EWSD – Investing in the Future

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Today’s telecommunication network operators face significant business challenges. Subscriber traffic is growing, customers are demanding more bandwidth, and competition with other operators is becoming fierce. On one hand, the market requires large switches to deal with the greater demand, while on the other hand small, tailor-made solutions seem to be most cost-effective. These changing and somewhat conflicting market conditions are forcing operators to seek fully scalable network solutions offering enough capacity to handle the required traffic. Fast service provisioning and efficient operation are vital. The solution to all these challenges is the EWSD® Platform. The EWSD Platform is the high-performance, cost-effective and future-proof solution for PSTN/ISDN networks. The solution is scalable from small to extremely large configurations and therefore adaptable to changing requirements.

The EWSD Platform is grouped in core and peripheral components. All components operate at the highest efficiency and at top performance while their high individual reliability combines to ensure the EWSD system is one of the most stable platforms available. Due to the modular concept of the EWSD Platform you, as an operator, can configure each switch to exactly suit your requirements. The EWSD Platform, together with associated products, provides you with the ability to offer new and attractive services that open the door to further business and give you a stronger competition position.

On top of all this, you only require one management system to control and supervise networks composed of EWSD and its associated products. NetManager is the perfect management solution.

The future challenges and opportunities of telecommunications have a solution: the EWSD Platform.

The EWSD Platform and switches can be configured in the most flexible way.
The EWSD Platform is the world-class solution that provides you with all the switching performance you need to master the challenges facing you. Thanks to its permanent evolution, EWSD provides the highest possible performance levels while its footprint and power consumption have actually declined by almost 60 percent in recent years.

With EWSD your network is prepared for all future traffic and bandwidth demands.

EWSD – the all-in-one solution with unmatched switching performance.

In order to fulfill future network requirements, you need powerful switching equipment.

Fig.: EWSD unmatched performance
The EWSD periphery is comprised of the following:

- Remote Switching Unit (RSU) – connects subscribers and trunks; can replace local exchanges
- Line Trunk Group (LTG) – connects subscribers and trunks
- Digital Line Unit (DLU) – connects subscribers and concentrates the traffic to the LTG
- Synchronous Transport Module Interface (STMI) – provides a fully integrated STM-1 interface to the SDH network
- Host Timeslot Interchange (HTI) – for connection of the RSU

EWSD Platform – prepared to meet future network demands.

EWSD performs all its functions on a single hardware platform. This platform has a modular architecture, making it scalable from small exchanges to extremely large configurations. The EWSD Platform consists of the EWSD core and the EWSD periphery.

The **EWSD core** is comprised of the:
- Switching Network (SN) – creates the connections between subscribers
- Coordination Processor (CP) – performs call processing and routing
- Signaling System Network Control (SSNC) – controls the SS7 signaling traffic

**Fig.: EWSD system architecture**
Think big.

In order to meet market trends, future telecommunication networks will require a powerful switching system. EWSD core products provide the solution.

Switching Network (SN)

The Switching Network is the base of EWSD switching. This is the central point where connections between the origin and the desired destination are created.

If you wish to reduce network hierarchies or streamline your network by employing remote units, then you will need an exchange of enormous size to handle the traffic.

With the latest Switching Network, the SN(D), this is no longer a problem, as the two most characteristic values (ports and Erlang) have reached gigantic values. Additionally the number of LTGs that can be connected to the Switching Network has been increased to 2,016.

Benefits of the SN:
- Consolidate your network with fewer but larger nodes
- Smaller footprint
- Less operation effort
- Possibility of reducing network layers
- Future-proof to handle increased subscriber and trunk traffic

Traffic Volumes

<table>
<thead>
<tr>
<th>Switching Network</th>
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<tr>
<td>• 240,000 Ports</td>
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<tr>
<td>• 100,000 Erlang</td>
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Fig.: EWSD Switching Network
Coordination Processor (CP113)

If you have a problem with dynamic load performance within your network, then the Coordination Processor CP113 is the right solution. The Coordination Processor is responsible for all call processing and routing tasks. It additionally performs common functions such as the coordination of data transfer between the distributed peripheral microprocessors. As a multiprocessor, the CP can be extended to meet all performance requirements. When operating at maximum capacity, the CP113 can handle up to 16 million Busy Hour Call Attempts (BHCA).

Signaling System Network Control (SSNC)

The demand for SS7 signaling transport capacity is increasing dramatically due to the rapid introduction of features and the growing number of subscribers. Using the SSNC your network will be well prepared to meet this requirement. The Signaling System Network Control (SSNC) is the high-performance EWSD component for SS7 signaling, supporting SS7 over TDM, SS7 over ATM and also SS7 over IP. Through its modular and scalable design it achieves world-class performance and reliability. The SSNC can be used as Signaling End Point (SEP), as Signaling Transfer Point (STP), or as combined SEP/STP. Furthermore it can work as a stand-alone Signaling Transfer Point and for this the SSNC offers features for accounting traffic and full MTP/SCCP screening.

SS7 Capabilities

- **SSNC**
  - 1,500 SS7 Links
  - 500,000 SS7 MSU/s

The EWSD core – setting the standards in power and flexibility.
Current trends, the growing number of subscribers and higher bandwidth demand within the telecommunication market mean you will be required to provide high-performance access technology in the near future. Using the elements of the EWSD system periphery, you can easily create a network able to meet these requirements – even in the access area.

Remote Switching Unit (RSU)

The Remote Switching Unit is one of the highlights of EWSD. When streamlining your existing network or designing new networks, RSUs can function as small network nodes, providing the network operator with a varied, flexible and economical solution.

The RSU is made up of Digital Line Units (DLUs), Line Trunk Groups (LTGs), and a Remote Timeslot Interchange (RTI) module. The RTI realizes the connection to the parent or host exchange and contains a small switching network. This switching function of the RTI makes it possible for internal traffic to be directly switched through the RSU, avoiding traffic loads on the transport links to the host EWSD.

Up to 50,000 subscribers or 8,500 trunks, or any combination of these, can be connected to one RSU. The RSU can be located at any distance from the host exchange.

RSU benefits:
- Reduced number of switches and therefore reduced O&M costs
- Less transmission capacity required between remote units and host exchange
- Faster feature introduction because of reduced number of exchanges
- Possibility of cascading additional remote DLUs
- Stand-alone operation including charging
- Traffic offload due to internal switching
- Internet offload
- Part of Next Generation Network migration path

The RSU provides you with a flexible and extremely economical solution for streamlining your existing networks or designing new ones.

Line Trunk Group (LTG)

The Line Trunk Group forms the interface to the switching network for the subscriber and trunk connections. In addition, it performs such functions as receiving dialing information, producing call charge records, line supervision and echo cancellation.

All subscriber lines are connected to the LTGs (via DLU) where all subscriber signaling is handled, be it POTS, ISDN or multiple others. The LTG also physically connects all kinds of trunk interfaces, including PCM30 or PCM24, as well as Primary Rate Interface and V5.2/TR-303, and handles all related signaling.

The latest type of LTG offers the following advantages:
- Footprint reduction by 60%
- 50% less power consumption
- 1.5 times higher performance
- Optical or electrical interface to the Switching Network
Digital Line Unit (DLU)

With the newest Digital Line Unit, the EWSD Platform is perfectly prepared for the future. It offers top performance and significant cost savings for the network operator.

Thanks to improvements (e.g. 32-port line card, 16-port ISDN card), the DLU is a leading-edge narrowband access component able to handle rising subscriber traffic (e.g. more subscribers per line card, Internet dial-up).

The main benefits of the new DLU:
- Future-proof: able to handle increasing Internet traffic
- 50% less space per subscriber line
- 30% less power consumption
- Part of Next Generation Network migration path

The DLU can be either an integral part of the network node, or it can be placed in close proximity to the subscriber location, where it functions as a Remote DLU (RDLU). A further variant is the Remote Shelter DLU (RSDLU), a small, compact, outdoor DLU with complete infrastructure already included. The RSDLU is also located remotely from the EWSD switch. In addition, the DLU can be re-used as an integral part of our Next Generation Network SURPASS access solution.

The DLU represents a high performance, state-of-the-art component for narrowband access.

Synchronous Transport Module Interface (STMI)

The new STMI component offers a fully integrated STM-1 interface (155 Mbit/s) to the SDH network. It can be used to interconnect switches as well as to connect RSUs or RDLUs to the switch.

In addition, the STMI has trunk and subscriber functions such as echo cancellation, call charge record, line supervision, etc. The STMI also offers an optical or electrical (coaxial) STM-1 interface to the SDH, and an optical or electrical interface to the Switching Network (SN). Using STMI, the footprint is smaller, especially for trunk exchanges.

EWSD system periphery – greater efficiency in the access components.
SURPASS hiQ 4000 Open Service Platform

SURPASS® Multimedia Applications for EWSD are our solution for providing sophisticated converged voice-data applications within a TDM environment. The SURPASS hiQ 4000 Open Service Platform is the ultimate carrier-grade platform to support these applications.

The SURPASS hiQ 4000 offers open Application Programming Interfaces (APIs), which allow the operator to rapidly and flexibly implement new, innovative end-user applications. Applications residing in any kind of IP server can address the SURPASS openblocs™ through their open APIs, which are based on standard protocols. Different API levels are supported – from extremely flexible low-level APIs up to easy-to-use high-level ones. By using the APIs, applications get access to the functionality of the SURPASS openblocs. Thanks to the connection to EWSD, the SURPASS openblocs can use the powerful EWSD call processing functions.

The SURPASS hiQ 4000 is based on future-proof, reliable, and stable architecture. It provides for high-performance, state-of-the-art redundancy concepts and sophisticated security solutions.

SURPASS hiQ 4000 – the high-performance, carrier-grade platform to host SURPASS openblocs.
SURPASS hiR 200 Resource Server

The SURPASS hiR 200 is a fully IP-based resource server that provides announcements and interactive user dialogs. It is controlled by EWSD and acts as intelligent peripheral.

In addition to the EWSD integrated voice processing functions provided by INDAS (Individual Digital Announcement System) and IVPS (Integrated Voice Processing System), the SURPASS hiR 200 provides the following features for an EWSD network:

- Text-to-Speech conversion (TTS)
- Extended Automatic Speech Recognition (ASR) with multi-language support

The SURPASS hiR 200 consists of two components: the Resource Voice Server and the Resource Content Server. The Resource Voice Server is responsible for playing the announcements and dialogs, while the Resource Content Server hosts the database of announcements/dialogs. With this architecture, the SURPASS hiR 200 provides a highly reliable and highly scalable solution.

SURPASS hiR 200 – the key to state-of-the-art voice services.

SURPASS hiA 7100 Multiservice Access

The SURPASS hiA 7100 is a multiservice access platform providing full-featured voice, data and xDSL (ADSL, ADSL.lite) services. It offers optimized solutions for medium xDSL penetration areas and shelter deployment.

Optionally, wideband TDM interfaces using HDSL transmission, broadband data services (i.e. ATM) and Circuit Emulation services can be added. SURPASS hiA 7100 also offers open interfaces to access networks.

The SURPASS hiA 7100 is highly flexible. Its scalability allows you to deploy it in scenarios ranging from small environments to massive installations – and you are not limited to indoor sites. Outside installations using cabinet units with full outdoor capabilities are also available. And the SURPASS hiA 7100 can be re-used 100% in our Next Generation Network architecture SURPASS.

SURPASS hiA 7100 – meeting the need for speed in the access area.
Managing the EWSD Platform

EWSD is synonymous with world-class solutions that provide you with all the necessary switching performance, flexibility and services needed to master the current telecommunication challenges. But have you ever spared a thought as to how you can manage and maintain these solutions?

As an operator, you benefit from the fact that NetManager was conceived and developed with EWSD in mind. System integration service is part of the solution. This reduces your risks as a carrier and enables you to launch new services as fast as possible.

NetManager uses state-of-the-art technology to help reduce procurement and operation costs. Its fully integrated management solution with open interfaces and value-adding applications enables you to reduce operating staff to a minimum.

NetManager simplifies the operation of your business.

NetManager, which is based on modular software architecture, can handle all important functions:
- Fault Management – shortest alarm life cycle from occurrence to clearance
- Configuration Management – efficient subscriber and network management
- Accounting Management – comprehensive charging and mediation processing
- Performance Management – optimized usage of network resources
- Security Management – Authentication, Access Control and system integrity

And there’s more:
- Availability – redundancy concept, hardware clustering, Redundant Array Independent Disk system, backup and restore
- Scalability – configurations ranging from single machines to powerful server-client architecture
- Modularity – value-adding applications in the Service and Network Management area to ease the complex day-to-day operation processes
- Integration – standard protocols and open interfaces
- Future-proof – NetManager fully supports Next Generation Network solutions with SURPASS

That’s what NetManager stands for.

Fig.: NetManager streamlines your business
Interested in managing all EWSD Platform components with one single system?

**NetManager – the modular system for the powerful EWSD Platform**

With its modular architecture, NetManager enables you to easily adapt its functionality to your management requirements. Pluggable applications allow you to optimize the management of your network elements – NetManager can do it all. Just choose the applications you need!

**NetManager – scalable architecture for every network**

NetManager is based on client-server architecture using the latest technology in PC hardware, Windows operating system, and best-in-class third-party software components, such as Oracle, Legato Networker and Citrix Metaframe.

State-of-the-art mechanisms such as RAID systems, clustered file servers and redundant message flows are deployed. NetManager grows with your business from a single terminal for local operation up to a remote, centralized network-wide Operation and Maintenance Center solution for large networks. By building a regional OA&M-Center organization, the size of the managed network can be virtually unlimited.

The use of Citrix Metaframe technology allows an expert anywhere in the world to access the NetManager from any kind of terminal with low bandwidth requirements. All this is provided under the control of the NetManager security features.

**NetManager fits your existing business environment perfectly**

NetManager can be easily integrated into your existing office environment. Its applications are not only integrated in the basic IT infrastructure, but also support simple, stable open interfaces based on CORBA and SNMP for easy and cost-effective integration with umbrella management systems.

**Your investment of today is ready for the future**

While EWSD-associated products like SURPASS hiQ 4000 Open Service Platform, SURPASS hiR 200 Resource Server, and SURPASS hiA 7100 Multi-Service Access are all a first step towards Next Generation Networking, NetManager will serve you well beyond that border. NetManager integrates EWSD and all the components of our NGN solutions. This allows you a risk-free network evolution towards converged IP network services.

**Highlights:**

- Flexible hardware and software architecture allows you to grow with your business
- Cost-effective hardware based on cutting-edge IT standard
- Various levels of availability according to your requirements
- Introduced in EWSD, reused in SURPASS

NetManager – the scalable system that grows with your business.
Business success

We have learned from experience that purchasing the right product does not guarantee the operator business success, especially in the dynamic networking market. Proper integration of the product in the network, training of staff and professional support by the product supplier are just as important. As a leading solution provider with worldwide success and experience we know about the importance of those factors and make sure of the operator’s business success.

Pre-decision support

Especially in a new and extremely dynamic market, it is crucial to have experienced partners one can rely on. With our worldwide expertise, we support customers by using market research abilities. We help calculate and compare business cases and financing models.

Network engineering

We can carry out network design, network planning and network optimization for the operator. Site surveys, station and site layout planning accelerate on-site installation work, and network planning ensures seamless integration of your network with existing infrastructure. If the operator decides to handle those tasks on his own, we can help by supplying specialists with the appropriate engineering guidelines.
System integration

Thanks to the total commitment to open interfaces and our worldwide experience as a telecommunication systems integrator, we can help you to achieve fast and seamless interworking of the new products with existing multi-vendor equipment.

Project support

Professional project management in close cooperation with all parties involved ensures that your project goals are achieved within the given time, budget and quality framework. Customized solutions and project-specific modifications can be realized on demand to comply with specific requirements imposed by your clients. Usually the project support ends with official acceptance of the system by the operator. In certain cases, that support may even last longer.

Project resources

We offer professional target group-tailored training courses to prepare the various participants for their tasks. The courses can be held in classrooms, at the workplace or via PC. By offering to involve its own experts for project realization, installation and commissioning or acceptance testing, we can help the operator save up on human resources.

Operational assistance

Professional organization of the assistance during operation of the network is a must in order to handle tasks such as hotline support, updates, repair and replacement. Usually the different complexity levels of the service are split between the operator, the local Siemens agency and the Siemens Center of Competence for the specific product. Interworking of the different organizations involved is usually defined in a service contract between us and the operator. This is a vital element of the after-sales package offered as part of our total solutions.
Switching Network (SN)
- 240,000 ports
- 100,000-Erlang traffic throughput
- 2,016 LTGs
- Single-stage, non-blocking n x 64 kbit/s multichannel
- 100% speech channel supervision

Coordination Processor (CP)
- 16 million BHCA
- Up to 2-Gbyte common memory
- 10 call processors
- 10-Mbit/s LAN interface
- X.25 interface

Signaling System Network Control (SSNC)
- SS7 over TDM, ATM and IP
- 500,000 MSUs
- Global Title Translation: 100,000 GTTs, 256 title entries
- Number Portability: 8 million ported numbers
- Screening & Accounting (MTP & SCCP)

Remote Switching Unit (RSU)
- Up to 50,000 subscriber lines
- Up to 8,500 trunks
- Backdoor trunks to other exchanges
- Sidedoor trunks to other RSUs
- Interface trunk to EWSD host exchange
- Supported interfaces: POTS, ISDN-PA, ISDN-BA, V5.1, V5.2
- Transmission interfaces: E1, DS1
- Stand-alone operation
- Internal switching
- Network integration via PDH, SDH or geo-stationary satellite link

Line Trunk Group (LTG)
- Line spectrum (depending on the type of LTG)
- Up to 4 Primary Digital Carriers (PDCs) with transmission rate of 2,048 kbit/s (for remote DLU) or
- Up to 2 Primary Digital Carriers (PDCs) with transmission rate of 4,096 kbit/s (for local DLU)
- Up to 4 PCM 30/24 trunks
- An access network via a V5.2 interface
- 23,040 ports/rack (trunk, ISDN-PA)

Digital Line Unit (DLU)
- Up to 3,968 analog subscribers or up to 1,520 ISDN subscribers per rack (without fan)
- 390-Erlang traffic concentration
- Supported interfaces: POTS, ISDN-BA, V5.1, TR8
- Transmission interfaces: 16 E1 or 20 DS1 to EWSD host exchange
- Stand-alone operation
Synchronous Transport Module Interface (STMI)
- Interfaces
  - STM-1 interface: optical or electrical (coaxial)
  - SN interface: optical or electrical
- 1,890 channels capacity per STMI
- 12 STMIs per 7-ft. rack (up to 2,268 channels)

SURPASS hiQ 4000 Open Service Platform
- Hardware: SUN Netra t1120
- Operating System SUN Solaris
- Interfaces: Ethernet, E1
- Protocols: SIP/PINT+, CORBA, LDAP, PARLAY (subset)
- Up to 100,000 users
- 100,000 BHCA

SURPASS hiR 200 Resource Server
- Hardware:
  - Resource Voice Server (CompactPCI™ chassis)
  - Resource Content Server (SUN Netra t1)
- Scalability:
  - up to 80 ports per chassis in case of ASR and/or TTS
  - up to 3 chassis per rack: up to 240 ports per rack
- Interfaces: E1, MGCP with announcement package, HTTP

SURPASS hiA 7100
- Access interfaces:
  - Narrowband: POTS, ISDN-BA, V5.1/TR8
  - Wideband: HDSL, WDM
  - Broadband: ATM (E1, E3, STM-1), FR/LL, LAN
  - Broadband technology: ADSL, ADSL-lite
- Control interface: V.93
- Deployment options
  - Central office, collocation, FITL application
  - Remote cabinet application
- Scalability: up to 2,000 subscribers (cabinet unit: 150 to 1,000 subscribers)
Five reasons why the EWSD Platform, together with SURPASS products, build the ultimate solution for state-of-the-art TDM networks – and provide the best migration path to Next Generation Networks:

- **Power to the network**
  The EWSD Platform enables large exchanges with up to 16 million BHCA.

- **Best carrier-grade performance**
  The EWSD Platform guarantees highest performance for rising subscriber traffic and growing bandwidth demand.

- **Superior SS7 capabilities for the signaling network**
  The EWSD Platform offers the highest SS7 capabilities for recording and accounting of traffic.

- **A distributed model offering maximum flexibility**
  Distributed functionality over EWSD core and periphery allows flexible switch configurations with the most complete access to your customer.

- **Smooth migration to Next Generation Networks**
  Integration of SURPASS products for rapid creation and implementation of new multimedia end-user applications.
<table>
<thead>
<tr>
<th>Abbreviations</th>
<th>Description</th>
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<tr>
<td>ADSL</td>
<td>Asymmetric Digital Subscriber Line</td>
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<tr>
<td>API</td>
<td>Application Programming Interface</td>
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<td>ASR</td>
<td>Automatic Speech Recognition</td>
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<td>ATM</td>
<td>Asynchronous Transfer Mode</td>
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<td>BHCA</td>
<td>Busy Hour Call Attempts</td>
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<td>CAS</td>
<td>Channel Associated Signaling</td>
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<td>CORBA</td>
<td>Common Object Request Broker Architecture</td>
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<td>CP</td>
<td>Coordination Processor</td>
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<td>DCN</td>
<td>Data Communication Network</td>
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<td>DLU</td>
<td>Digital Line Unit</td>
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<td>EWSD</td>
<td>Digital Electronic Switching System</td>
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<td>FITL</td>
<td>Fiber in the Loop</td>
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<td>FR</td>
<td>Frame Relay</td>
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<td>GTT</td>
<td>Global Title Translation</td>
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<td>HDSL</td>
<td>High-rate Digital Subscriber Line</td>
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<td>HTI</td>
<td>Host Timeslot Interchange</td>
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<td>HTTP</td>
<td>Hypertext Transfer Protocol</td>
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<td>INDAS</td>
<td>Individual Digital Announcement System</td>
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<td>IP</td>
<td>Internet Protocol</td>
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<td>ISDN</td>
<td>Integrated Services Digital Network</td>
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<td>ISDN-BA</td>
<td>ISDN Basic Access</td>
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<td>ISDN-P</td>
<td>ISDN Primary Rate Access</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>IVPS</td>
<td>Integrated Voice Processing System</td>
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<td>LAN</td>
<td>Local Area Network</td>
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<td>LDAP</td>
<td>Lightweight Directory Access Protocol</td>
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<td>LL</td>
<td>Leased Line</td>
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<td>LTG</td>
<td>Line/Trunk Group</td>
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<td>MGCP</td>
<td>Media Gateway Control Protocol</td>
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<td>MSU</td>
<td>Message Signal Unit</td>
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<td>MTP</td>
<td>Message Transfer Part</td>
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<td>NGN</td>
<td>Next Generation Network</td>
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<td>OAM &amp; M</td>
<td>Operation, Administration and Maintenance</td>
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<td>PBX</td>
<td>Private Branch Exchange</td>
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<td>PC</td>
<td>Personal Computer</td>
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<td>PCM 24</td>
<td>Pulse Code Modulation system with 24 Channels (North America)</td>
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<td>PCM 30</td>
<td>Pulse Code Modulation system with 30 Channels (Europe)</td>
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<tr>
<td>PCM</td>
<td>Pulse Code Modulation</td>
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<td>PDC</td>
<td>Performance Data Collector</td>
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<td>PDH</td>
<td>Plesiochronous Digital Hierarchy</td>
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<td>PINT</td>
<td>PSTN to Internet Interworking</td>
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<tr>
<td>POTS</td>
<td>Plain Old Telephone Service</td>
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<td>PRI</td>
<td>Primary Rate Interface</td>
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<td>PSTN</td>
<td>Public Switched Telephone Network</td>
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<td>Q3</td>
<td>ITU-T-defined interface, type 3</td>
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<td>RAID</td>
<td>Redundant Array Independent Disk</td>
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<td>RAS</td>
<td>Remote Access Server</td>
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<td>RDLU</td>
<td>Remote Digital Line Unit</td>
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<td>RSDLU</td>
<td>Remote Shelter Digital Line Unit</td>
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<td>RSU</td>
<td>Remote Switching Unit</td>
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<td>RTI</td>
<td>Remote Timeslot Interchange</td>
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<td>SCCP</td>
<td>Signaling Connection Control Part</td>
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<td>SDH</td>
<td>Synchronous Digital Hierarchy</td>
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<td>SEP</td>
<td>Signaling End Point</td>
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<td>SIP</td>
<td>Session Initiation Protocol</td>
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<td>SN</td>
<td>Switching Network</td>
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<td>SNMP</td>
<td>Simple Network Management Protocol</td>
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<td>SS7</td>
<td>Signaling System No. 7</td>
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<td>SSSC</td>
<td>Signaling System Network Control</td>
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<td>STM</td>
<td>Synchronous Transfer Mode</td>
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<td>STMI</td>
<td>Synchronous Transport Module Interface</td>
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<tr>
<td>STP</td>
<td>Signaling Transfer Point</td>
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<td>TTS</td>
<td>Text to Speech</td>
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<td>V5.1</td>
<td>Access network interface (ETSI)</td>
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<td>V5.2</td>
<td>Access network interface (ETSI)</td>
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<tr>
<td>WDM</td>
<td>Wavelength Division Multiplexing</td>
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<tr>
<td>X.25</td>
<td>Network Protocol on Network Layer Level</td>
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<tr>
<td>xDSL</td>
<td>x Digital Subscriber Line</td>
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Our Strengths – Your Gain

Siemens Information and Communication Networks is a leading supplier of voice/data networks for corporate customers, network operators and service providers. We are represented in more than 160 countries. A million customers – including 70 percent of the U.S. Fortune 500 companies and 350 fixed network operators – put their trust in our solutions. With Siemens expertise and know-how in the fields of voice and IP communication, we implement even the most complex networks. The excellent quality of our end-to-end solutions is founded on our particular strengths.

IP convergence
Siemens convergence solutions open up a whole new world of IP services and solutions to our customers – with the same proven level of security and reliability as our voice communication. Future-proof migration strategies guarantee the best possible protection of your investments.

Broadband access
What use is the fastest network without high-speed access? Siemens broadband access products facilitate every kind of high-speed access to the widest range of services.

IP routing
Our range of state-of-the-art routing products is the basis for cost-effective IP networks. They are key components of many IP convergence and broadband access solutions.

Optical networking
Offering almost unlimited bandwidth and continually breaking records for transmission speed, Siemens optical networks are laying the foundations for the data superhighways of the future.

EWSD
EWSD® is the most successful digital switching system worldwide. Over 250 million EWSD-switched ports across the globe make us the number one supplier for carriers in this segment. With its extensive functionality, EWSD helps you build the network you want, in the market you want. The system is constantly being refined in order to exploit new business opportunities for network operators and takes care of any known requirement that has been imposed on operators by deregulation authorities. And, of course, EWSD makes you ready for the Next Generation Network.

Partners for profitable networks
Our customers’ profitability is always our highest priority. Our products and services open up new business opportunities for you and help you optimize processes. We integrate your existing systems to protect your investments. Our solutions make communication more cost-effective and contribute to a faster return on investment.

www.siemens.com/networks

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