INTERNATIONAL TELECOMMUNICATION UNION
Telecommunications Development Bureau (BDT)

ITU-BDT Regional Network Planning Workshop with tool Case Studies for the ARB Region

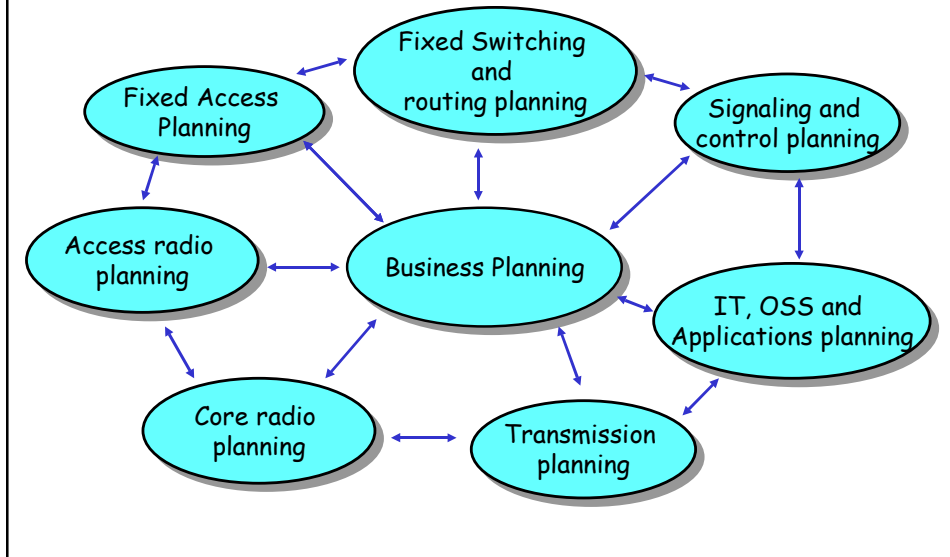*Cairo, 16-27 July 2006*

ITU-BDT Approach on Network Planning

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ITU Vision on Network Planning

- Telecommunication networks architectures are changing to meet new requirements for a number of services/applications (Broadband, IP, Multimedia, mobile, etc.).

- New generation equipment (soft switches, databases, service controllers, new protocols and interfaces, etc.) and new call/mix traffic cases are going to be introduced in the networks.

- Different solutions/network architectures can be taken into account for a smooth transition from existing network infrastructures (PSTN/PLMN) towards New Generation Network (NGN) as a result of the convergence process leading to different applications/services sharing network infrastructures.

Planning Domains

Planning Strategy

- Considering the different solutions/network architectures that exist, each Network Planning case has to be analysed and dealt with by using more than just one planning tool.

- It means that maintaining and updating a unique tool is not the correct strategy to be applied for Network Planning.

- The major concerned telecommunication Companies normally use different tools (or different packages integrated on a unique platform) for network Planning. They usually rely on the services of software companies who are in a position to provide quick updates as soon as required.

- Therefore, countries' requests for assistance on Network Planning should be dealt with as follows:

Planning Exercise

- a)   First, to analyse the Network Planning case, taking into account the different technical aspects of the issue.
- b)   Second, after reaching the best solution in terms of cost and technical validity, to look for the appropriate tools (partnership) to be used for the specific Network Planning case.
- c)   Implementation of the Project under the coordination and/or supervision of ITU-BDT.

ITU Partnership for Network Planning

- Use of Tools for Training and Trials

- Use of the Tools for assisting the countries for network Planning

- Availability of the Tools at preferential conditions for developing countries

	INTERNATIONAL TELECOMMUNICATION UNION	
ITU	**TELECOMMUNICATION DEVELOPMENT BUREAU**	**Document GNPT**
		17 August 2005
		Original: English only

**Guidelines for Network Planning Tools
for Developing Countries and Countries
with economies in transition**

Reference Document
Final draft version 1.1

August 2005

ITU, Geneva, 2005

Guidelines for Network Planning Tools - GNPT

The GNPT is intended to be used by network planning experts and managers from telecom operators, policy makers and regulators to facilitate the selection and the choice of appropriate Network Planning Tools   needed for the development of their respective strategies for evolution of the present network architectures and transition to the next generation networks - NGN.

Main Characteristics and Features of planning tools

- **Capability to model modern technologies and technical requirements**

- **Commercial availability**

- **Capability to interrelate different planning tools**

- **Explicit documentation of models, inputs and results**

- **Commitment for periodical updates and maintenance**

- **Training program with reference cases**

- **Validation process for a range of cases**

- **Being well proven in the field**

INTERNATIONAL TELECOMMUNICATION UNION

TELECOMMUNICATION   **Document NPM/3.1**
DEVELOPMENT BUREAU   **28 February 2006**
                                             Original: English only

**Telecom Network Planning for evolving
Network Architectures**

Reference Manual

Draft version 3.1

February 2006

ITU, Geneva, 2006

Manual on Network Planning

The Reference Manual is intended for use by network planning experts from telecom operators, policy makers and regulators to facilitate the development of their respective strategies for evolution of the present network architectures and transition to the next generation networks - NGN.

The Reference Manual on the Telecom Network Planning for evolving Network Architectures intends to present an objective and technology neutral view of the issues to be addressed in the planning of the transition to NGN.

Content of the NP Manual - Chapters

1) Introduces aspects that a planner is confronted with when taking decisions on what to do in the network evolution, when to perform the changes, how to perform the corresponding actions and which processes to follow.

2) Addresses the needed modelling and characterization of services that is required for the planning activities; givesgeneric traffic characterization.

3) Gives an overview on the economic modelling for planning and different evaluation procedures.

4) Gives models and methods used in the telecommunication network planning.

5) lists the main input data needed for network planning. Network planning, especially performed with NP tools, requires collection of numerous data

Content of the NP Manual – Annexes

Annex 1 presents a portfolio selection of planning tools to support different planning activities. The selection criteria are: capability to model modern technologies, commercial availability and being well proven in the field.

Annex 2 provides selection of most frequent case studies (ie: Network extension, transmission, signalling, migration to NGN, mobile, etc.) in order to illustrate the application process.

Annex 3 contains list with references and glossary of the most frequently used terms and abbreviations.

Objectives of this Workshop

This workshop aims at providing the PTO managers with expertise on Network Planning

The main objectives are :

- to enhance the operational practices with a more strategic and business -oriented approach.

- to help the decision making in the selection of appropriate solutions for network deployment and operation.

- to analyze most adequate tools to support and optimize the overall process.

Participants are trained :

- to **analyse-benchmark** the initial network situation

- to **define** an overall planning process

- to carry out **services- demand forecasts**

- to analyse network **alternatives and evolution**

- to **define** proper techno-economical plans based on business feasibility and given quality

- to **analyse** role of network planning tools in the planning and operational process

- to use different Network Planning Tools for different Network Planning cases