

*we care about your networks*



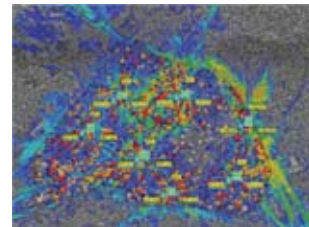
## Planning Tools

Telecommunications networks have become increasingly complex, architecturally and conceptually. Planning and designing a new network or expanding an existing network have never been more challenging.

Using the right tools not only produce better designs, but also ensure your network achieves faster time-to-market with less time and resources.

Telefocal Consulting offers various planning tools that will help you plan and design the ideal network for your business:

- MPLS Planning Tool
- Radio Access Network Planning Tool (GSM, UMTS, HSPA, WiMAX)
- Microwave Transmission Planning Tool
- SS7 Planning tool
- Digital Terrain Maps



## About Telefocal Consulting

Telefocal Consulting was established in 2001 to serve the telecommunications and information technology industry.

We have since expanded our client base to include government agencies, equipment vendors, and system integrators of various industries such as aviation and petrochemical.

Telefocal Consulting is committed to constantly provide businesses with technical expertise of the highest quality and professional support that enables businesses to grow bigger and faster.



**Telefocal Consulting Pte Ltd**

10 Ubi Crescent, #03-70  
Ubi Techpark, Lobby D  
Singapore 408564

T +65 6848 7860  
F +65 6846 7920

consult@telefocal.com  
www.telefocal.com

## Grooming Converged Networks

*Plan, Design, Integrate & Optimize*

by



we care about your networks

## Where is your business heading to?

Before introducing a new technology, telecommunications service providers may want to fully understand how it could bring additional value to their businesses.

More importantly, the expected return of investment (ROI) through implementing new technologies needs to be carefully assessed and understood in order to make informed decision.

## Maximize your investment

With new technologies, service providers are investing in upgrading their existing network infrastructure. But do these investment translate into revenue or profit in the long run?

At Telefocal, we help you optimize your existing network, making full use of existing infrastructure, thus saving precious resources for other avenues that warrant more immediate attention.

Do you really require re-investment when your current network infrastructure is not yet 100% utilized?

## Are you ready?

Demand for new mobile broadband multimedia services is increasing by the day. Presented in front of service providers are both challenges and opportunities.

What does it take to deliver quality services to your customers and retain customer loyalty at the same time?

- Do you have a migration strategy for circuit-to packet-switching networks?

Is your network ready to meet increased bandwidth demands? Would you be able to tap into the new potential revenue streams generated through new services requested by customers?

The time has come that calls for an emphasis on even better service innovation, network stability, scalability and robustness to cater to myriad service requests of end customers.

- How should you design your new network in the most cost-effective manner?

- What is your solution for seamless integration of the existing and new networks?

- Is your network fully tuned and optimized?

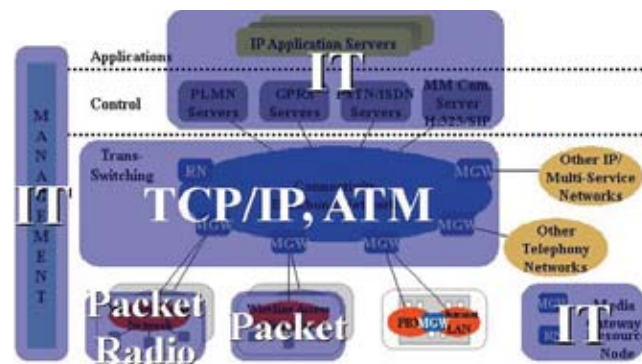


Figure 1: Migration of a typical GSM Operator from traditional TDM switch technology to all-IP network technology

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## Our Services

Telefocal Consulting offers a complete range of end-to-end solutions and services spanning radio access technologies, transmission engineering and core network design and optimization with a focus on:

- Migration planning
- NGN network design
- Multi-vendor integration
- Pre-upgrade optimization



You can rely on our team of 100 consultants worldwide on:

### Network Planning and Design

- Frequency planning
- Capacity planning
- Coverage planning
- Interference analysis

### Network Optimization

- Pre-launch optimization
- Capacity optimization
- Performance optimization
- Coverage optimization

### Network Audit

- Network topology analysis
- Performance analysis
- Capacity analysis
- Availability analysis

### Strategic Services

- Feasibility Study
- RFP Management & Development
- Vendor Evaluation
- Project Management



## Track Record

Below are some of the projects Telefocal Consultants have successfully completed:

### RFP Generation

- Generate RFP for Packet Radio Vendors
- Evaluated Vendors for Packet Radio

### Network Upgrade

- Upgrade of transmission networks to 3G LTE, all-IP based transport with packet radios.

### Network Audit

- Microwave radio links (short and medium access backhaul links)
- Optical Network (metro and intercity backhaul)
- Synchronization Network

### Design & Optimization

- Planned and optimized access, core radio and fibre transmission networks and recommended network improvement and performance enhancement techniques.

- Developed, dimensioned and planned an IP over MPLS over DWDM Core Network backbone for 3G network using media gateways as Next Generation Technology (NGN).

- Dimensioned existing transmissions network to support current and future network traffic and generated traffic forecast plan.
- Planned major transmissions network in Indonesia and wrote reports to re-dimension the current network to meet ITU performance standards.
- Transmission network audit in Bangladesh. Generated guidelines and study reports.