltd, Entegriety Solutions, Rainbow Technologies, Datamatics, NCP, ValiCert, MCI WorldCom, Vitress AG and Celo Communications.

In a partnership meeting held in June 2000, these companies confirmed their commitment to provide their technologies, solutions and services. A training workshop for 100 developing countries will take place at the ITU headquarters on 2 and 3 October 2000 with the financial participation of WISeKey, whose contribution to the EC-DC project also includes software licences, hardware, staffing, and other services.

According to WISeKey project management plans, it will take a further three months to have the infrastructure in place with the appropriate training and installation support before revenues can commence to be generated and automatically

credited to the EC-DC Trust Fund. This will require further expenditure of some USD 1.5 million, bringing the total investment of WISeKey to around 4 million. As more companies and organizations show interest in participating in the project, WISeKey expects to increase its contribution.

For more information, please contact: "Alex Ntoko, Project Manager, EC-DC, Telecommunication Development Bureau, International Telecommunication Union (Tel.: +41 22 730 5525. E-mail: ntoko@itu.int)" or "Markus Leutert, Project Manager, International Secure Electronic Transaction Organization, WISeKey (Tel.: +41 22 929 5757. E-mail: info@wisekey.com)".

ITU launches telemedicine project in Uganda

Uganda's Minister of State for Health, Phillip Byaruhanga, inaugurated on 11 August 2000 the country's first telemedicine pilot project linking the National Referral Hospital of Mulago and the Mengo Hospital in Kampala.

The project is part of a strategy to provide specialist care in surgery, pediatrics, obstetrics, gynaecology and internal medicine in provincial and district referral hospitals whose medical teams can only afford one or two specialists. It is estimated that 50 per cent of all the country's 800 doctors are in Kampala while 60 per cent of nurses are in rural areas. With a high maternal mortality rate ranging from 500 to 2000 deaths per 100 000 births and infant mortality rate of 97 per 1000, the need to improve medical delivery and optimize limited medical resources is a matter of life.

Inaugurating the project, Mr Byaruhanga praised ITU's cooperation in enabling his country to harness the latest information technology for a tangible humanitarian cause. "Rural communities which make up 80 per cent of our population are constrained further in terms of affordable, accessible and equitable health care services. We look forward to the benefits of the telemedicine project, which will link up senior consultants, researchers and legislators to cater for these communities as well", the Minister said. He stressed the need for greater coordination and synergy among development partners and called upon Uganda's National Telemedicine Steering Committee to define an institutional framework through which all stakeholders can participate, including the private sector.

With public health expenditure reaching a mere USD 4 per inhabitant and health care serv-

ices heavily burdened by preventable public health disorders, the Ministry of Health adopted an ambitious plan to strengthen health services at all levels.

"Telemedicine is a multi-disciplinary public service of great importance and value to all countries. We must therefore exploit to the full, its potential to meet the health care needs of all populations anytime anywhere; particularly in remote and rural areas where medical facilities are in short supply", said Hamadoun Touré, Director of ITU's Telecommunication Development Bureau (BDT).



It is estimated that 50 per cent of all the country's 800 doctors are in Kampala while 60 per cent of nurses are in rural areas. The ISDN point-to-point data link between the Mulago and Mengo hospitals will enable medical personnel to share knowledge, experience and information rapidly

(ITU 000058)

"Much of the telemedicine experience has been accumulated in the developed countries, where a wide range of technologies and services of increasing sophistication and cost exist. There is nevertheless, a growing interest in telemedicine in developing countries which we, in BDT, have a duty to encourage and promote. We are doing so through pilot projects in line with Recommendation 9 of the second World

Telecommunication Development Conference held in Valletta in 1998. It was clear from this conference that we need to bridge the gap between the telecommunication and health care communities at all levels. Hopefully, this project will go some way towards addressing this goal", Mr Touré declared.

Along with the ISDN point-to-point data link between the Mulago and Mengo hospitals, a health management information system will be set up to enable medical personnel to share knowledge, experience and information rapidly and efficiently. Connection of the two sites to the Internet further widens the scope and utility of the project.

Uganda's project is the second in Africa involving BDT in innovative public and private sector partnerships. The first was the teleradiology link inaugurated in January 1998 between the central hospitals of Maputo and Beira in Mozambique, using a simple telephone connection through a microwave and satellite telecommunication system.

"While the Ugandan project is designed as a pilot activity, full use will be made of its facilities to benefit primarily the practitioners in the two connected hospitals as well as the wider community of professionals connected to the project via the Internet", said ITU's Joseph Elotu, representing the BDT Director at the inauguration. "For the first time, medical and health care staff will be able to transmit instantaneously large amounts of medical information to a consulting doctor located in a distant hospital or diagnosis centre and access medical information from the health management information system, bringing greater efficiency to the practice of medicine in remote areas", he also said.

The telemedicine equipment (worth some USD 75 000, including teleconferencing facilities) was provided through ITU's Technical Assistance Programme in partnership with Uganda's Ministry of Health and Uganda Telecom Ltd., with the latter providing the ISDN link.

For more information, please contact: "Joseph Elotu, Head, Special Unit for LDCs, Coordinator a.i. Africa Unit, Telecommunication Development Bureau (Tel.: +41 22 730 5438. Fax: +41 22 730 5341. E-mail: joseph.elotu@itu.int)".

Country focus

Venezuela's new Telecommunications Act

It is one of ITU's missions to advise governments on sector reform. ITU's development arm, the Telecommunication Development Bureau (BDT), helps formulate adequate national regulatory frameworks and legislation conducive to business and investment. It also assists in setting up independent regulatory bodies that can effectively level the playing field in competitive environments.

To implement and sustain ownership transformation of incumbent operators and the introduction of competition in domestic markets, reforms in the telecommunication sector have intensified across the Americas in the 1990s. Today, 22 out of the 34 countries of the Americas have separate regulatory authorities and most have now adopted or revised their telecommunication law. Innovative approaches are also being devised among groups of countries. For example, five eastern Caribbean countries are in the process of jointly setting up a monitoring body to advise their national regulatory authorities being established, thus providing a harmonized legal regime for the five countries.

The two latest countries to have passed new telecommunication legislation are Ecuador and Venezuela. In an interview with ITU News, the Director-General of the Comisión Nacional de Telecomunicaciones (CONATEL), Diosdado Cabello, and the General Operations Manager, Jesse Chacón, explain what the new Telecommunications Act means for Venezuela and what the future holds for the country's vibrant mobile communications sector at the dawn of third generation (IMT-2000) mobile systems. They also highlight the objectives of a recent cooperation agreement signed between ITU and CONATEL.

CONATEL recently announced the approval of a new Basic Act on Telecommunications, what does it mean for Venezuela?

The Basic Act on Telecommunications (Ley Orgánica de Telecomunicaciones) was published on 12 June 2000 in Venezuela's official journal, the Gaceta Oficial de la República Bolivariana. It lays down the principles governing telecommunications, which are intended to ensure that every Venezuelan enjoys the right to communicate and that the economic activities needed to develop the sector can be carried out.

Among the main benefits accruing from the adoption of the new Act are the following:

- It updates the legal framework of the telecommunication sector, superseding the former Act, which dated back to 1941.
- It ensures a proper balance between the interests of users and the State on the one hand, and those of enterprises and investors on the other.
- It incorporates users' rights such as privacy of communication, equal access, appropriate charging, compensation for service outages, and minimum service quality standards.
- It is conducive to national and international investment for development of the telecommunication sector because it affords certainty in law by laying down rules that are clear, transparent and adapted to technological progress in the sector. One fundamental change is that telecommunication is no longer the preserve of the State but an activity in the general interest.

How long did it take to finalize this Act and what lessons can be learned from the preparatory process?

The entire process of developing and adopting the Act took one year, CONATEL, the regulatory body, having started work on the first version of a bill in mid-1999. Thereafter, consultations and discussions began with the various sectors concerned, including operators, providers, broadcasting and subscriber television companies, universities, civil organizations, international experts and government agencies. The discussion process lasted nine months. The bill was then submitted to the national executive for approval before being enacted by parliament.

The main lesson learned from the process is that it is possible to reconcile the interests of the State, entrepreneurs and users. Once that has been achieved, the adoption process becomes easier and trust between the parties is consolidated.

How does the new Act address the fundamental issues of competition, licensing and consumer concerns such as pricing, number portability and universal access?

The adoption of the Telecommunications Act came at a very opportune moment, 2000 being the year in which Venezuela is opening up its basic telecommunication services. The new Act lays down the conditions for competition between the various operators and service providers, establishing rules on prices and tariffs, interconnection and scarce resources, i.e. numbers, radio spectrum and general telecommunication channels.

The provisions on prices and tariffs establish that companies are free to set the prices of their services, except for services provided under the heading of universal service and services for which there is no actual competition in the market concerned. The provisions on interconnection establish the principles of obligation, non-discrimination and cost-orientated charges.

The Act also establishes number portability as a user right, allowing companies a period of time in which to meet this requirement.

Licensing

The Act empowers CONATEL to authorize telecommunication activities.

It envisages two forms of authorization, which are not mutually exclusive, namely *habilitaciones* (administrative licences) and concessions. The purpose of administrative licences is to remove any legal barrier that could hinder parties from exercising their rights when carrying out telecommunication activities. Concessions serve to grant a right to use and exploit the radio spectrum.

The Act provides for a transparent and fair system for granting administrative licences and concessions, and breaks new ground by withdrawing discretion from the regulatory body, establishing clear and precise rules and envisaging expeditious procedures. Radio spectrum concessions are granted through a public tender process and determined by auction, provided that the bands in question have a commercial value.

Universal Service Fund

The new Act also establishes a Universal Service Fund. The purpose of the fund, which is financed by one per cent of the gross revenue of the sector, is to afford every citizen the opportunity to have access to telecommunication services and reap the benefits offered by the associated technologies, while having a neutral effect on the market.

The fund will be used to subsidize the development of infrastructure for the provision of services by operators in areas where such services are not profitable. In Venezuela, the services in question will not be limited to public telephony, but will encompass a range of services including the Internet.

Research and Development Fund

One of the major innovations introduced by the Act is undoubtedly the creation of the Telecommunication Research and Development Fund, the purpose of which will be to strengthen study and research on telecommunication technology by providing financial support to universities, technology institutes and research centres, or to specific research projects. The fund will be financed by 0.5 per cent of the gross revenue of enterprises in the sector.

In short, the Basic Act on Telecommunications establishes a modern and positive legal framework for the protection of telecommunication

users and operators in a freely competitive environment, as well as for the development of a promising sector of Venezuela's economy.

What does the Act say about satellite matters and in particular, the imminent third generation mobile systems such as International Mobile Telecommunications-2000 (IMT-2000)?

The Basic Act on Telecommunications is the first instrument in Venezuela's domestic law to regulate satellite use and satellite telecommunications. The principles on satellite use set forth in the Act draw on existing international instruments, particularly the Constitution, Convention and Radio Regulations of the International Telecommunication Union.

With regard to the use of spectrum-orbit resources allotted to Venezuela, the Act requires interested parties to obtain the appropriate concession for use and exploitation. Such concessions may be granted either through public tender or through direct adjudication.

Provision of direct satellite telecommunication services in Venezuela, will also be subject to obtention of the appropriate concession entitling the service provider to use the radio spectrum associated with the network concerned.

IMT-2000

The spectacular growth of the cellular market has exceeded all global forecasts. In the developed countries, which account for more than 90 per cent of fixed telephone penetration, a cellular phone in most cases constitutes an additional line, whereas in markets such as Latin America, where the rate is only 12 per cent, cellular technology has become a vital means of increasing penetration.

Venezuela is a case worth studying. At present it has 4 million cellular phones and only 2.7 million fixed telephones — in other words, it already has more cellular than fixed lines.

Venezuela currently has two national and three regional cellular operators, and the three digital technologies — CDMA, TDMA and GSM — coexist in the market.

Venezuela carried out a study which resulted in a concrete proposal on how to implement a third-generation cellular solution to increase the

population's rate of access to information and ensure its rapid integration into the knowledge society, while at the same time keeping in step with international trends, since failure to harmonize Venezuela's bands for IMT-2000 with those of the rest of the world could widen the digital divide and separate us from the developed world.

Without harmonization, benefits such as increased access and lower costs for the consumer, global roaming, economies of scale and hence lower equipment and service costs for manufacturers and service providers, access to new voice, data and multimedia services, and competitive opportunities for service providers, will not be fully realized.

This is why Venezuela will, in 2001, be making available spectrum for the development of third-generation systems, in accordance with the recommendation adopted by the 1992 World Radio Administrative Conference of ITU which establishes the bands 1885–2025 MHz and 2110–2200 MHz as the core band for the development of IMT-2000, taking the channelling arrangements implemented by Region 1 as the basis for its UMTS model. Venezuela hopes that implementation of these new technologies will serve as the springboard that will enable it to guarantee access to information for all members of its society.

What is the scope of the agreement which CONATEL signed recently with ITU?

Venezuela's telecommunication regulatory body recently signed with ITU an agreement relating chiefly to provision by the latter of consultancy services covering some of the most important projects being carried out in Venezuela's telecommunication sector.

An ITU adviser, José Ricardo Melo, lent his services early this year, making an important contribution to the preparation of the first document defining a model for the opening up of basic telecommunication services in Venezuela.

Another adviser has assisted in the development of a contingency plan for the provision of telecommunication services in disaster and emergency situations. Further consultant missions are planned in the near future, including one on interconnection.

BT wins 3G licence in the Netherlands. BT has announced that its wholly-owned subsidiary Telfort has been awarded a third generation mobile licence by the Dutch Government for GBP 263 million, adding to its earlier licences in the United Kingdom, Japan and Spain. — BT.

Western European Web hosting market to surpass USD 5 billion by 2004. Western Europe is currently undergoing an explosion in the demand for, and supply of, robust hosting services, according to a new report from IDC. Hosting has traditionally been provided by access-based Internet service providers as an adjunct to their core business. However, over the last year it has become the fastest-growing segment of many operators' businesses. IDC forecasts the European Web hosting market to increase rapidly in value from USD 907 million by year-end 2000 to over 5 billion by 2004.

Among the many market drivers fuelling this growth are: the on-going demand for a simple first-stage Web presence from the majority of European companies that still do not have a presence, the continuing rise of Internet-based dot-com businesses conducting the majority of their operations and processes via the Web, and the gradual adoption by major media groups of the Internet as a delivery channel for high-volume content. — IDC.

iBid hosts world's first Internet 3G auction. The government of New Zealand has chosen the technology of iBid Spectrum Auction Services to conduct the first entirely Internet-based auction of third generation (3G) spectrum licences.

New Zealand officials estimate the auction of 1600 lots, including six licences for 3G communications, will raise more than NZD 40 million. The competition for the frequencies in the 2 GHz band includes 17 bidders. By using the Internet as the forum for the auction, bidders from around the world can easily participate. Successful bidders will be able to provide an array of mobile and broadband wireless services throughout the country.

During the auction, bidders can efficiently review the results of their participation. In addition, bidding results can be viewed almost immediately at <http://auction.med.govt.nz>, following each round. — iBid.

Europe*Star leads the way for new IP services over India. Europe*Star has announced that it has signed a contract with GlobeCast to be on-board Europe*Star FM1 to deliver a new broadband IP platform and digital applications from Europe to the subcontinent of India.

The FM1 is a high-powered Ku-band geostationary satellite which was scheduled to be launched in September 2000. It is equipped with 30 transponders, providing transponder-by-transponder connectivity amongst five distinctive coverage areas: Europe, Southern Africa, the Middle East, the subcontinent of India and South East Asia. — Europe*Star.

Independent WLL market viability still in doubt. According to a new report by Dittberner Associates, wireless local loop based on any of the existing mobile cellular air interfaces is still a viable approach. However, just a few years ago, WLL seemed to

raise great expectations for solving a number of problems related to the deployment of a new telephone service. As it stands today, the installed base of WLL service achieved throughout the world has been disappointing particularly when viewed against the high hopes raised by the industry, the report notes. Today, roughly only one million lines of WLL equipment have been put in service worldwide. The reason for this poor showing does not seem to lie in the lack of a suitable technology or the availability of equipment. In fact, a wide variety of technological approaches have been introduced and many have been abandoned because of a lack of economic success over the longer term. Shared use of cellular systems for mobile and fixed terminals appear to be the most attractive economically viable solution, the report argues. — Dittberner Associates.

Fifty homes to test Screenfridge. Tele Danmark and e2 Home AB have selected 50 homes to participate in a Screenfridge field test in the Copenhagen suburb of Ballerup. The test began in early September 2000 and will run for five months.

Screenfridge is the first refrigerator in the world with a screen fitted in the door, providing interactive, broadband communication technology with instant access to advanced communication. The screen also has a television and radio receiver.

Participants are divided into categories of singles, couples without children, families with young children and families with teenagers.

The Electrolux Screenfridge interaction is enabled by a touch screen, and a simple user interface

makes it easy to send and receive information. Whether you want to send a video message home or are looking for a telephone number to the pizzeria, Screenfridge gives you the choice at your fingertips.

One of the many electronic services that will make everyday life easier is the shopping feature which also provides access via an Ericsson WAP phone to the shopping list stored in the Screenfridge. All participants have been given a WAP terminal.

The test is expected to validate the concept of intelligent homes and electronic household services. — Tele Danmark/e2 Home.

BT and partners prepare for Japanese 3G services. BT has announced that Japan's regional J-Phone mobile phone companies, in which it has equity stakes along with partners Japan Telecom and Vodafone AirTouch, have been granted licences for third generation (3G) multimedia mobile phone services.

The award of the licences by Japan's Ministry of Posts and Telecommunications means the nine J-Phone companies can prepare for launch of 3G services in key regional Japanese markets in December 2001. DDI and NTT DoCoMo have also been awarded licences. BT and its partners will invest up to GBP 4.2 billion in future J-Phone operations. — BT.

Alcatel wins a GSM contract in Kenya. KenCell, a subsidiary of Vivendi Telecom International and of Sameer Investment Ltd (a private investment group in Kenya), has awarded Alcatel a contract for a turnkey GSM network over the next five years. The first phase of the contract foresees the installation of a network to

cover Kenya's two most important cities, Nairobi and Mombasa.

Alcatel will first supply an EVOLIUM GSM mobile network featuring a 50 000-subscriber capacity mobile switching centre, an operation and maintenance centre and base stations. In order to meet the needs of KenCell's subscribers, Alcatel will also deliver an intelligent network platform capable of offering value-added services such as prepaid cards.

The network will provide mobile telephony services to more than 3.5 million people. Extension programmes are planned, starting year-end 2000. — Alcatel.

PanAmSat files new orbital slot with Australian Communications Authority. PanAmSat Corporation has announced that it has filed with Australian Communications Authority (ACA) for a new orbital location at 170° E. The new slot will allow PanAmSat to place another satellite in space over the Pacific Ocean region, enabling the expansion of the company's video, Internet and telecommunication services throughout the Asia-Pacific. The event marks the first time PanAmSat has filed with ACA to register a satellite with the International Telecommunication Union. — PanAmSat.

Wired versus wireless: IT in India thwarted by poor infrastructure. Software developers in India have called for radical improvements to the country's beleaguered information technology infrastructure. Speaking at an IT meeting in August 2000, the developers said that the dilapidated Internet infrastructure was impeding the country's progress in the global information economy. Internet penetration in India is less than 1 per cent for a coun-

try of more than one billion people. Private firms such as Enron, Lucent Technologies and Airtel are trying to redress the imbalance by laying fibre-optic lines in India. Efforts to establish international satellite gateways to the Internet are also under way. Another positive development is the Information Technology Act 2000, which became law in June. — e-bizevents.

Orange acquisition gets approval. France Télécom's Combined and Extraordinary General Meeting of Shareholders has approved the acquisition of Orange.

The shareholders first approved the spin-off of all France Télécom's wireless activities within a separate subsidiary, France Télécom Mobiles.

France Télécom acquired 100 per cent of Orange for a total of 39.5 billion Euros. The acquisition had been approved in early August 2000 by the European Commission.

The acquisition price comprises 21.4 billion Euros in cash for 54.9 per cent of Orange's capital and 18.1 billion Euros in new France Télécom shares, issued to Mannesmann in consideration for the contribution of 45.1 per cent of Orange's capital. — France Télécom.

Broadband Internet and e-mail in flight from the beginning of 2002. Under a cooperation agreement, Globalstar, In-Flight Network LLC and Qualcomm will join together in developing a system to make broadband Internet access, e-mail and paging functions and IP-telephony applications available to airline passengers during their flight. The Internet data and entertainment programmes will be

transmitted to aircraft via geostationary satellites, with return data being handled by the worldwide Globalstar satellite network. In parallel, the Globalstar satellite network will serve as an independent two-way channel for Internet access, e-mail services, data downloading and other applications. — Globalstar.

Successful launch of "Nilesat-102". The Nilesat-102 satellite has been successfully launched from Kourou (French Guiana) on an Ariane-44 LP rocket. It is the second television broadcasting satellite launched for Nilesat SA, the Egyptian television satellite operator.

The satellite will be able to transmit more than 100 television channels in digital and direct broadcasting mode, for reception by 60 cm domestic antennas. The coverage area will extend from Morocco in the west to the Red Sea in the east, with the power concentrated over large cities and densely-populated areas. Nilesat-102 also has additional coverage to provide broadcasting of new services from Europe. — Astrium.

Change of name

in Singapore

The Administration of the Republic of Singapore announces that the Telecommunications Authority of Singapore (TAS) has changed its name to Infocomm Development Authority of Singapore (IDA), with immediate effect.

Structural changes

in the Bahamas

The Administration of the Bahamas announces that the responsibility for telecommunications has been transferred from the Office of the Deputy Prime Minister/Public Enterprises to the Ministry of Finance.

in Chad

The Administration of the Republic of Chad announces that the Télécommunications nationales de l'ONPT and the Société des télécommunications internationales du Tchad (TIT) have merged to become the Société des télécommunications du Tchad (SOTEL TCHAD).

in Georgia

The Administration of Georgia announces that telecommunications are now the responsibility of the Ministry of Transport and Communications.

in Spain

The Administration of Spain announces that the responsibilities formerly vested in the General Secretariat for Communications of the Ministry of Public Works have now been assigned to the Ministry of Science and Technology. — ITU Notification Nos. 1391 and 1392.

Erratum

Please note that Andrew Nunn is Chairman of Working Party 1 of ITU-T Study Group 15, and not "Chairman of ITU-T Study Group 15" as reported on page 11 of the August/September 2000 Special Edition of ITU News. The Study Group is chaired by Peter Wery, Associate Director of International Standards at Nortel Networks.



CONSTITUTION AND CONVENTION OF THE ITU (MINNEAPOLIS, 1998)

The Government of the Republic of Guatemala has acceded to the above-mentioned Constitution and Convention.

The Government of the Republic of Honduras has ratified the above-mentioned Constitution and Convention.

The instruments of accession and ratification were deposited

with the General Secretariat of the Union on 8 May and 23 June 2000, respectively.

INSTRUMENTS AMENDING THE CONSTITUTION AND THE CONVENTION OF THE ITU (GENEVA, 1992), KYOTO 1994

The Government of Malaysia has ratified the above-mentioned Instruments amending the Constitution and Convention.

The instrument of ratification was deposited with the General Secretariat of the Union on 23 May 2000.

CHANGE OF DENOMINATION

The Republic of Venezuela has changed its name. The official denomination is now Bolivarian Republic of Venezuela.

NEW MEMBERS

Development Sector

America Online, Inc. (Washington, D.C.), Antelecom N.V. (Curaçao, Netherlands Antilles), Arab Academy for Science, Technology & Maritime Transport (Alexandria, Egypt), Public Utilities Commission (Nassau, Bahamas), SOSINC Communications (Sioux City, IA), WISEKey S.A. (Geneva, Switzerland), and Zajoul for Advanced Communication Technology (Riyadh) have been admitted to take part in the work of this Sector.

Radiocommunication Sector

POLKOMTEL S.A. (Warsaw) has been admitted to take part in the work of this Sector.

Standardization Sector

America Online, Inc. (Washington, D.C.), Antelecom N.V. (Curaçao, Netherlands Antilles), GIGA A/S (Skovlunde, Denmark), Intelig Telecomunicações Ltda. (Rio de Janeiro), Net to Net Technologies (Portsmouth, NH), POLKOMTEL S.A. (Warsaw), TELSIM Mobile Telecommunication Services A.S. (Istanbul, Turkey) and VDSL Systems Oy (Espoo, Finland) have been admitted to take part in the work of this Sector.

New denominations

Matra Marconi Space, which participates in the work of the Development and Radiocommunication Sectors has changed its name. The new denomination is: Astrium SAS.

Newbridge Networks Corporation, which participates in the work of the Development and Standardization Sectors has

changed its name. The new denomination is: Alcatel Networks Corporation.

The Danish Electronics Industry Association, which participates in the work of the Standardization Sector has changed its name. The new denomination is: ITEK (as from 1 October 2000).

VACANCY NOTICES

Circular letters (via facsimile) which have been sent to all Member States and Sector Members of the Union announce the following vacancies:

one post of GTU/GTTI Project Coordinator, grade P.4, to be filled in the Telecommunication Development Bureau (BDT), Field Operations Department (FOP), as soon as possible for a period of one year with possibility of extension (circular letter No. 75 of 14 August 2000, vacancy notice No. 28-2000 ITU, final date for submission of applications: 13 October 2000);

one post of Administrative Officer, grade P.3, to be filled in the General Secretariat, as soon as possible for up to two years with possibility of extension (circular letter No. 70 of 7 August 2000, vacancy notice No. 29-2000 ITU, final date for submission of applications: 9 October 2000);

one post of Communication and Promotion Officer, grade P.3, to be filled in the Telecommunication Standardization Bureau (TSB), Promotion, Editing and Production Department (PEP), as soon as possible for up to two years with possibility of extension (circular letter No. 71 of 7 August 2000, vacancy notice No. 30-2000 ITU, final date for submission of applications: 9 October 2000);

one post of Communication and Promotion Officer, grade P.4, to be filled in the Telecommunication Development Bureau (BDT), as soon as possible for up to two years with possibility of extension (circular letter No. 72 of 7 August 2000, vacancy notice No. 31-2000 ITU, final date for submission of applications: 9 October 2000);

one post of Chief, Media Relations and Public Information Service, grade P.4, to be filled in the General Secretariat, Strategic Planning, External Affairs and Corporate Communication Units (SEC), as soon as possible for a fixed-term appointment until 31.12.2001 with possibility of extension (circular letter No. 73 of 7 August 2000, vacancy notice No. 32-2000 ITU, final date for submission of applications: 9 October 2000);

one post of Head, Strategic Planning, External Affairs and Corporate Communication Units, grade D.2, to be filled in the General Secretariat, Strategic Planning, External Affairs and Corporate Communication Units (SEC), as soon as possible for up to two years with possibility of extension (circular letter No. 74 of 9 August 2000; vacancy notice No. 33-2000 ITU; final date for submission of applications: 9 October 2000).

Detailed applications with ITU personal history form should be submitted to the General Secretariat of the ITU, Place des Nations, CH-1211 Geneva 20 (Switzerland), no later than the final dates mentioned above.

Vacancy notices and personal history forms are available on the ITU website, under the "ITU General Secretariat" section: <http://www.itu.int/>.

PUBLICATIONS

The following letters indicate the languages in which documents are published:

- F for French
- E for English
- S for Spanish
- R for Russian
- C for Chinese
- A for Arabic

Prices (indicative only) are in Swiss francs (CHF).

A comprehensive list of all the publications of the Union will be supplied, free of charge, from the ITU Sales and Marketing Service, Place des Nations, CH-1211 Geneva 20 (Switzerland). Fax: +41 22 730 5194.

Telecommunication Development Sector

Reforming the international accounting rate system — 1999 (First edition, June 2000) (92-61-08341-2)
Separate editions in F, E, S (CHF 60)

Radiocommunication Sector

List of ship stations (List V) (40th edition, June 2000) (3 volumes) (92-71-24033-2)
Trilingual edition in F, E, S (CHF 98 with supplements)

List of radiodetermination and special service stations (List VI) (14th edition, June 2000) (92-71-08034-3)
Trilingual edition in F, E, S (CHF 68 with supplements)

Telecommunication Standardization Sector

ITU-T Recommendations on CD-ROM (June 2000) (92-61-08541-5)
Separate editions in F, E, S (CHF 1200)

ITU-T Recommendation E.191 (03/00)
B-ISDN addressing
Separate editions in F, E, S (CHF 17)

ITU-T Recommendation G.108 (09/99)

Application of the E-model:
A planning guide
Separate editions in F, E, S (CHF 55)

ITU-T Recommendation H.245 (05/99)
Control protocol for multimedia communication
Separate editions in F, E, S (CHF 96)

ITU-T Recommendation H.450.8 (02/00)

Name identification supplementary service for H.323
Separate editions in F, E, S (CHF 9)

ITU-T Recommendation Q.730 (12/99)

ISDN user part supplementary services
Separate editions in F, E, S (CHF 22)

ITU-T Recommendation Q.732.2-5 (12/99)

Stage 3 description for call offering supplementary services using Signalling System No. 7: Call

diversion services (Q.732.2 — Call Forwarding Busy (CFB). Q.732.3 — Call Forwarding No Reply (CFNR). Q.732.4 — Call Forwarding Unconditional (CFU). Q.732.5 — Call Deflection (CD))
Separate editions in F, E, S (CHF 22)

ITU-T Recommendation Q.769.1 (12/99)
Signalling System No. 7 — ISDN user part enhancements for the support of number portability
Separate editions in F, E, S (CHF 12)

ITU-T Recommendation X.287 (03/99)
Information technology — Open Systems Interconnection — Structure of management information: Managed objects for supporting upper layers
Separate editions in F, E, S (CHF 17)

ITU-T Recommendation X.727 (03/99)
Information technology — Open Systems Interconnection — Structure of management information: Systems management application layer managed objects
Separate editions in F, E, S (CHF 12)

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The ITU sells its publications on a non-profit basis. The prices quoted include packing costs and carriage by surface mail. All publications ordered from the ITU must be paid for in advance.

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Payments may also be made in other currencies, freely convertible into CHF, provided that, when converted by the bank, the price of the service in CHF is covered.

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A bookstall is open at ITU headquarters in Geneva from 08h30 to 12h00 and from 13h30 to 17h00.



The calendar for all ITU conferences and meetings can be found on the Web at: <http://www7.itu.int/events-public>

2000

27 September–6 October
(Montreal, Canada)
World Telecommunication
Standardization Assembly
(WTSA-2000)
4–9 December (Hong Kong)
ITU TELECOM ASIA 2000

2001

18–29 June (Geneva)
Council 2001 (C-2001)

2000

General Secretariat

6–10 November (Geneva)
Working Group on ITU Reform
(third meeting)
4–9 December (Hong Kong)
ITU TELECOM ASIA 2000

Telecommunication Development Sector

3–5 October (Vientiane)
Seventh subregional telecommuni-
cation meeting for Cambodia,
Lao P.D.R. and Viet Nam
9–10 October (Geneva)
Third meeting of the Task Force on
Gender Issues
11 October (Geneva)
Fourth meeting of TDAG subgroup
dealing with private sector issues
11–12 October (Brisbane,
Australia)
Workshop on quality of service from
the perspective of a consumer
12–13 October (Geneva)
Fourth meeting of the Telecommuni-
cation Development Advisory
Group (TDAG)
15–16 October (Alexandria, Egypt)
Arab telecommunication develop-
ment meeting

16–19 October (Arusha, Tanzania)
HRD regional meeting — English-
speaking countries of Africa

17–19 October (Alexandria, Egypt)
Arab States regional preparatory
meeting for WTDC-02

25–27 October (Gaborone)
Forum on telecommunication
regulation in Africa

25–27 October (Tunis)
Regional seminar on trade of
telecommunication services

1–4 November (Tunis)
ITU/ASBU Symposium on satellite
broadcasting and convergence of
new multimedia services

7–10 November (Hanoi)
Seminar on pricing and settlement
reform in developing economies
(Cambodia, Lao P.D.R. and Viet Nam)

13–15 November (Kyiv)
Interregional seminar on the
transition from SECAM to digital
broadcasting

14–16 November (Abu Dhabi,
United Arab Emirates)
Regional seminar on electronic
commerce

20–22 November (Geneva)
Development symposium for
regulators

23–24 November (Geneva)
Partnership round table for LDCs

28–30 November (Sofia)
Europe and CIS regional prepara-
tory meeting for WTDC-02

28–30 November (Yerevan,
Armenia)
Seminar on pricing for frequency
usage

Radiocommunication Sector

5 October (Geneva)
Joint Study Groups 4 and 9
meeting

6 October (Geneva)
Study Group 4 (Fixed-satellite
service)

9–13 October (Geneva)
Working Party 7A (Time signals and
frequency standard emissions)

9–18 October (Geneva)
Working Party 8A (Land mobile ser-
vice excluding IMT-2000, amateur
and amateur-satellite services)

16–17 October (Geneva)
Study Group 7 (Science services)

17–27 October (Geneva)
Working Party 8D (All mobile
satellite services and radio-
determination satellite service)

18–27 October (Geneva)
Working Party 8B (Maritime mobile
service including Global Maritime
Distress and Safety System
(GMDSS); aeronautical mobile
service and radiodetermination
service)

23–27 October (Geneva)
Working Party 8F (IMT-2000 and
systems beyond IMT-2000)

23–31 October (Geneva)
Working Party 1A (Spectrum
engineering techniques)

23–31 October (Geneva)
Working Party 1B (Spectrum
management methodologies)

23–31 October (Geneva)
Working Party 1C (Monitoring
spectrum)

23–31 October (Geneva)
Task Group 1/5 (Unwanted
emissions and the modification
of Recommendation ITU-R
SM.328-8 concerning out-of-band
emissions)

24–25 October (Geneva)
Task Group 6/6 (Recommendation
for a digital broadcasting standard
below 30 MHz)

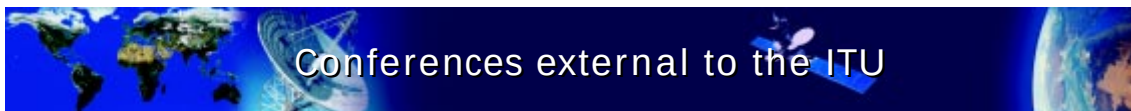
26 October (Geneva)
Study Group 6 (Broadcasting service)

30–31 October (Geneva)
Study Group 8 (Mobile
radiodetermination amateur and
related satellite services)

1–2 November (Geneva)
Study Group 1 (Spectrum
management)

6–10 November (Geneva)
Radiocommunication Seminar

20–24 November (Geneva)
Radio Regulations Board (RRB)



2000

11–13 October (Barcelona, Spain)
UMTS 2000 — The next generation of mobile
Tel.: +44 207 453 5495
Fax: +44 207 636 1976
E-mail: cust.serv@informa.com
<http://www.umtscongress.com>

22–24 October (Manama, Bahrain)
GSM in the Middle East and Gulf incorporating 3G
Tel.: +44 207 453 5495
Fax: +44 207 636 1976
E-mail: cust.serv@informa.com
<http://www.ibctelecoms.com/gsmgulf>

23–25 October (Sarajevo)
BIHTEL 2000 — Telecommunication networks
Tel.: +387 71 654 972
Fax: +387 71 654 972
E-mail: bihitel@etf.unsa.ba

25–26 October (London)
Digital broadcasting technologies
Tel.: +44 207 453 5495
Fax: +44 207 636 1976
E-mail: cust.serv@informa.com
<http://www.ibctelecoms.com/digtech>

31 October–2 November (New Delhi)
India Telecom 2000 — Conference on emerging telecommunication opportunities in India
Tel.: +1 617 232 3111
Fax: +1 617 734 8562
E-mail: info@igigroup.com
<http://www.igigroup.com>

1–2 November (London)
Testing mobile networks
Tel.: +44 207 453 5495
Fax: +44 207 636 1976
E-mail: cust.serv@informa.com
<http://www.ibctelecoms.com/testing>

6–7 November (Brussels)
Global mobile roaming
Tel.: +44 207 453 5495
Fax: +44 207 636 1976

E-mail: cust.serv@informa.com
<http://www.ibctelecoms.com/roaming2000>

6–8 November (Barcelona, Spain)
Submarine communications
Tel.: +44 207 453 5495
Fax: +44 207 636 1976
E-mail: cust.serv@informa.com
<http://www.submarinecomms.com>

14–16 November (Maastricht, Netherlands)
Convergence 2000
Tel.: +44 124 488 1777
Fax: +44 124 488 1666
<http://www.convergenceeurope.com>

21–22 November (Cape Town, South Africa)
GSM in Africa
Tel.: +44 207 453 5495
Fax: +44 207 636 1976
E-mail: cust.serv@informa.com
<http://www.ibctelecoms.com/gsm africa>

27–28 November (London)
Digital set top devices
Tel.: +44 207 453 5495
Fax: +44 207 636 1976
E-mail: cust.serv@informa.com
<http://www.ibctelecoms.com/settopdevices>

27–29 November (Amsterdam)
Interconnection 2000
Tel.: +44 207 453 5495
Fax: +44 207 636 1976
E-mail: cust.serv@informa.com
<http://www.ibctelecoms.com/interconnection>

27–30 November (Seville, Spain)
WAP Congress 2000
Tel.: +44 207 453 5495
Fax: +44 207 636 1976
E-mail: cust.serv@informa.com
<http://www.wapcongress.com>

2001

14–18 January (Honolulu, HI)
23rd Annual Pacific Telecommunications Conference — PTC2001:

From convergence to emergence: will the user rule?

Tel.: +1 808 941 3789
Fax: +1 808 944 4874
E-mail: ptc2001@ptc.org

8–9 February (Beirut)
The 3rd Arab-International Telecommunication Conference
Tel.: +961 1 780 200
Fax: +961 1 780 205
E-mail: ibe@aiewagrp.com
<http://www.aiwa-con.com>

20–22 February (Zurich, Switzerland)
EMC Zurich '01 — The 14th International Zurich Symposium and Technical Exhibition on Electromagnetic Compatibility
Tel.: +411 632 2790
Fax: +411 632 1209
E-mail: gmeyer@nari.ee.ethz.ch
<http://www.nari.ee.ethz.ch/emc/>

1–4 March (Beirut)
ARABCOM 2001 — The 4th Annual Arab International Telecom Development Congress and Exhibition for the Middle East and Arab States
Tel.: +961 5 450 212
Fax: +961 5 455 477
E-mail: ktayar@arabcom.com
<http://www.arabcom.com>

21–23 March (Pragati Maidan, New Delhi)
Convergence India 2001
Tel.: +91 11 463 8680
Fax: +91 11 462 3320
E-mail: exhibitionsindia@vsnl.com
<http://www.exhibitionsindia.org>

17–20 April (Toulouse, France)
19th International Communications Satellite Systems Conference
Tel.: +33 5 6128 2388
E-mail: christine.correcher@cnes.fr