

Turning networks into  
a competitive edge

# Fibre Networks Deliver Customer Value

# Your Partner in IP and Optical Networking

Our expertise and experience in IP and Optical Networking help you to position your organisation ahead in today's competitive world by turning your networks into a competitive edge.

Increasing demand and growth of broadband subscribers in the Asia Pacific region has made optical networking business one of the most dynamic areas in the telecommunications industry. Consumers want faster, more efficient and useful applications which propel content and service providers to bring more value, more competitive and more revenue streams to their existing suite of services so as to attract new customers while retaining existing ones. They in turn drive the telecom vendors to create more products and newer technologies that can cater to more bandwidth, convergence and quality of services. Regulatory authorities and governments viewing broadband penetration as one of the economic drivers and a criterion for country's advancement in telecom infrastructure further helped to generate the need for superior network performance.

In short, the need for high performance networks drives the next generation broadband evolution. The rising growth in broadband usage and convergence of technologies and networks pave the way for services requiring high performance networks such as IP-TV, Video-on-Demand, Voice-over-IP, high-speed Internet connection and peer-to-peer applications, leading to high demand for optical network especially fibre optics based on gigabit networks.

In the Asia Pacific region, many government initiatives implemented in countries like Japan, Korea, Hong Kong, Singapore, China and India focus on increasing consumer broadband access penetration and innovative value-add services via gigabit networks. It is thus not surprising that development in optical networks accelerated. We see new adaptations and initiatives under the concepts of Gigabit optical networks such as

passive networks, for example, Gigabit Passive Optical Network (GPON) or active gigabit Ethernet networks like Metro Ethernet.

NCS creates a niche for itself in the next generation optical network as a full system integrator and end-to-end solution provider with its in-depth domain knowledge and expertise IP and in optical networking.

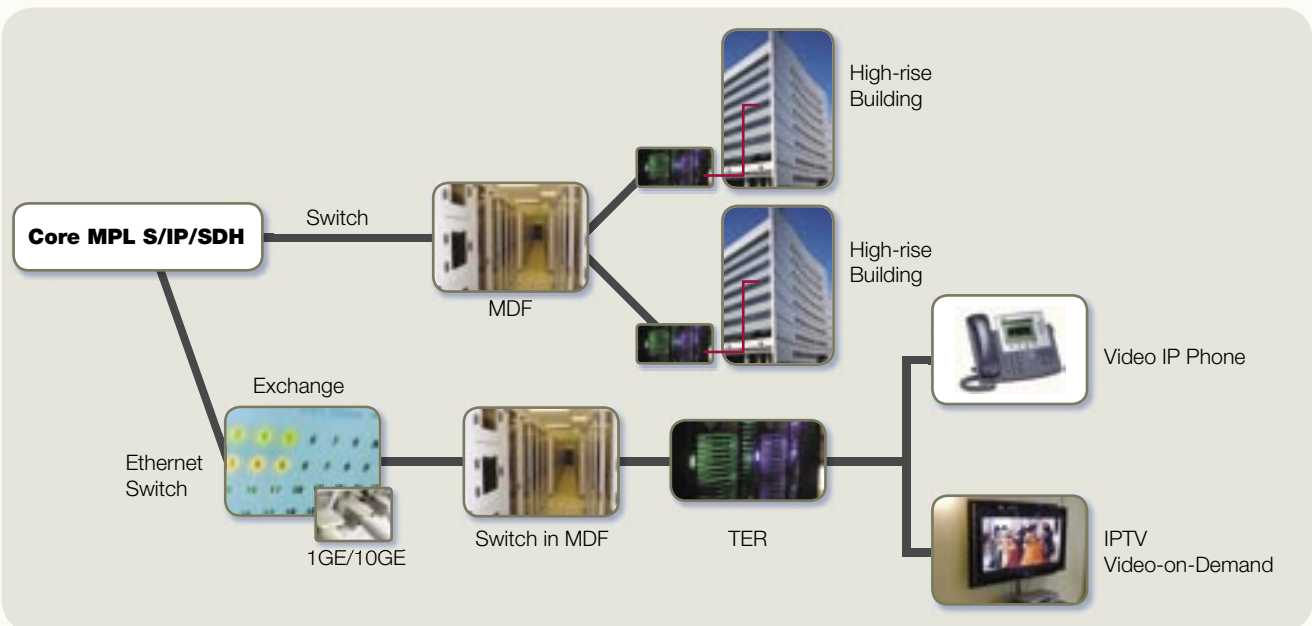
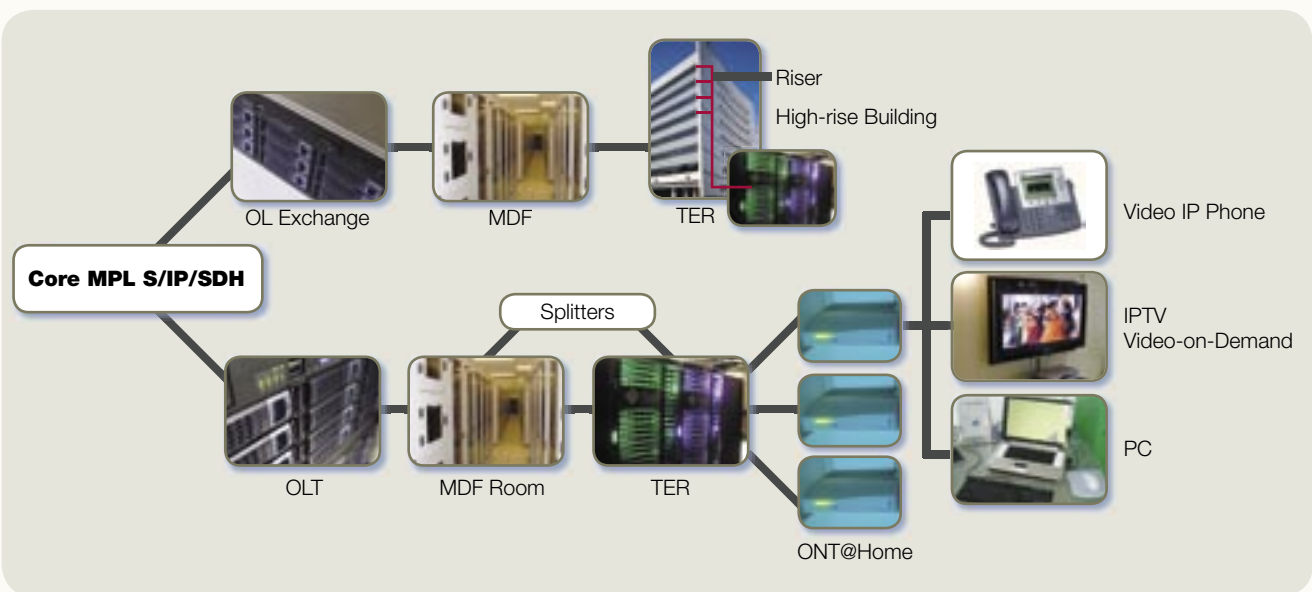
Our strategic services and solutions include IP and optical network design, planning, implementation of systems, fibre optic cable laying and engineering works, in-building infrastructure implementation, Network Management System (NMS)/Operation Support System (OSS) for full system integration, rollout of services, sub-contractors, liaison work, overall project management, testing of fibre quality, optical infrastructure management and network support, technical support and training.

Being vendor neutral, we are able to choose best of the available technologies, vendors and products, enabling our customers to enjoy the business benefits derived. Our expertise in system integration makes us a partner of choice for service providers, helping them to interface and inter-work the various solutions, systems and networks without losing overall management and control.

NCS strongly believes in delivering quality solutions based on open standards and seamless integration. Our Business Support System (BSS) and Operations Support System (OSS) offerings enable our customers to have a complete integrated view and control of their networks, systems and services right from optical to the IP to providing business impact analysis.

# FTTx Solution

Optical fibre is without doubt a medium of choice for long distance and high speed deployment. Service providers have been striving to bring the fibre as close to the consumer as possible. The fibre can terminate at the curb (FTTC), premises (FTTP), building (FTTB), or home (FTTH). FTTx has the advantage of bringing innovative high speed services like IPTV, Video-on-Demand, voice, high-speed data access, infotainment and edutainment.



# NCS Competencies in Fibre Networks

Enjoy the benefits of working with an organisation that is trustworthy, reputable and reliable. NCS delivers quality IP and Optical Networks solutions, helping you to remain agile in a fast-paced and ever-changing business environment.

Whether you are a consumer, service provider, government or regulatory organisation looking for a high-speed access solution, NCS offers the best fit IP and optical infrastructure solution, meeting the various types of requirement.

We have a pool of best-of-breed technology partners who we can easily tap on to cater for solutions that are designed on different technologies or approaches, be it GPON, Metro Ethernet or hybrid solution.

NCS value proposition lies in its expertise and skills sets in the IP and optical networking domain. We have carried out numerous projects in fibre optic cabling, IP and optical network planning and implementation, outside-plant works, in-building cabling and smart homes as well as design and installation of optical core and access

transmission networks including SDH, DWDM and DSLAM for broadband delivery infrastructure.

In addition, we have the competencies in end-to-end network management and operation support system for full system integration. We have also developed customised applications for specific needs, for example billing, mediation and customer services support systems.

NCS has skills and resources to deliver large-scale telecommunications projects especially those involving multi-vendor and multi-party projects. In addition, our technical staff are qualified in IP, SDH, DSLAM, and DWDM technologies and certified in networking products and telecommunications project management. Our services offerings conform to service quality standards and best practices of the industry. Our proven track record in the IT and telecommunications projects, as well as our ranking as No. 1 system integrator in Singapore and good ranking in the Asia, testify our commitment to deliver quality services and solutions for our customers.



We take pride in uncompromising quality, and are committed to providing our customers with the highest level of service. Besides being ISO 9000 certified and conforming to industry standards such as ITU and best practices, NCS has a large pool of certified and experienced professionals in project management and proven ability to manage nation wide projects. Our long track record of delivering large-scale telecommunications infrastructure projects in both local and overseas environment makes us the best choice for you to partner with.

# NCS Fibre Network Solutions

Solutions	Offerings
<p><b>Implementing GPON for Service Providers including supply, install, test and commission of:</b></p> <ul style="list-style-type: none"> <li>Optical Line Termination (OLT)</li> <li>Optical Network Termination (ONT) at subscriber's end</li> <li>Cable support systems</li> <li>Home networks implementation</li> <li>Integration to the service provider's management System (NMS/OSS)</li> </ul>	<ul style="list-style-type: none"> <li>Vendor neutral approach</li> <li>Choice of alternatives for all levels - technology, vendor, solution and product level</li> <li>Quality of work and conformance to standards</li> </ul>
<p><b>CPE Services for FTTx</b></p> <ul style="list-style-type: none"> <li>Liaising with building management for approvals and sub-con handling</li> <li>Installation of CPE equipment for home/corporate user</li> <li>Home wiring and termination, home networking</li> <li>Supply and installation of fibre termination and fibre distribution systems in buildings</li> <li>Smart home solutions</li> <li>Wireless solutions for home/buildings</li> </ul>	<ul style="list-style-type: none"> <li>Experience in managing large, complex projects and multi-party involvement</li> <li>Expertise in home networking and intelligent building solutions</li> <li>Highly Proficient in structured cabling and fibre termination</li> </ul>
<p><b>Consultancy Services - Optical Networks</b></p> <ul style="list-style-type: none"> <li>Case studies and need analysis</li> <li>Services for proof of concept, testing and evaluation</li> <li>Product testing</li> <li>Network optimization and performance</li> <li>Managed services and outsourcing</li> </ul>	<ul style="list-style-type: none"> <li>Domain knowledge and skills</li> <li>Large pool of dedicated and professional consultants</li> <li>Proven and Patented methodologies, NCS Business Transition for Value (Bizval™)</li> </ul>
<p><b>Fibre Cabling Services:</b></p> <ul style="list-style-type: none"> <li>Fibre laying works at exchanges</li> <li>Fibre laying works - outside plant</li> <li>Long distance fibre laying</li> <li>Fibre termination / Splicing</li> <li>Structured cabling systems (Copper)</li> <li>Structured cabling systems (Fibre)</li> <li>In-building cabling services</li> <li>Cable fault management</li> </ul>	<ul style="list-style-type: none"> <li>Choice of equipment and alternative that cater to customer's needs and budget</li> <li>NCS domain knowledge and experience in large-scale cabling projects</li> <li>Handling of multiple sub-contractors and multi-party involvement</li> <li>Experienced in home network projects</li> </ul>
<p><b>Fibre Networks Operation Support Systems</b></p> <ul style="list-style-type: none"> <li>NMS/OSS and third-party integration</li> <li>Inventory management systems</li> <li>Provisioning and activation</li> <li>Capacity planning and management</li> <li>Performance, utilisation and fault management</li> <li>Bandwidth management</li> <li>Billing</li> </ul>	<ul style="list-style-type: none"> <li>NCS resources and infrastructure to provide 24x7 support services</li> <li>Technology partners and solutions for NMS/OSS and Billing</li> <li>In-house applications development and customisations</li> </ul>
<p><b>Maintenance and Support (CPE and C.O)</b></p> <ul style="list-style-type: none"> <li>Provision of 24x7 Help Desk support</li> <li>24x7 Technical support</li> <li>Provide assistance in troubleshooting and hardware replacements</li> <li>RMA support in sending faulty equipment to supplier</li> <li>Fault escalation and SLA management</li> <li>Periodic/statistics reports</li> </ul>	<ul style="list-style-type: none"> <li>Existing 24x7 helpdesk /call centre in NCS offices in Singapore, China and Australia</li> <li>Well established resources and support procedures</li> <li>Conform to service standards and industry best practices</li> </ul>
<p><b>FTTx Managed Services</b></p> <ul style="list-style-type: none"> <li>Managed Operations <ul style="list-style-type: none"> <li>Fault management services</li> <li>Performance/utilization management</li> <li>Configuration management</li> </ul> </li> <li>Network support services <ul style="list-style-type: none"> <li>Data Centre/NOC management</li> <li>Remote VPN client administration</li> <li>Firewall/IDS administration</li> <li>Data centre health reports/procedures</li> </ul> </li> <li>Customer premises services <ul style="list-style-type: none"> <li>CPE installation</li> <li>CPE fault management/support</li> <li>Upgrades and bug-fixes</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Total outsourcing of level 1,2 and 3 for multi-operator environment</li> <li>Provision of SLA services based on ITIL and eTom framework for service management</li> <li>Experience in managing, upgrading of Telco switches, routers and elements, and mother of network managers</li> <li>Central Management of 24x7 operations</li> </ul>



**NCS Group is a leading information technology (IT) and communications engineering services provider with about 4,000 staff located in 10 countries across the Asia Pacific and Middle East regions.**

**NCS has in-depth domain knowledge and unique delivery capabilities which focus on defining, realising and sustaining Business Value for its Customers via the innovative use of technology.**

**With proven expertise in consulting, development, systems integration, outsourcing, infrastructure management and solutions, gained while serving government and commercial organisations across the region, NCS delivers end-to-end support for every organisation's technology needs.**

**NCS is headquartered in Singapore and is a wholly-owned subsidiary of the SingTel Group.**

### **what you can do**

Contact NCS at [reachus@ncs.com.sg](mailto:reachus@ncs.com.sg) today! Discover how you can effectively engage NCS, and leverage on our proven solutions, expertise, experience, methodologies and partnerships for business advantage and real value.