

PT's family of cost-effective, carrier-class SEGway™ STPs pave the way for service providers to finally take charge of their SS7 networks and gain competitive advantages as they look to grow their networks and roll out new value-add services. SEGway STPs support any-to-any connectivity (SS7, IP-SIGTRAN, ATM) for maximum flexibility and protect a service provider's investment by integrating existing and future nodes and applications to meet evolving telecommunication infrastructure requirements.

SEGway™ systems are well suited for deployment in existing TDM and IP-based networks. Today's networks are expanding exponentially to address the increase in traffic due to mobile services, network convergence, and new applications; SEGway solutions are built to be scalable to meet these needs. Our flexible approach to feature activation and capacity expansion ensures that SEGway products can easily adapt to the demands of the market without the costly deployment of additional platforms.

Carrier-Grade Product Offerings

PT's carrier-grade portfolio includes a wide range of modular, standards-based platforms to provide customers with choices based upon network growth and reliability requirements. As with all SEGway products, these robust carrier-grade offerings are designed with PT's own high-quality software and hardware.

SEGway STP platforms offer all the standard features and functionality expected of an STP solution, including Gateway Screening and Global Title Translation, while also offering extended capabilities and features, such as Signaling Gateway (M3UA/SUA) and Point Code Emulation™.

Designed for five-nines (99.999%) reliability, these systems include redundant CPUs, switches, and shelf controllers, as well as dedicated processors with onboard storage for system management and OA&M features.

In a transitional network configuration, SS7 linksets may be a combination of traditional circuit-switched links and IP links for maximum flexibility.

BENEFITS

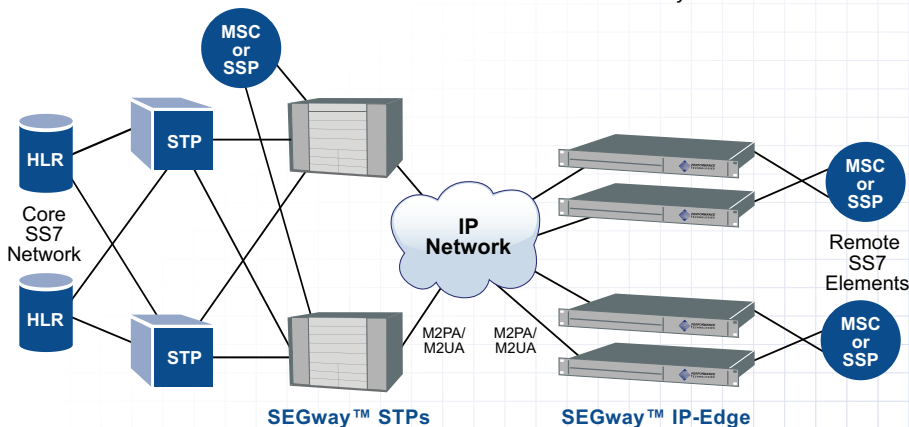
Cost-Effective, Carrier-Grade STPs

Exceptional Flexibility – TDM, ATM, and IP-Based SS7 Links

Support Latest SIGTRAN Protocols

Robust High Availability Platforms

Network-Proven Solutions



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SEGway™ X401 STP

The SEGway X401 platform is PT's high-capacity carrier-grade platform, built with the company's hardware components and software. With the ability to scale up to 1536 SS7 links with HSL and up to 3000 SIGTRAN M2PA links in a single compact system, the SEGway X401 offers a lucrative ROI for both wireline and wireless service providers who want to take control of their SS7 network. Ongoing lifecycle costs are well below those of any comparable product on the market today.



With fourteen slots available for I/O and application server blades, the SEGway X401 platform offers unprecedented flexibility to interface with traditional SS7 (TDM, ATM) and next-generation (IP-SIGTRAN) networks, while at the same time offering the ability to incorporate purpose-built application servers integrated into a single platform.

Built on our 12U high-availability Advanced Managed Platforms™, the SEGway X401's flexible interfaces include low-speed (TDM) and high-speed (IP-SIGTRAN, ATM) SS7 links that are scalable to meet the needs of medium to large service providers. Designed for five-nines (99.999%) reliability, the system includes redundant CPUs, switches, and shelf controllers, as well as dedicated processors with onboard storage for system management and OA&M features.

SEGway™ X301 STP



The SEGway X301 Compact-STP is PT's midsize STP solution, is built to be scaleable to meet the needs of small to midsize service providers. With four payload slots available for low (TDM) and high-speed (IP-SIGTRAN, ATM)

links, the STP solution can be used to manage SS7 networks and connect with multiple inter-connectivity partners. The hardware architecture of the X301 offers the reliability and robustness required in service providers' networks.

Reduced SS7 Facility Leasing and Connectivity Costs

Customers who take control of their SS7 network by deploying a pair of SEGway STPs quickly realize significant savings on leased SS7 facility charges through traffic consolidation and local routing. Adding STPs also enables the carrier to deploy services like LNP, ENUM, or CNAM within their networks, thus further reducing costs for transaction-based services charged by the hub providers.

Broaden the Reach of SS7 with IP

In SS7 networks, the addition of network elements to provide circuit-to-packet conversion may require additional point codes, which can be in short supply. Translations for these additional point codes must then be propagated network-wide, which increases operational expenses and complexity. With SEGway's standard IETF SIGTRAN interfaces, link facility costs can be lowered, and the need for additional point codes can be reduced by connecting with SEGway IP-Edge Devices that extend the reach of the STP to the network edge.

Flexible Interface Modules

SEGway STPs offer the ability to physically connect with circuit-switched (T1/E1/V.35) and ATM legacy networks, and with IP (SIGTRAN) networks for maximum flexibility.

Multiple Protocol Support

SEGway solutions offer the full suite of SS7 protocols, including ANSI/ETSI/ITU and SIGTRAN (M2PA, M2UA, M3UA, SUA). With this flexibility, SEGway STPs can seamlessly bridge disparate networks.

Flexible, Proven Solutions for Growing Networks

SEGway signaling products have been deployed by carriers in wireless and wireline configurations worldwide and conform to ANSI and ITU standards, with additional country-specific protocol variants available upon request. Field-proven for over ten years, our products conform to the latest IETF SIGTRAN protocols, ensuring interoperability.

Optional Global Title Translation (GTT)

GTT is available in basic, enhanced, or expanded configurations, and frees originating signaling points from the burden of having to know every potential destination to which a message for services, such as wireless roaming, toll-free calling, or CLASS, might have to be routed.

Optional Gateway Screening (GWS)

GWS is an optional security feature available on the SEGway STP. This capability gives network administrators control of the flow of SS7 messages into or through a signaling network. Gateway Screening determines if inbound and outbound messages should be discarded based on given criteria. If a message is accepted, it continues its MTP or SCCP processing (e.g., routing). Measurements and statistics are kept for rejections and screening validations to monitor the GWS configuration.

Optional Signaling Gateway (SG)

All SEGway STP products also have a Signaling Gateway option that serves as a signaling bridge between SS7 and VoIP networks. Typically this is used in conjunction with softswitches, media gateways, and application servers. Interoperability is assured with IETF M3UA and SUA protocol support for connection-oriented and connectionless (SCCP) services.

Optional Point Code Emulation™ (PCE)

PCE is a powerful feature that enables service providers to transparently configure and manipulate SS7 nodes without disrupting or reconfiguring the public SS7 network. This is a cost-effective solution for expanding networks where new point codes are rare and expensive, and where minimizing the number of direct SS7 links is an asset. For more information, please see the Point Code Emulation™ datasheet.

Onboard Protocol Conversion

SEGway STPs are able to translate between global SS7 variants with their onboard protocol conversion feature, thereby allowing customers to transparently deploy their own IP network solution throughout the world.

SIP Signaling Bridge™

As signaling networks evolve, the SIP Signaling Bridge gives carriers the flexibility to extend their signaling network seamlessly across their SS7 and SIP networks. Circuit-based databases (e.g. 8xx, CNAM, Number Portability) can be easily accessed by SIP clients. Likewise, for carriers introducing SIP-enabled applications into their network, this feature “bridges” the gap of new service delivery, creating more value for the operator.

STP Solutions SOLUTION SHEET

Technical Specifications

	SEGway™ X401	SEGway™ X301
Link Capacity (Logical)		
Low Speed Links per I/O card	128	128
Low Speed Links per System	1536	128
ATM QSAAL HSL per System	96	32
Unchannelized HSL Annex A per System	48	16
V.35 per System	112	32
Sigtran M2PA Links per System	3000	1500
Sigtran SUA/M3UA Associations per System	3000	1500
Physical Interfaces		
I/O Cards per System	14	4
T1/E1 SS7 Ports per I/O Card	8	8
T1/E1 ATM Ports per I/O Card	8	8
V.35 Ports per I/O Card	8	8
Ethernet Connections	4	4
Other Limits		
Linksets	3000	1500
Routesets	4000	4000
Routes per Routeset	8	8
Routes	8000	8000
Virtual Point Codes	3500	3500
Network Appearances	8	8
ASP Routing Keys	1024	1024
Gateway Screening	10,000	10,000
GTT Entries	10,000-500,000	10,000-500,000
GTT Point Code List	2048	2048
Point Codes in Each Point Code List	8	8
Number of GTT Command Lists	25	26
Routing CPUs	2-12	2-6
SCTP Assoc. per Routing CPU	250	250
Management CPUs	2	2
Chassis Physical Specs		
Height	12U	7U
Enclosure	19- or 23-inch rack-mount	19- or 23-inch rack-mount
Weight	44.2 kg (97.5 lbs)	29.55 kg (65 lbs)
Transactional Capacity		
Transactions per Second per System	400,000	200,000

ORDERING INFORMATION

To discuss specific requirements and/or pricing, contact sales@pt.com.

Protocols

- GR82-Core (Telcordia®)
- SIP

MTP Specifications

- ITU-T Q.700 through Q.707
- ITU-T Q.703 Annex A
- ANSI T1.111-1992 Message Transfer Part GR246-Core T1.111 (Telcordia)

SCCP Specifications

- ITU-T Q.711 through Q.714
 - Connectionless – Class 0 and 1
 - Connection-Oriented – Class 2
- ETSI ETS 300 589
- ANSI T1.112

SIGTRAN Specifications

- SCTP: RFC4960
- M2PA: RFC4165
- M3UA: RFC4666
- SUA: RFC3868

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