Session 4.4

Presentation of Network Planning tools, features, inputs/outputs for access and fixed networks needs - VPI

VPIaccessMaker™

Tool used for modeling business plans and feasibility studies for the deployment of access technologies
Planning tools - VPIaccessMaker Markets

**Market definition**
- Define services classes (service nature, bandwidth, SLA)
- Create customer classes (service mixes, tariffs, lines)
- Define density classes (as mixes of customer classes)
- Define planning period

**Evolution forecasting**
- Tariffs
- Market penetration and traffic prediction
- Component costs

**Demand mapping**
- Import maps
- Define service areas (sub urban, down town, etc)
- Geometrical modeling of service areas & site locations
- Model in-building networks
- Define outside plant cost regions for accurate cost modeling
- Import/ Export market demands

**Geomarketing results**
- Extensive and flexible user defined query system
- Results are displayed on the GIS (selected year)
- Results are displayed on annual tables & charts

Planning tools - VPIaccessMaker Technologies

**Technology modeling**
- Specification of network infrastructure
- Specification of network elements
- Specification of interfaces (upstream, downstream)
- Planning rules (bandwidth, distances, topology)
- Chains of nodes and links for topology modeling

**Network design optimization**
- Optimize clustering to satisfy bandwidth requirement
- Support of multiple technologies and constraints
- Cost regions
- Support of star and tree network topologies
- Considers legacy infrastructure

**Roll-out results**
- Calculate automatically all network costs
- Each element has its own set of results
- Multiple roll-out with different technologies
- Bill of materials
- Results are displayed on the GIS and tables / charts
**Planning tools - VPIaccessMaker Economics**

Financial calculations
- Project revenues
- Project cost structure
- Project cash-flows
- Project net present value

Scenario analysis
- Full geographical visualization of the business case
- Specification of network infrastructure
- Various scenarios can be compared in terms of the main economics indexes
- All data exportable to Excel

Return on investment from a deployment in a metro area

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**VPIserviceMaker™ Distribution**

Used to generate point-to-point traffic matrices based on various demographic and geographic assumptions
VPIserviceMaker™ Distribution

This tool can be used to estimate unknown traffic for the next planning period based on certain traffic growth assumptions.

![Traffic Matrix Example]

VPIserviceMaker™ Distribution

This tool offers an excellent means of generating an initial traffic matrix from uncertain data and offers various controls to perform what-if analyses.
VPItransportMaker™

This tool supports transport network design based on PDH, SONET/SONET, and optical networking technologies. VPItransportMaker™ can be used for planning metro and long-haul networks.

VPItransportMaker™

It covers a wide range of network architectures, including ring, mesh, and ring–mesh hybrids.
VPItransportMaker™

Using VPItransportMaker™, a planning engineer can optimize the network topology and determine the appropriate routing, protection, restoration, and equipment.

Distribution bandwidth
(leased STM1 lines)

VPItransportMaker™

Allows you to define a variety of technology, architecture, and network constraints that must be explicitly honored during the design. The tool also supports an analysis module for checking design results and for performing what-if analyses.

DWDM layer deployment