



# Network Planning Activities in Vietnam and RIPT Solutions

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## Services and Networks Technologies

- ❑ Services
  - ▶ PSTN based services
  - ▶ Non-voice services
- ❑ Fixed Networks Technologies
  - ▶ PSTN
  - ▶ Packet switching networks: IP, ATM
  - ▶ Transmission: SDH and WDM
  - ▶ Access Networks: Copper, WLL, Optical, ADSL
- ❑ Mobile Networks Technologies
  - ▶ GSM
  - ▶ GPRS and UMTS

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## Old Networks Planning Procedures

- ❑ **Planning locally**
  - ▶ Forecasting based on the company elastic plan
  - ▶ Experience based planning
  - ▶ No planning tools
  - ▶ Project is within a month
- ❑ **Foreign Consultancy**
  - ▶ Detecon, Telstra, NTT, France Telecom
  - ▶ Collected data are not always reliable
  - ▶ Huge cost

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## Software Tools and Methodologies

- ❑ **Tools**
  - ▶ PlanITU
  - ▶ NTT
  - ▶ Telstra
- ❑ **Methodologies**
  - ▶ Forecasting for voice services
  - ▶ Circuit based networks dimensioning and optimisation
  - ▶ Shortest path algorithm for PDH and copper cable networks
  - ▶ ITU-T approach is the bible

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## RIPT Experiences on Network Planning (1)

- ❑ **Training courses**
  - ▶ Abroad
    - ✓ Full support from DGPT Vietnam
    - ✓ 4.10.1993 - 19.11.1993: training course in Bandung
    - ✓ 16.11.1995 - 17.02.1995: Workshop in Delhi
  - ▶ In Vietnam
    - ✓ 20.03.1995 - 07.04.1995: Training course in Hanoi
      - 3 DGPT participants and 10 VNPT participants
    - ✓ 20.05.1996 - 25.05.1996
      - 2 P&T, 4 VNPT, 1 DGPT and 2 RIPT
    - ✓ 07.1999: Strategic Planning and Development Workshop (Part 1)
    - ✓ 09.1999: Strategic Planning and Development Workshop (Part 2)

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## RIPT Experiences on Network Planning (2)

- **1997- PlanITU Application on Designing SDH network**
  - ▶ Software tools from the training courses
  - ▶ Benefits from using PlanITU
  - ▶ Approaches to overcome the PlanITU drawbacks
    - ✓ Sliding windows
    - ✓ SDH models
    - ✓ Better visualisation by using AutoCad and MapInfo
- **1999-Present**
  - ▶ **NetPlan** development
  - ▶ VNPT permission
  - ▶ Hanam local networks planning project
  - ▶ Sharing experiences
    - ✓ RISTI (Indonesia)
    - ✓ ATT-TOT (Thailand)
    - ✓ Papua New Guinea, Cambodia, Laos, India
  - ▶ **NetPlan** updating

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## RIPT Experiences on Network Planning (3)

- **Why NetPlan?**
  - ▶ Network planning is a critical and challenging tasks for all network operators
  - ▶ Rapid advancement of new networks technologies and the introduction of advanced services pose new challenges to network planners
  - ▶ Commercially available network planning tools are usually expensive
  - ▶ Currently used tools are incapable of handling new technology, such as ATM, and not user-friendly
  - ▶ **A unified suite of planning tools as NetPlan is needed**

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## Conclusions

- **Planning in the past**
- **RIPT Solutions to a New Vision of Networks Planning**
  - ▶ Human resources development
    - ✓ Updating methodologies for network planners
    - ✓ Training for P&T network planners
  - ▶ Good selection of network planning tools
    - ✓ Commercial tools
    - ✓ Non-commercial tools
  - ▶ Regular update to **NetPlan** (*will be presented*)
  - ▶ Sharing the expertise
  - ▶ Project management
  - ▶ International publications

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