



INTERNATIONAL TELECOMMUNICATION UNION

**TELECOMMUNICATION
DEVELOPMENT BUREAU**
ITU-D STUDY GROUPS

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STUDY GROUPS 1 AND 2

SOURCE: TELECOMMUNICATION DEVELOPMENT BUREAU (BDT)

TITLE: YEAR 2000 PROBLEM AND TELECOMMUNICATION

I BACKGROUND

The Year 2000 problem refers to a situation where the software and systems (including firm-ware) embed the date as a two-digit number. The potential problems relate to:

- Use of two-character year fields and 00 being translated as 1900 rather than 2000;
- Year 2000 being a leap year (whereas most century years are not); and
- Traditional use of 9/9/99, 00, 99 to signify special events or unique occurrences.

The result is that much of this software and hardware, if not adapted correctly, will fail, or result in errors. The consequences may range from irritating to the catastrophic. Potentially the problems affect all software and embedded microprocessors (chips) which have any date awareness or dependency. This problem affects telecommunications networks, utilities such as electricity, gas, water, transport, building access security systems, production lines, etc.

Assessment of the problems that could affect the reliability and performance of the networks and operations and support systems, and ensuring that measures are taken to implement compliant solutions are matters of high priority. Ensuring Year 2000 compliance, however will require significant resources. Planning, evaluation, correction, testing and implementation are resource intensive. Cost is not the only problem, however - time and expertise are the scarcest resources. The deadline is immovable and there is scarcity of experts to undertake the task.

The magnitude of the problem is put into perspective by the following observation: "every company, every government agency, and every organization that has looked into the problem has found that it is more complicated, more serious, and more costly than originally estimated." (William Kennard, Chairman US FCC in a testimony to the US Senate 28 April, 1998). Analysts believe that the Year 2000 problem will be the single most significant event in the information technology services industry.

II ITU YEAR 2000 TASK FORCE

ITU-T Study Group 2 (Network and Service Operation), at its meeting (3-13 March 1998) established, on behalf of the whole ITU, a Year 2000 Task Force and appointed Mr R Balls of British Telecom as its Chairman. The mandate of the Task Force is to raise awareness of all telecommunication operators and carriers of the Year 2000 problems and to provide advice and information on how best to overcome potential difficulties associated with the change to the new millennium. The activities of the Task Force are carried out through five sub-groups: inter-carrier testing; information management; assistance to developing countries; contingency planning; and relations with other groups. The attached presentation recounts the activities of the Task Force.

III BDT ACTIVITIES

In response to the decision of the WTDC (Valletta, 1998) and in agreement with the Chairman of the ITU-D Study Group 2, it was agreed that the BDT address the Year 2000 issues in terms of providing assistance to developing countries through dissemination of information which would enable awareness raising, project management know-how, contingency planning and coordination with suppliers and with the operators who have established Year 2000 programmes. BDT is actively collaborating with the TSB and participating in the ITU Year 2000 Task Force in the capacity of chairing the assistance to developing countries sub-group.

The BDT activities address information dissemination through:

- a) Encouraging developing countries to respond to the self-assessment questionnaire developed by the ITU Year 2000 Task Force;
- b) Organizing regional workshops to bring together operators and administrations, suppliers and operators with established Year 2000 programmes for raising awareness and dissemination of project management know-how;
- c) Collaboration with other organizations, viz infoDev Programme of the World Bank;
- d) Provision of expert support to countries requesting assistance in launching their Year 2000 programmes, in conjunction with the Year 2000 Task Force;

The BDT is also currently engaged in the preparation of a study, in collaboration with the infoDev Programme, estimating the costs of Year 2000 remediation programme in the telecommunication sector of the least developed countries of Africa. The Annex contains a brief note on the BDT Year 2000 activities.

ANNEX

BDT Work Programme on the Year 2000 Problem

Background

Telecommunications are critical to the operations of nearly every public and private-sector organization. All other major sectors banking and finance; transportation; utilities; and manufacturing and small business rely on it. Telecommunication are central to national security and law and order. The possible impact of the Year 2000 problem on telecommunications and the consequent circular impacts on other key infrastructures are matters of concern.

Nature of the Problem

Undertaking the Year 2000 compliance programme has been described by one of the largest telecommunication companies, as possibly the most critical project in the company's history. Another company described it as a gigantic task.

Telecommunications is a highly information technology dependent sector. Telecommunication networks are computerised at every level. Thus aspects of network components, operational support systems, facilities such as satellite earth stations, submarine cable frontier stations, and building and security systems - all of these must be checked for the Year 2000 vulnerabilities. Experts estimate that Year 2000 issues will be found on 50-80 per cent of systems and hardware. The only way of assessing Year 2000 impact will be through detailed internal surveys of possible effected equipment and software. In order to ensure that they do not malfunction or suffer outages, the effected equipment and software programmes throughout the network must be checked for two digit date fields and fixed **where appropriate**. Such checking and repairing and replacing software and equipment can be extremely expensive and the costs are expected to **increase as the scale of the issues gets longer**. As of March 1998, seven telecommunications companies in the United States have estimated a combined expenditure of over \$2 billion for Year 2000 compliance.

Experts estimate that telecommunications may well be the most Year 2000 problem intensive sector in developing countries. The situation in the developing countries as to the Year 2000 preparedness varies. However, surveys indicate that a large number of developing countries and in particular the least developed countries are unaware or have not started a compliance programme. Equally significant number of countries suggest that they are addressing the problem but are encountering difficulties. Developing countries are handicapped by lack of awareness as well as expertise and finances. **Some visibility of this has been obtained from the recent ITU Questionnaire and those who have not completed it are encouraged to do so.**

The issue of global preparedness is receiving constant attention at the ITU-T through a Year 2000 Task Force under the auspices of its Study Group 2. The objectives of the Task Force are *inter alia* : to raise the awareness of all telecommunication operators, and to provide advise on compliance standards; establish the position of operators as to the time-scales for compliance; and promote the cross fertilization of Year 2000 best practice amongst the membership.

BDT Programme

The WTDC (Valletta, 1998) has placed the matter on the BDT agenda as a matter requiring urgent attention. The Bureau of Telecommunication Development (BDT) has finalized an action programme in this respect in close collaboration with the Telecommunication Standardization Bureau and the ITU Year 2000 Task Force.

In view of the potentially damaging consequences for social, economic and even political systems of countries, an important aspect of this programme is raising awareness of the operators and administrations in the developing countries to enable operators to fashion a strategy given the nature and scope of the problem. Given the fact that the deadline is immovable it is essential that the programmes are established immediately.

The BDT proposes to build on the good-will of the ITU-D Sector members by organizing workshops on a regional basis. The leading operators who have extensive experience in this area would share their experiences in managing their Year 2000 programmes. The operators in the region will be able to interact with the suppliers in order to find acceptable solutions.

The main objectives of the workshops are:

- a) Generate awareness about the implications of the problem;
- b) Initiate and strengthen information sharing between operators with established programmes and the developing countries;
- c) Promote and strengthen effective supplier relations; and
- d) Assist the developing countries by providing information, standards, tools and techniques in evolving strategies and developing action plans to manage successful compliance programmes, including contingency plans.

The Bureau of Telecommunication Development is collaborating with the *infoDev* programme of the World Bank in this project. A number of workshops are envisaged over the next three months in different regions.

Workshop Issues

The workshop will address the following issues:

- awareness at several levels;
- issues of programme management;
- identifying and inventorying effected equipment and software;
- development of strategy to address the issue;
- supplier relations;
- repairing and replacing;
- testings;
- contingency planning.

Participants

- **Administrations and Operators;**
- **Major Vendors;**
- International and regional satellite organizations.

Workshop Programme

Pretoria, S. Africa - 17-18 September 1998

Rabat, Morocco - 21-22 September 1998

Cairo, Egypt - To be decided

South America - To be decided

Russia & CIS countries - To be decided

Asia & the Pacific - To be decided

Project Support

The BDT has responded to the request of administrations for expert assistance in launching their Year 2000 compliance projects in conjunction with the Year 2000 Task Force. A major study, in collaboration with the infoDev Programme, to estimate the resource requirements of the Year 2000 programmes the least developed countries is underway to provide the basis to seek emergency funding.

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