Cisco SPA400 Voicemail System with 4-Port FXO Gateway
Cisco Small Business Voice Systems

Voicemail System and Multiport PSTN Gateway Solution for the Cisco SPA9000

Highlights

- Integrated voicemail and PSTN gateway for the Cisco SPA9000
- Robust voicemail system with up to 32 voicemail boxes and auto attendant
- Connects up to four standard analog phone (FXO) lines from your local service provider

Figure 1.   Cisco SPA400 Voicemail System with 4-Port FXO Gateway

Product Overview

The Cisco® SPA400 Voicemail System with 4-Port FXO Gateway (Figure 1) features the ability to connect up to four standard analog telephone lines to a voice over IP (VoIP) network via the Cisco SPA9000 Voice System and includes the additional benefit of an integrated voicemail application. The SPA400 uses multiple analog phone lines and automatically routes calls to and from your existing public switched telephone network (PSTN) service. Designed to be implemented with the Cisco SPA9000, the Cisco SPA400 enables cost-conscious business users to take advantage of the high-value features generally found only on more expensive private branch exchange (PBX) equipment.

The Cisco SPA400 also includes an integrated voicemail application server that supports up to 32 voicemail accounts or boxes with customized greetings, providing users the ability to receive and playback voicemail messages from their Cisco IP phones.

The Cisco SPA400 supports four RJ-11 FXO ports to connect to the PSTN and also includes one 10/100 BASE-T RJ-45 Ethernet interface that is used to connect to the local IP network. Compact

in design, the SPA400 is perfectly suited for a small business, providing reliable operation for both VoIP and PSTN voice communication service.

Installed by a service provider, reseller, or end user, the Cisco SPA400 enables transparent PSTN gateway capabilities for a VoIP telephony network and is a key element in building a solid business communications system.

System Features

Feature	Benefit
PSTN Telephony Gateway	The Cisco SPA400 PSTN Gateway provides the SPA9000 Voice System with routing capabilities towards the Public Switched Telephone Network (PSTN), allowing the Small Business to make and receive calls to/from the Analog telephone networks, keeping the Small Business connected. The SPA400 PSTN Gateway includes 4 FXO ports to connect up to 4 independent PSTN analog lines.
Voicemail Server	The Cisco SPA400 PSTN Gateway features an internal Voicemail Server for up to 32 voicemail accounts. It allows the user to leave and retrieve Voicemail messages directed to the Small Business employees.

Specifications

Table 1 contains the specifications and package contents for the Cisco SPA400 Voicemail System with 4-Port FXO Gateway.

Table 1.   Telephony Features

Feature	Benefit
PSTN (FXO) Telephony	4 FXO ports (RJ-11) - VoIP to PSTN and PSTN to VoIP Call Origination and Termination 4 simultaneous active calls - Caller ID support – Bellcore, ETSI FSK (DTAS and RP-AS), ETSI DTMF and UK. - Call Progress Tone Generation - Universal Tone Configuration for Progress and Disconnect tones - FXO port impedance configuration – 16 settings - FXO port Attenuation/Gain Adjustments - Trunk group configuration of FXO ports with SPA9000 - Call Disconnect detection via Disconnect Tone, CPC, Polarity reversal and idle time. - Ring Frequency, Impedance, Validation Time, Voltage and Indication Delay Configuration - Line-in Use Voltage Setting - Operational Loop Current Minimum Value - On-hook speed setting - PSTN Answer Delay - PSTN Call Limit - DTMF tone length configuration - DTMF level setting - Dial out delay - Dial out battery threshold
IP Telephony	- SIP Registrar Agent (RFC 3261) - One SIP trunk towards SPA9000 - Direct Inward/Outward Dialing with SPA9000 - G.711 a/u and G.729a - DTMF in-band support (RFC 2833) - Adaptive Jitter Buffer - Frame Loss Concealment - Echo Cancellation (G.165/G.168) - Voice Activity Detection with Silence Suppression
Voicemail Server	32 Voice mail Accounts - USB 1.1 Host Interface for the Voicemail Prompts and Messages - Up to 3.8 hours of message storage with default configuration (USB Memory) - International language support (see Localization section)

Security	• Password Protected Admin and User Access Authority
	• Password Protected Voicemail access
Provisioning, Administration and Maintenance	• Configurable by the Cisco SPA9000 Configuration Wizard
	• Administration and Configuration via Integrated Web Server
	• Event Logs (Events, Errors, Fatal Errors)
	• Syslog reporting
Network	• DHCP Client and static IP addressing
	• Differentiated Services (Diffserv)/TOS packet marking
	• NTP-based Date and time with Daylight Savings support

Table 2.   Localization

Language	Cadence and Network tones	Voicemail prompts
English	Y, for AU, IE, NZ, UK, US	Y
German	Y	Y
French	Y, FR	Y
Spanish	Y, ES	Y
Italian	Y	Y
Portuguese	Y, PT	Y
Danish	Y	Y
Dutch	Y	Y
Swedish	Y	Y

Note: Additional languages may be supported on Cisco SPA400 PSTN Gateway; for more information, visit www.cisco.com

Table 3.   Cisco SPA400 PSTN Gateway Documentation

Document	Description
End-user Documentation	
SPA400 Quick Install Guide	Basic Installation and WebUI access
Reseller/VAR/SP Documentation	
SPA9000 Installation and Configuration Guide - Configuration Wizard	Installation and Configuration Guide using the Cisco SPA9000 Configuration Wizard - includes SPA400 Configuration
SPA9000 Installation and Configuration Guide – WebUI	Installation and Configuration Guide using Web UI access (known as manual configuration) - includes SPA400 Configuration
SPA9000 Administration Guide	Advanced Configuration Guide for SPA9000 system – Includes SPA400 configuration

Table 4.   Ordering information - Cisco SPA400 PSTN Gateway

To order, find a Cisco Partner near you: http://www.cisco.com/go/partnerlocator.

Product Name	Specification
SPA400-AU/EU/NA	• PSTN FXO Gateway for SPA9000 – 4 FXO ports
	• Voicemail Server for SPA9000 – 32 voicemail box
	Note: EU version for SPA400 includes both EU and UK power clips

Note: The Product Part number is specified as the **ProductName-XX**. If the product has no suffix, the product is considered to be applicable WW unless otherwise specified. The SKU suffix correspond to the following countries/regions Power Adapters or Wireless Specifications: AU-

Australia/New Zealand, AS-APAC and AU, KR-Korea, EU-Europe, NA-North America, UK-United Kingdom, SG-Singapore.

Table 5.   Product Specification

Hardware Configuration	Specification
Packaging Type	Desktop
Product Architecture	
Onboard Ethernet Ports	One 10/100 Mbps WAN uplink (for switch connectivity)
PSTN FXO ports	4 Built-in FXO ports Note: In case of requiring voicemail server and more than 2 FXO ports, it is required to deploy independent SPA400s (one for Voicemail server and a second for PSTN gateway functionality).
Voicemail ports	• 1 USB 1.1 Host Port for Voicemail prompts and storage • 32 voicemail accounts • Two ports when SPA400 is used also for PSTN gateway • Ten ports when SPA400 is dedicated to Voicemail Server only
Power Requirements	
Power Supply	External, 100-240 VAC, 50 to 60 Hz (26-34 VA)
DC Input Voltage (SPA9000)	+5 VDC
DC Input Current (SPA9000)	2A max
Power consumption	5 Watts
Environmental specifications	
Operating Temperature	32 to 113ºF (0 to 45ºC)
Non Operating Temperature	14 to 185ºC (-10 to 70ºC)
Operating Humidity	10 to 85% Non-condensing, non-operating
Dimensions **(W x H x D)**	5.51 x 5.51 x 1.06 in. 140 x 140 x 27 mm
Weight	0.22 Kg 0.5 lb
Regulatory Compliance	
• FCC (Part 15 Class B and Part 68) • CE • UL and CB for Power Supply • NZ Telepermit • SG IDA • CCC • RoHS • WEEE	
Software Specification	Compliance
Note: Many specifications are programmable within a defined range or list of options. Please see the SPA9000 Administration Guide for details. The configuration profile is uploaded on the SPA400 at the time of provisioning	
Data Networking	• MAC Address (IEEE 802.3) • IPv4 - Internet Protocol v4 (RFC 791) • ARP - Address Resolution Protocol • DNS - A Record (RFC 1706), SRV Record (RFC 2782) • DHCP Client - Dynamic Host Configuration Protocol (RFC 2131) • ICMP - Internet Control Message Protocol (RFC792) • TCP - Transmission Control Protocol (RFC793) • UDP - User Datagram Protocol (RFC768) • RTP - Real Time Protocol (RFC 1889) (RFC 1890) • DiffServ (RFC 2475), Type of Service - TOS (RFC 791/1349) • SNTP - Simple Network Time Protocol (RFC 2030)

Voice	• SIPv2 - Session Initiation Protocol Version 2 (RFC 3261)
	• Voice Algorithms:
	  ◦ G.711 (A-law and μ-law)
	  ◦ G.729 A
	• DTMF: In-band (RFC 2833)
	• Call Progress Tone Generation
	• Jitter Buffer - Adaptive
	• Frame Loss Concealment
	• VAD - Voice Activity Detection w/ Silence Suppression
	• Attenuation / Gain Adjustments
	• Caller ID Support (Name & Number)

Security	Password Protected Admin and User Access Authority
Provisioning, Administration and Maintenance	• Web Browser Administration & Configuration via Integral Web Server • Syslog & Debug Server Records
Product Warranty	
1-year limited hardware warranty with return to factory replacement and 90-day limited software warranty	

Cisco Limited Warranty for Cisco Small Business Series Products

This Cisco Small Business product comes with a 1-year limited hardware warranty with return to factory replacement and a 90-day limited software warranty. In addition, Cisco offers software application updates for bug fixes and telephone technical support at no charge for the first 12 months following the date of purchase. To download software updates, go to: http://www.cisco.com/go/smallbiz.

Product warranty terms and other information applicable to Cisco products are available at http://www.cisco.com/go/warranty.

For More Information

For more information on Cisco Small Business products and solutions, visit: http://www.cisco.com/smallbusiness.