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VPIsystems™

Solving The Network Planning Challenge

Presented to the Regional Seminar on Evolving Network Infrastructures to NGN and related Planning Strategies and Tools for the CEE, CIS and Baltic States Belgrade (Serbia and Montenegro), 20 – 24 June 2005

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The Vision/Mission of VPIsystems

VPIsystems** is the **leading provider** of software solutions that streamline **network capacity planning** and **network engineering

- *VPI provides:*
  - ***Network Operators** solutions that streamline the processes of designing, deploying and optimizing their networks, saving significant CapEx and OpEx;*
  - ***Communications Equipment Vendors** with solutions that automatically design optimized equipment configurations in response to customer proposals and quotation requests, enabling a competitive sales advantage;*
  - ***Communications Equipment Vendors Subsystem Vendors** with software tools for optimizing engineering design*

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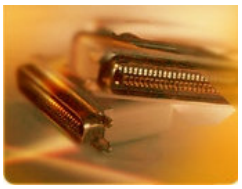
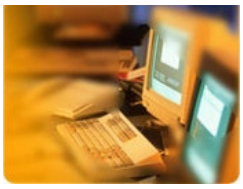
CUSTOMER BASE





40+ network operators

- Bell Canada
- Bell South
- AT&T Wireless
- Worldcom
- Vodafone
- Many European Operators

90+ equipment vendors

- Cisco
- Fujitsu
- Siemens
- Alcatel
- Huawei

20+ component vendors

- JDS Uniphase
- Hewlett Packard
- Lasertron
- Hitachi

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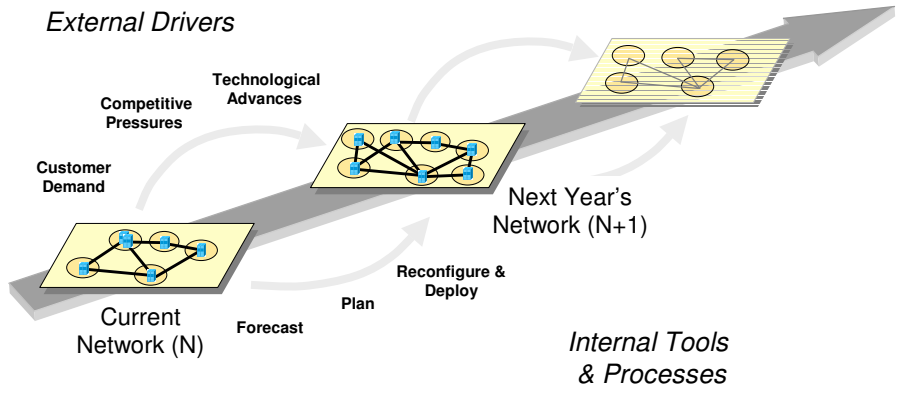
The Network — Your most valuable asset



Do you have a defined process to manage the network lifecycle, minimize CapEx and maximize profitability?

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Inefficient Network Planning and Engineering processes cost each carrier €Millions in CapEx and OpEx annually

- *Network capacity over-engineering*
- ***Poor design optimization***
- *Incorrect engineering plans, non-standard installations, older equipment installs*
- ***Poor consumption rules resulting in network hot spots***
- *No data flow through and process automation*

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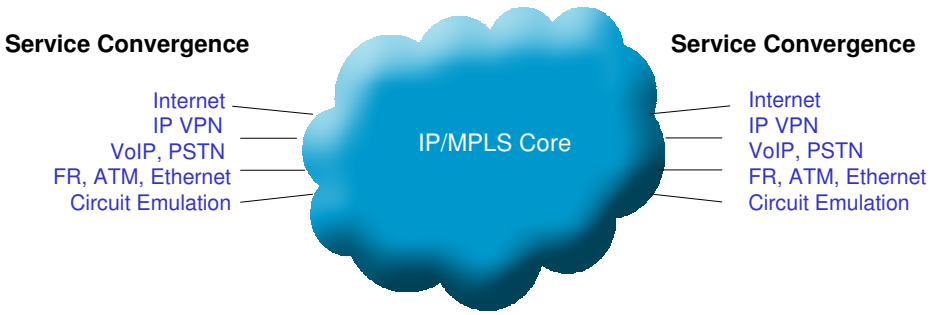
The challenge of MPLS enabled IP network planning



- How does every service map across the core?
- **What is the impact of services at each layer of the network, including fiber, Sonet/SDH, WDM, and IP?**
- How to do traffic engineering to off-load congested links?

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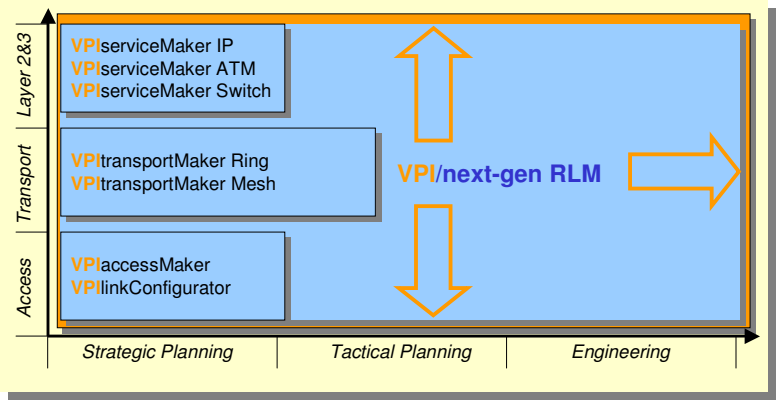
VPIsystems is the only software vendor with a cross domain view of network planning and engineering

- *Vertical integration: Layer 1, 2, & 3 Convergence*
- *Horizontal integration: Engineering Support Systems Domain*



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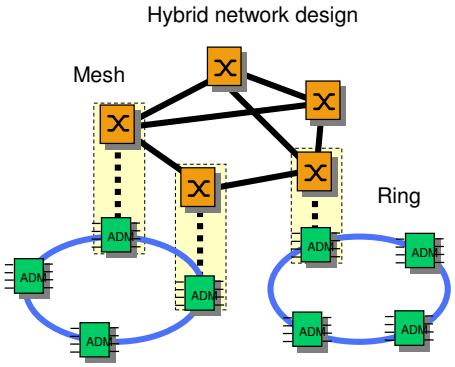
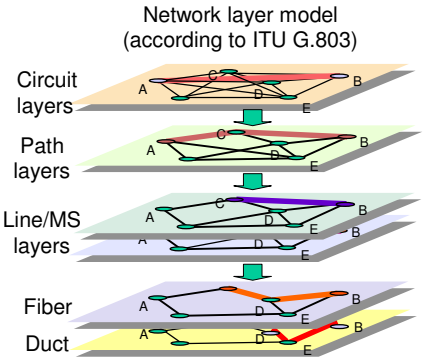
Consistent transport network design



Design cases:
- Hybrid mesh/ring network design
- SONET/SDH ring optimization
- Equipment library definition
- Network analyzing and reporting



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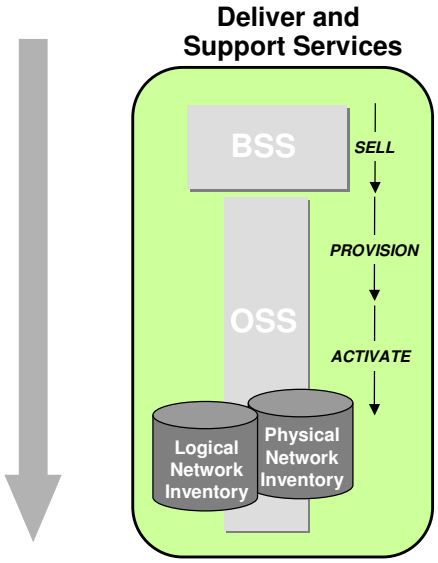
BSS/OSS: How network resources are consumed

…unified, mature, efficient



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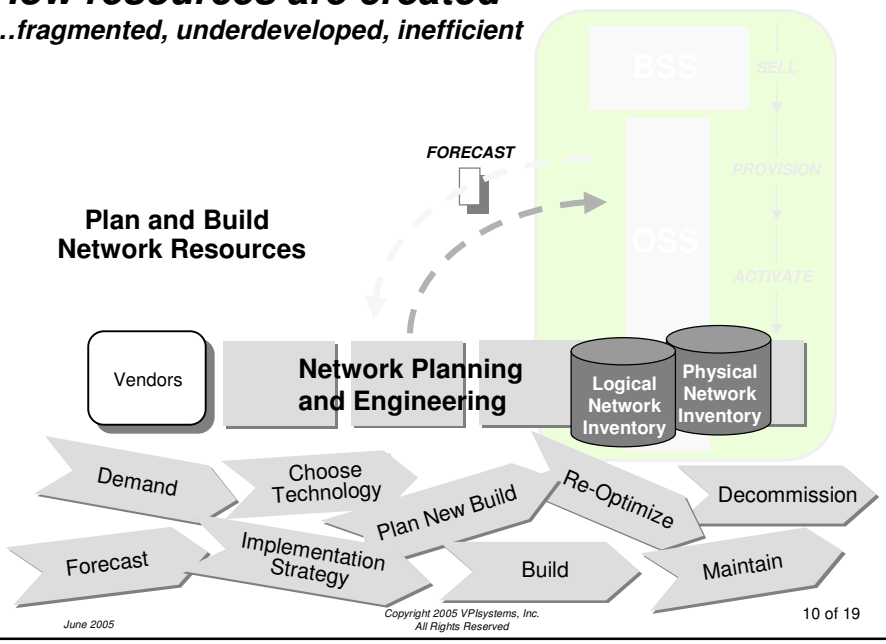
How resources are created

…fragmented, underdeveloped, inefficient



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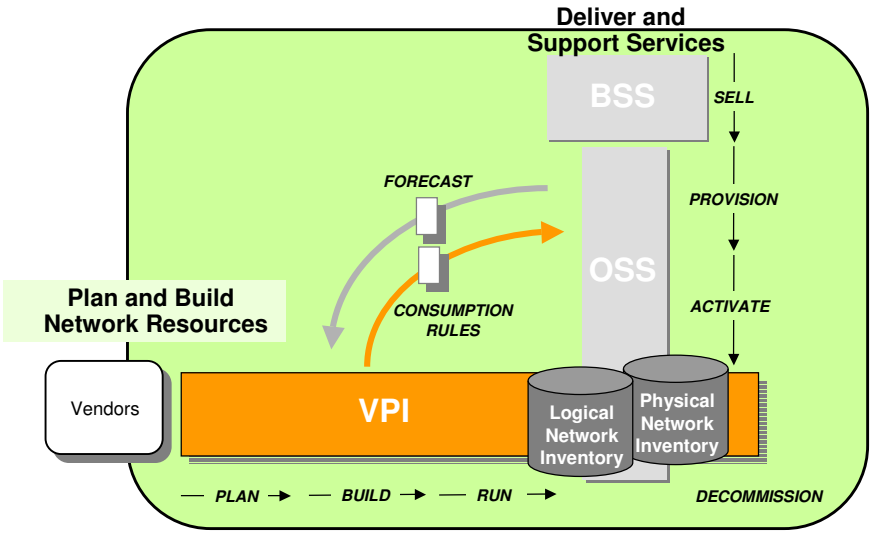
VPI in the telecom landscape



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VPI's Value Proposition

VPI automates your network infrastructure planning processes to

- ✓improve planning process efficiency
- ✓achieve higher asset utilization
- ✓>20% CapEx savings and accompanying OpEx savings

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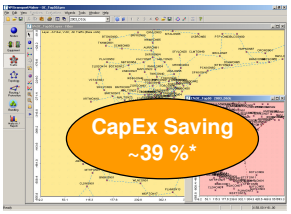
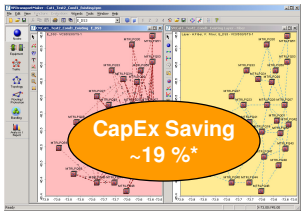
Top 20 Carrier predicted savings using VPIsystems

Results from actual Proof of Concept

1. *New Build*



2. *Re-optimization of existing rings*



Determined the cost of top 50 COs while applying 3 user defined routing rules :

- *Least Hop Routing*
- *Shortest Path Routing*
- *Minimum Cost Routing*

	Existing Network	Optimized Network
# of Modular Rings	19	14
Ring Technology	2F-BLSR	2F-BLSR
# of Nodes	27	25
Time Slot Assignment		
Design Methodology	Ring validation	Just ring deloading
# of ADMs	71	54
# of Pass Thru Nodes	45	38
# of Networkwide Wavelengths	116	92
Avg. Ring Utilization	39.64%	64.27%
ADM Fixed Cost	4,896,000	3,888,000
ADM Port Cost	290,200	316,600
Pass Thru Node Cost	45,000	38,000
Fiber Cost	717	589
Total Ring Layer Cost	5,231,917	4,243,189

Detail on next slide

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Detail from previous slide:

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Actual Top 20 carrier business case for VPIsystems

- IRR = 115%
- **Payback in under 12 months**
- 7% recurring CapEx savings for optimized new builds
- **1% annual realizable CapEx savings on embedded network optimization**

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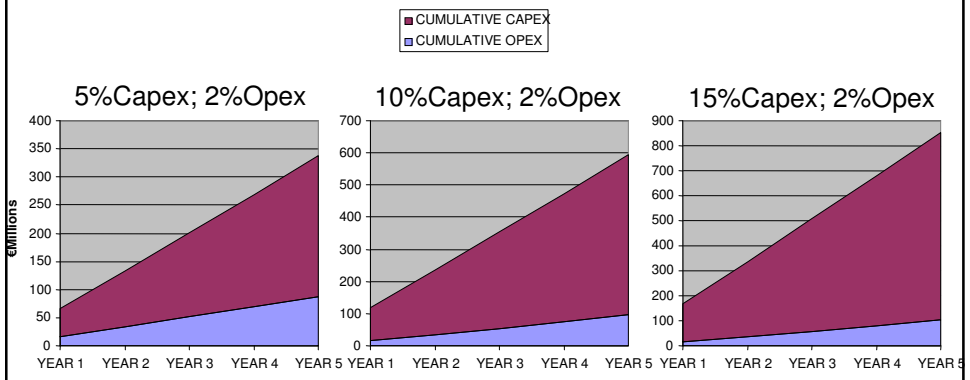
Carrier savings @ €1 Billion annual CapEx budget



5 Year Cumulative Savings
€340 Million

5 Year Cumulative Savings
€595 Million

5 Year Cumulative Savings
€850 Million

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Some typical problems solved by VPIsystems

- *How can I free up additional network capacity due to inefficient provisioning and gain more revenue?*
- ***How can I be sure that the network is not "over built" and minimize my new CapEx investment?***
- *How can I more efficiently plan a migration to VoIP and advanced IP services?*
- ***How can I plan my network migration to IP/MPLS, including true service redundancy and QoS?***
- *How can I anticipate and eliminate network hot-spots, and enforce network planning standards?*
- ***How can I reduce the cost of backhaul for my mobile network?***
- *How can I minimize the cost of my tariffed enterprise network designs?*

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Recent successes

- *Enabling a tier one carrier to implement their next generation initiative to migrate TDM/ATM network to IP and optimize their core transport layer*
- ***Enabled a tier one carrier to optimize infrastructure cost at the transport layer and save 20% CapEx for a €1 billion+ transport network***
- *Saved a wireless carrier €80 million annually by enabling them to selectively arbitrage selected long-haul traffic over owned facilities versus third party facilities*
- ***Enabled a tier one carrier to retain key enterprise customers by optimizing network designs to lower costs within existing tariff constraints***
- *Enabled a major IP network vendor to transform their 6,000 sales force into design experts, providing 20% lower price quotations for major RFPs and improving profit margins*

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In summary

- *We offer the only solutions for planning and optimizing network resources across all network layers*
- ***We are the leading vendor of Engineering Support Software solutions that streamline network planning and engineering***
- *Our solutions are business case proven - in both the carrier and equipment vendor markets, providing strong CapEx and OpEx benefits, high IRR and short payback periods*
- ***We offer the most comprehensive portfolio of network planning tools in the industry***

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Thank you

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