



INTERNATIONAL TELECOMMUNICATION UNION

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

**Document 2/089-E
15 July 1999
Original: English only**

SECOND MEETING OF STUDY GROUP 1: GENEVA, 30 AUGUST - 3 SEPTEMBER 1999
SECOND MEETING OF STUDY GROUP 2: GENEVA, 6 - 10 SEPTEMBER 1999

FOR ACTION

Question 16/2: Preparation of Handbooks for developing countries

STUDY GROUP 2

SOURCE: ASSOCIATE RAPPORTEUR, QUESTION 16/2

TITLE: REPORT ON THE ACTIVITIES IN PREPARATION OF THE HANDBOOK ON
NEW TECHNOLOGIES AND NEW SERVICES

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Action required: The Group is invited to give its opinion on further work to be carried out in order to produce rapidly this Handbook.

Abstract: The document presents the proposed new structure of the Handbook on new technologies and new services with the dates of publication.

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Contact point: Mrs. N. Gospic, Community of Yugoslav PTT (ZJPTT),
Tel. +381 11 3210324, Fax +381 11 636917,
e-mail: ngospic@telekom.yu/ngospic@ptt.yu

Introduction

During the last meeting of the ITU-D Study Group 2 (SG2), it was decided to review once more by end of 1998 the contents and subjects of the Draft Handbook "New Technologies and New services". During the September meeting it was also decided to hold an informal meeting of the Rapporteur's Group on Question 16/2. The meeting was held in Geneva on 5 March 1999. The received comments have led to necessary changes to be proposed in the contents and subjects of the Handbook. After reviewing the comments, contributions and open questions on the Handbook, it was concluded that it is too complex and ambitious to draft a handbook which comprises all aspects of telecommunication technologies and services. That is why it was recommended to split the initial Handbook into 4 fascicles, each dealing with a specific subject with the following titles:

- Fascicle H.1. **"New technologies supporting new networks"**
- Fascicle H.2. **"Telecommunication systems and networks and services"**
- Fascicle H.3. **"Digital IP based networks and services"**
- Fascicle H.4 **"Radio and TV Networks and Services"**

This modular structure will make further amendments and improvements of the Handbook easier due to permanent changing of technologies. The General introduction of the Handbook and contents of each fascicle are contained in Annex 1.

The responsible person for finalizing the fascicles is: Mrs. Natasha Gospic, CYPTT, Palmoticeva 2, 11001 Belgrade, *email:ngospic@ptt.yu, or ngospic@telekom.yu.*

The BDT Secretariat and the Chairman of SG2 addressed the request for contributions to the experts from telecom companies (PTO and industries). These contributions should reach the ITU either by the end of June 1999 (H.1) or by the end of September 1999 (H.2 and H.3). The first draft of Fascicles H.1, H.2 and H.4 should be ready by December 1999 and of fascicle H.3 by the end of February 2000.

ANNEX 1

GENERAL INTRODUCTION

1.1. Historical background

In the world development towards GES and GES, the telecommunications sector is expected to play a major role in leading industry into the 21st century. To meet the requirements of the 21st century and close the communication gap between the industrialized and developing countries, the sharing of knowledge in telecommunications technology and services is very important step. The World Development Telecommunication Conference (WTDC), held in Valetta in 1999, established two Study Groups with, inter alia, the following term of reference:

- ◆ Prepare recommendations, opinions, guidelines, handbooks, manuals and reports within each Study Group's area of competence.

In particular, Question 16/2 of Study Group 2 has the objectives to prepare the Handbooks or revise the existing ones in order to spread knowledge and know-how in these fields. The Handbook "NEW TECHNOLOGIES AND NEW SERVICES" is one way of realizing these objectives.

1.2. Purpose of the Handbook

The rapid development of telecommunications from technological to market aspects introduces everyday new products, equipment, systems, networks and services. It is somewhat ambitious to attempt that this Handbook will comprise all aspects of telecommunications matters and fulfil the needs off all players in the telecommunications arena.

The aim of the Handbook is to provide a survey of technologies and services taking place in the changing telecommunication environment, by presenting the general characteristics and capabilities that various networks and services offer on the market, but not dealing with technical details that are subjects of standardization. The reviewed technologies and services are compliant with the ITU recommendations.

1.3. Who should read the Handbook - the target readers of the Handbook?

The Handbook is specially recommended to managers and both planning and technical experts of telecom incumbent operators and national regulators of telecom companies and regulators in developing countries and LDCs. Managers should use this information to overview or to develop concepts for long-term strategies. Technical managers and experts should extract the deployment of networks that will support the new and global services expected by the 21st-century users. Regulators, specially newly established ones, should be supported to create an environment in

which innovations by various players can be encouraged without applying constraints, other than those needed to create productive competition. Other players will also benefit from the prepared material for improvement of their market access.

1.4. Why the Handbook is necessary?

The Telecommunication Sector has gone through radical changes in the last decade, driven by an increasingly global and liberalized market in which the control of network capabilities has become a strategic competitive factor to satisfy the everyday increased requirements of customers. The fast evolution of network intelligence is driven mainly by the convergence between telecommunications and information technology developing various multimedia services. Due to that, telecommunication networks are becoming and will become increasingly complex and challenging to be implemented and operated. Moreover, it will be more and more important to possess the competence necessary to integrate high capacity and intelligent solutions into the existing networks to meet end-user requirements and cost efficiency.

Three most important requirements that have to be met by the improvement of the existing or newly-planned networks are:

- ◆ *More capacity,*
- ◆ *More power and*
- ◆ *More efficiency.*

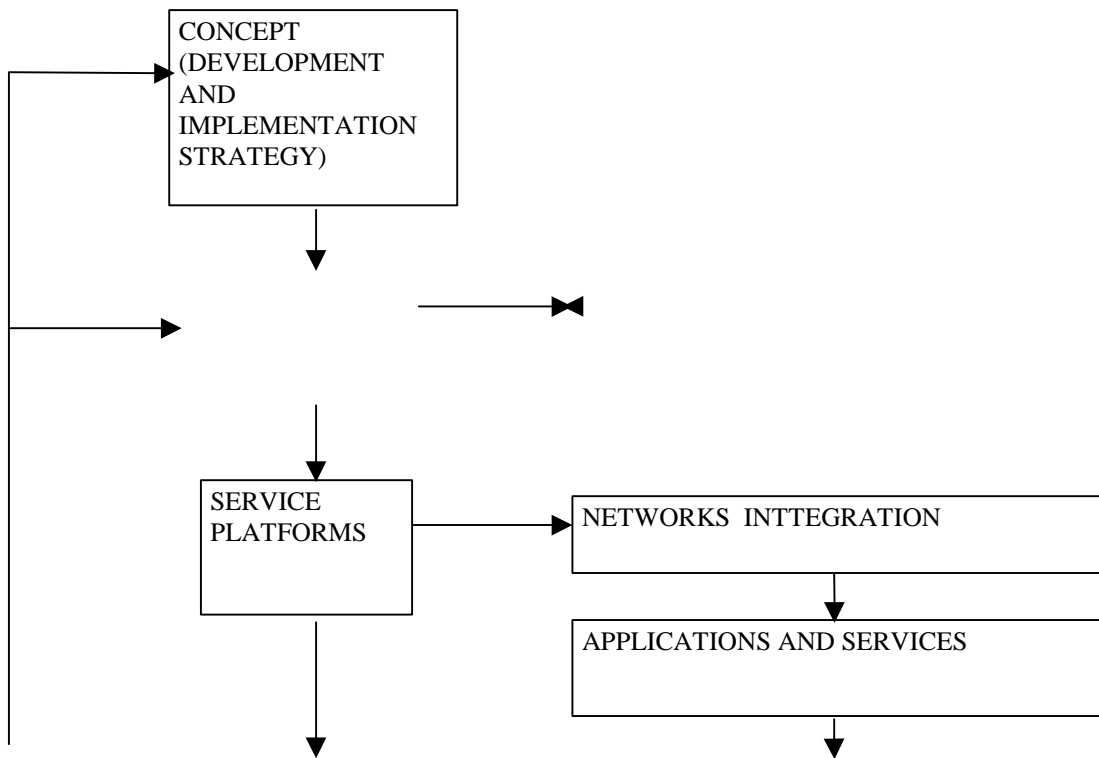
To summarize these driving forces, and discuss as a basis in the subject of the Handbook, we can say that:

- ◆ With insufficient capacities network operators cannot satisfy the users' demands, even for the universal service and especially, for new and high quality services. However, appropriate planning of new technologies, creating more capacity in the telecom networks should be used to optimize this investments.
- ◆ Possibilities of new technologies to build up more intelligent capabilities in telecom equipment will give more power to network operators and service providers in generating new value-added services and increasing IN traffic. Estimation of customers needs would be a powerful tool to win competition, only if it is done in time.
- ◆ Development of new network management concepts, comprising operation, administration, and maintenance and planning, leads to better operational efficiency and maintenance organization. An objective picture of network elements, networks, services and businesses will improve day-to-day operations and network performances, thus fulfilling customers' expectations for a higher quality of services as the target.

These requirements have been the leading ideas in developing the subject of this Handbook. To understand the use of the Handbook, it is necessary to take into consideration of the basic management principles of the telecommunication business. Three categories can characterize the successful management of telecommunications:

- ◆ Time to market
- ◆ Time to customer
- ◆ Quality assurance

Figure 1. Technology and Service platform



In order to make these categories optimal, the appropriate concept in developing and implementing business strategies should be applied. This concept defines technology and services platforms as it is shown in Figure 1 above.

Technology platform is used to configure the network taking into account that it is necessary to assure a high degree of network configuration stability over long period of time. Service platform will depend on the network solutions, which provide sufficient flexibility to meet evolutionary demands. Both of these platforms are the subjects of the Handbook and depending on reader`s interest (telecom operator, national regulator or service provider), specific subject can be found in different parts of the Handbook.

1.5. Handbook structure

The complexity of telecommunications matters and different groups of readers require the Handbook structure to follow a certain pedagogical way. It will enable the reader to find easily information on a certain part of a subject. The structure is, also, adapted to fast changes in

telecommunications and to the situation that some subjects are still under study. In each fascicle there is the Handbook consisting of four parts, each part is prepared as separate fascicle (volume). In each fascicle there is a Chapter 1 dealing with a general review and links to other fascicles. Also, one part in this Chapter always deals with the most important standards and gives reference to the existing Handbooks or guidelines or Handbooks under preparation. The Handbook structure is shown in Figure 2. The detailed contents of the fascicles are shown at the beginning of each fascicle. A brief presentation of the fascicles as part of the Handbook is given in figure 2 below.

Fig. 2. **The Handbook structure**

FASCICLE				
Chapter	H.1	H.2	H.3	H.4
	NEW TECHNOLOGIES SUPPORTING NEW NETWORKS	TELECOM SYSTEMS, NETWORKS AND SERVICES	DIGITAL IP BASED NETWORKS AND SERVICES	RADIO AND TV NETWORKS AND SERVICES
1.	Introduction and general review	Introduction and general review	Introduction and general review	Introduction and general review
2.	New transport media technologies (optical fibers, radio, satellite)	Digital switched networks and services (PSTN, ISDN, IN, X.25, Frame relay, ATM)	Internet protocol-IP	Digital audio broadcasting
3.	Digital switching systems, ATM, Signaling systems, Synchronization Methods	Satellite networks	Internet	Digital television broadcast services
4.	Digital transmissions (SDH, WDM, ATM, xDSL...)	Mobile digital cellular systems, networks and services	E-Commerce	Planning strategies for digital television broadcasting

Chapter	H.1	H.2	H.3	H.4
5.		Local (access) networks)		MVDS, MDDS
6.		Network and		

		service management		
7.		Planning aspects		
8.		HRD		
9.		Financial and economic Aspects		
10.		Case studies and Annexes		

PROGRESS REPORT

Chapter	FASCICLE H.1	Addressee	Deadline	Comments
	NEW TECHNOLOGIES SUPPORTING NEW NETWORKS			
1.	Introduction and general review		When all contributions are received	
2.	New transport media technologies (optical fibers, radio, satellite)	Mr. F. Rahe, Alcatel Mr. R. Parlow, Iridium Mr. C. Hyde, ICO Global Communications	June 1999 June 1999 June 1999	We need a contributor to cover issues relating to radio aspect.
3.	Digital switching systems,		June 1999	No contribution received We need a contributor
4.	New signaling systems and SS No7	Mr. Distler, France		
5.	Synchronization methods	Mr. Y. Shmaliy, Ukraine	June 1999	
6.	Digital transmissions (SDH, WDM, ATM, xDSL...)	W. Widl, Sveden (SDH, WDM, ATM)	June 1999	For xDSL, no need to prepare another Chapter. A reference book is under preparation, It could become a report on Question 12/2.

Chapter	FASCICLE H.2	Addressee	Deadline	Comments
	TELECOM SYSTEMS, NETWORKS AND SERVICES			
1	Introduction and general review		When all contributio ns are received	
2	Digital switched networks and services (PSTN, ISDN, IN, X.25, Frame relay, ATM	Mr. L. Chae Sub Chairperson, ITU-T, WP 1/13 Mr. F. Rahe, Alcatel	June 1999 June 1999	
3	Satellite networks	Mr. R. Parlow, Iridium Mr. C. Hyde, ICO Global Communications	June/July 1999 June/July 1999	We need Mr. Bairi's contribution
4	Mobile digital cellular systems, networks and services	Mr. J. Costa, Nortel Networks	Sept. 1999	There are two handbooks available on both subjects.
5	Local (access) networks	Mr. J. Costa, Nortel Networks	Sept. 1999	
6	Network and service management	Mrs. N. Gospic, Community of Yugoslav PTT	June 1999	
7	Planning aspects	Mr N. Kisrawi	September 1999	Corrections of the existing document
8	HRD			No reply We need Mr Herreara' contribution
9	Financial and economic aspects	Mr. N. Kisrawi, Chairman ITU-D SG2	June 1999	Adaptation of the existing document
10	Case studies and Annexes			Documents exist. it will be amended with Mr. Ghazal document

Chapter	FASCICLE H.3	Addressee	Deadline	Comments
	DIGITAL IP BASED NETWORKS AND SERVICES			<i>No positive reply from all the addressees - it is suggested not to prepare this fascicle and to recommend the use of “Internet for Development” which contains valuable information</i>
1	Introduction and general review			“
2	Internet protocol-IP			“
3	Internet			“
4	E-Commerce			“

Chapter	FASCICLE H.4	Addressee	Deadline	Comments
1.	Introduction and general review	Mr. A. Magenta, Chairman ITU-R SG10 Mr. M. Krivocheev, Chairman ITU-R SG11	Sept. 1999 Sept. 1999	
2	Digital audio broadcasting	Mr. A. Magenta, Chairman ITU-R SG10 Mr. M. Krivocheev, Chairman ITU-R SG11	Sept. 1999 Sept. 1999	
3	Digital television broadcast services	Mr. A. Magenta, Chairman ITU-R SG10 Mr. M. Krivocheev, Chairman ITU-R SG11	Sept. 1999 Sept. 1999	
4	Planning strategies for digital television broadcasting	Mr. A. Magenta, Chairman ITU-R SG10 Mr. Om. P. Khushu, ABU	Sept. 1999 Sept. 1999	
5	MVDS, MDDS			Document exists.