

### FEATURES

Adaptable, Scalable Core  
Platforms – Unbeatable Value  
Proposition

Proven Carrier-Grade Reliability  
– Solid Performance Without  
Compromise

SS7/IP-SIGTRAN/ATM –  
Any-to-Any Connectivity

Comprehensive Feature Set –  
Rollout New High-Value Services

Customer Installable – Reduce  
E&I Costs



The SEGway™ X401 platform is PT's high-capacity carrier-grade application platform designed specifically to meet the growth and reliability requirements for evolving telecommunication 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 scalable to meet these requirements. SEGway products are "right-sized" to create an unbeatable value proposition for medium to large service providers.

The key to any new signaling solution is the ability to maintain the value of existing assets while adopting the new IP-based signaling infrastructure. The SEGway X401 platform does just that. This flexible platform delivers comprehensive capabilities to wireless and wireline service providers who are looking for advanced routing and application services at the core of their network, while seamlessly ensuring continued support for an operator's legacy infrastructure.

The SEGway X401 is fully configurable as a high-capacity Signaling Transfer Point (STP), Signaling Gateway (SG), or combined STP/SG node. SEGway products can easily adapt to the demands of the market without costly deployment of additional platforms.

#### A Flexible Proven Solution for Growing Networks

SEGway signaling products have been deployed by carriers in wireless and wireline configurations and Original Equipment Manufacturers (OEM) worldwide. The SEGway X401 conforms to ANSI and ITU standards. Additional country-specific protocol variants are available upon request. Field-proven for over ten years, our products conform to the latest IETF SIGTRAN protocols, ensuring interoperability.

SEGway X401 Core nodes, deployed together with PT's IP-Edge systems at the network's edge, offer operators a total network solution with an even more compelling value proposition. This powerful combination delivers a truly enriched package of flexible next-generation capabilities to both wireless and wireline service providers, maximizing the value and performance of their signaling networks.

## Rock-Solid Performance and Quality

The ability to design and produce our own hardware platforms, coupled with expertise providing innovative software, enables us to produce high-performance, scalable, and flexible solutions.

Designed for a telecommunications environment, the SEGway X401 is built on PT's 12U high-availability Advanced Managed Platform™. The system supports five-nines (99.999%) availability with built-in redundancy and hot-swap for all active system components and has dedicated processors with onboard storage for system management and OA&M support. Onboard flash memory provides storage of executables and data, ensuring extremely fast system reload.

## Flexible Connectivity and Scalability

The SEGway X401 supports any-to-any connectivity (SS7, IP, Annex A and ATM), making this platform very well suited for deployment in TDM, packet, and IP-based networks. This multi-protocol, multi-standard platform provides a complete connectivity solution. The SEGway X401 scales up to 1536 SS7 links and up to 3000 SIGTRAN M2PA links with support for multi-variant SS7 and SIGTRAN protocols. The SEGway X401's I/O options include a full array of physical interfaces, including T1, E1, V.35, ATM, and Ethernet.

## User-Friendly Environment

SEGway solutions are designed with the end-user in mind. An intuitive, easy-to-navigate graphical web-based user interface with pull-down menu selectors assists operations personnel with the configuration of the system. Comprehensive message tracing capabilities allow support personnel to diagnose and troubleshoot problems quickly and easily. Many operators find that SEGway systems are easy to install and configure themselves after initial training, saving deployment costs.

## World-Class Support

PT manages every aspect of systems development, including hardware, software, integration, and deployment. Our customers benefit from our ability to provide products that are supported directly by our engineering team. This support includes all aspects of technical, OEM, and end-user assistance to ensure a successful product deployment and launch. Our professional services team is available on-site or remotely for engineering and installation activities. We offer a variety of training programs, installation services, 24x7 support agreements, and software maintenance contracts.

## Comprehensive Feature Set

### STP

When configured as an STP node, the SEGway X401 offers all the standard features and functionality expected of an STP solution, including Gateway Screening and Global Title Translation. At the same time, this platform offers extended capabilities and features, such as Signaling Gateway (M3UA/SUA) and Point Code Emulation™. With 14 slots available for I/O and application server blades, the SEGway X401 platform supports unprecedented flexibility to interface with traditional SS7 (TDM, ATM, Annex A) and next-generation (IP-SIGTRAN) networks, while providing the ability to incorporate purpose-built application servers integrated into a single platform.

### Signaling Gateway

When configured as a Signaling Gateway node, the SEGway X401 offers the unparalleled performance and functionality demanded from VoIP, wireline, and wireless networks of today and tomorrow. This powerful Signaling Gateway has all the standard features and functionality expected to support the convergence of legacy SS7 and IP networks. SEGway's versatility also includes the ability to extend its capabilities to that of a full-featured routing node (STP), including features such as Gateway Screening, Global Title Translation, and Point Code Emulation.

## IP-Edge

The SEGway X401 may also be configured as an IP Edge solution, thereby allowing carriers to cap network transport and expansion costs by positioning small, compact, and robust carrier-grade devices within local communities of interest, concentrating SS7 traffic, and backhauling it to an IP-enabled core STP over a managed shared-use IP network.

## Point Code Emulation™

Point Code Emulation is a feature that can be used to significantly simplify and de-risk switch migration activities and allows service providers to transparently grow their signaling networks. This is accomplished by giving the carrier a method to translate between public and private point codes. Private point codes are defined by the carrier and are only visible within the carrier's network. These point codes are mapped to public point codes visible to the SS7 network.

## Roaming Broker

The Roaming Broker platform enables a GSM carrier to act as a hub for roaming traffic by policing signaling traffic in a centralized location as defined within the GSMA Open Connectivity Roaming Model. Roaming Broker functions as an enhanced SCCP gateway with filtering rules tailored for roaming, which enable carriers to act as brokers between roaming partners. Roaming Broker also has additional interoperability and security mechanisms to simplify provisioning, maximize inter-working, and ensure network integrity.

## 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 bridge the gap of new service delivery, creating more value for the operator.

## Additional Capabilities

The SEGway X401 platform can also be equipped with powerful capabilities, such as Gateway Screening, Global Title Translation, protocol conversion, and voice pass-through for circuit grooming. Expansion capabilities include available slots for application server blades for ENUM, LNP, and monitoring services, all within a single chassis.

# SEGway™ X401 PRODUCT SHEET

## Technical Specifications

### ORDERING INFORMATION

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

#### Signaling Link Capacity

- SS7 links: 1536
- SIGTRAN links: 3000
- ATM links: 96
- Annex A: 48 HSL

#### Protocols

- SS7: MTP2, MTP3, SCCP (ITU, ETSI, ANSI)
- IP/SCTP: M2PA, M2UA, M3UA, SUA
- ATM AAL5, SSCOP, SSCF (QSAAL)
- Annex A
- SIP

#### Feature Options

- STP (MTP3 routing)
- Signaling Gateway (M3UA/SUA)
- IP-Edge
- Point Code Emulation (PCE)
- Global Title Translation (GTT)
- Gateway Screening (GWS)
- Advanced Routing
- SIP Signaling Bridge

#### Hardware

- Platform: 12U NEBS-designed 19-in. rack-mount enclosure

#### Physical Interface

- Fourteen (14) slots available for I/O ports or Application Processors
- I/O slot options:
  - SS7 E1/T1 for low-speed links, eight terminations per card
  - ATM HSL (1.544/2.048) eight terminations per card
  - Serial V.35 for low-speed links, eight terminations per card
- Drop and Insert on all channels

#### System Cards

- Redundant system processors for MTP routing, SIGTRAN, Global Title Translations, and Gateway Screening
- Redundant processors that provide 120 Gb storage and processing for system operation, administration, and maintenance functions
- Redundant Gigabit Ethernet switching cards for switching traffic across the unit
- Redundant intelligent system control processors to monitor system health

#### Power and Cooling

- AC input: 110 to 220 V AC (50/60 HZ)
- DC input: -36 to -60 V DC
- Eight 325 W DC supplies (+5 V @ 120 A, +3.3 V @ 160 A, +12 V @ 20 A, -5 V @ 4 A)
- N+1 redundant cooling for the entire chassis

#### Mechanical

- Height: 12U, 533 mm (21 in.)
- Width: 436 mm (17.2 in.) without rack-mount flanges. Rack-mount flanges allow for mounting to 19-in. or optional 23-in. racks
- Depth: 413 mm (17 in.)
- Weight: 44.2 kg (97.5 lb)

#### Regulatory Compliance

- Designed for NEBS Level 3 and ETSI installations
- RoHS

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