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Introduction

Ribbon believes that the best partner is an educated partner. Our Education Services department has been instructing partners on the benefits of Ribbon technology and solutions for more than a decade. Each class is led by an experienced, certified instructor with deep knowledge of real-time communications disciplines including voice, interworking of data networks, security, Unified Communications, service definition, wireless/broadband technologies, and database design.

Our approach is simple and effective: experienced instructors, small classes, stimulating lesson plans and hands-on laboratories. Instructor led workshops have a maximum of 12 students so that classes are interactive and an effective transfer of knowledge is achieved.
Classes are available through a variety of methods:

Open enrollment classes hosted at a Ribbon or partner site.
Training is offered at any of the following facilities: Westford (Massachusetts), Plano or Richardson (Texas), RTP (North Carolina), Prague (Czech Republic), and Maidenhead (UK). Ribbon provides a training curriculum designed to meet the day-to-day requirements of our partners as they test, deploy and manage Ribbon products. Course lengths range from one to five days, depending on subject matter and course objectives.

Virtual instructor-led training.
Partners can receive live, interactive training from a Ribbon trainer from their secure location(s). Available through Microsoft Skype for Business and a remote laboratory environment accessed through a PC or laptop browser for a maximum of 12 students. Students receive instruction from the same instructors who teach face to face classes. The same content is addressed as in live classes including hands-on access to lab systems. Using the remote lab capability, instructors are able to virtually look over the shoulder of students and provide individual assistance and feedback.
Training Certification Tracks by product and Functional Role.

Ribbon offers training certification curriculums designed to ensure our partners are capable of selling, deploying and supporting Ribbon products. Certifications are comprised of self-paced courses (eLearning) and in-depth Instructor led courses (Workshops) that provide extensive hands-on exercises. Information about classes scheduled to be held at a Ribbon facility or in a virtual environment are posted on the Ribbon Training Page and on the Partner Portal.

Note: all Sales and Sales Engineers must complete the following training as part of the certification.
Ribbon Quote & Order Management – ½ Hour Self-Paced

SBC CORE

SBC CORE Sales Professional Certification
SBC Core Sales – 5 Hours Self-Paced

SBC CORE Sales Engineer Professional Certification
SBC Core Sales Engineer – 15 Hours Self-Paced

SBC CORE Support Professional Certification
SBC Core Support Operations – 3 and ½ Hours Self-Paced
SBCC21 - SBC Core Support – 5 Day Instructor Led

SBC CORE Implementation Professional Certification
SBC Core Support Operations – ½ Day Self-Paced
SBCC21 - SBC Core Support – 5 Day Instructor Led
SBCC25 - SBC Core Implementation – 5 Day Instructor Led
Certification requires the student to participate in a “virtual ride-along, fees may apply.

SBC EDGE

SBC EDGE Sales Professional Certification
SBC Edge Sales – 3.5 Hours Self-Paced

SBC EDGE Sales Engineer Professional Certification
SBC Edge Sales Engineer – 5 Hours Self-Paced

SBC EDGE Implementation and Support Professional Certification
SBC Edge Support Operations – 2 and ½ Hours Self-Paced
SBCE15 - SBC Edge Implementation and Support – 3 Day Instructor Led

PSX

PSX Sales Professional Certification
PSX Sales – 3 Hours Self-Paced

PSX Sales Engineer Professional Certification
PSX Sales Engineer – 4.5 Hours Self-Paced

PSX Support Professional Certification
PSX15 - PSX Support in IP Environments – 5 Day Instructor Led
EMS

EMS Sales Professional Certification
EMS Sales – 1 Hour Self-Paced

EMS Sales Engineer Professional Certification
EMS Sales Engineer – 1 Hour Self-Paced

EMS Implementation and Support Professional Certification
REMS15 - EMS Support and Implementation – 3 Day Instructor Led

Certification Time Requirement

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<th>Sales Engineering</th>
<th>Support Engineering</th>
<th>Implementation Engineering</th>
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SBC Core Sales Professional

Curriculum Description
This curriculum is designed to provide the Partner Sales employee with the working knowledge to position and sell the SBC Core product.

Curriculum Length and Delivery Method: 3 Hours Self-Paced

Intended Audience:
Channel Partners working toward SBC Core sales certification.

OPS-PS-110 Quotation Management – 15 minutes
- Provides a working knowledge for configuring and quoting by reviewing the Ribbon online configuration tool and associated quoting processes. Required for SEs recommended for all users.

OPS-PS-120 Ribbon Order Management – 16 minutes
- This course reviews Ribbon order management processes and tools. It is designed for partner personnel responsible for entering and tracking orders, invoices and payments.

SBC5K-S-100 SBC 5000 Series Sales Training – 60 minutes
- Provides the working knowledge needed to be effective making “performance assurance” a competitive sales differentiator.

SBC5K-S-110 SBC 5000/SWe Implementation Services – 13 minutes
- Provides the working knowledge needed to price and quote Ribbon services specifically designed for the Ribbon SBC.

SBC5K-S-120 SBC SWe Sales Training – 28 minutes
- Provides the working knowledge needed to price and quote Ribbon services specifically designed for the Ribbon SBC.

SBC5K-S-130 SBC 5000 Video Primer – 34 minutes
- Provides the working knowledge of video concepts customers are considering.

SBC5K-S-150 SBC 5400 Configuration and Interface Options – 10 minutes
- Provides the working knowledge of the SBC 5400 configuration and interface options.

SBC5K-S-150 SBC 5400 Configuration and Interface Options – 10 minutes
- Provides the working knowledge of the SBC 5400 Configuration and interface options.

SBC5K-S-160 SBC 5400 Licensing – 16 minutes
- Provides the working knowledge of the SBC 5400 licensing structure and options.

SBC5K-S-170 SBC 5400 Sales Training – 30 minutes
- Provides the working knowledge needed to effectively sell the SBC 5400 series including, what it is and does, positioning in the network, who to sell to, customer business value, and competitive differentiators.
SBC-S-100 SBC 7000 Sales Training – 30 minutes
- Provides the working knowledge needed to effectively sell the SBC 7000 including, what it is and does, positioning in the network, who to sell to, customer business value, and competitive differentiators.

SER-S-110 Sonus Care Maintenance Program and Pricing – 13 minutes
- Provides the working knowledge needed to apply “SonusCare” Maintenance support to your customers.

EMS-S-100 Ribbon Insight Element Management System – 31 minutes
- Provides the working knowledge needed to be effective making “performance assurance” a competitive sales differentiator.

**Optional modules below provide additional skills beyond the basics providing insight to quoting opportunities.**

SBC-S-SP-200 Where to sell the SBC 5X00 Series in the Service Provider Market – 13 minutes
- Provides the working knowledge needed to apply “SonusCare” maintenance support to your customers.

SBC-S-SP-210 SBC Opportunity #1: Providing SIP trunks to Enterprises – 52 minutes
- In this course, you will learn about the types of Enterprises to sell the Ribbon products to and the clear criteria of where to sell and where not to sell.

SBC-S-SP-220 SBC Opportunity #2: Enablement of Hosted Services – 45 minutes
- In this course, you'll learn about the opportunities for Ribbon products where Enterprises are using hosted services.

SBC-S-SP-230 SBC Opportunity #3: The Over the Top Service Providers – 35 minutes
- In this course, you'll learn the opportunities for Ribbon products in the over the top Service Providers.

SBC-S-SP-240 SBC Opportunity #4: Wholesaler Peering Enablement – 31 minutes
- In this course, you'll learn the opportunities for Ribbon products in a Wholesaler peering environment.

SBC-S-SP-250 SBC Opportunity #5: SBC Managed Services – 47 minutes
- In this course, you'll learn the opportunities for Ribbon SBC Managed Services.
SBC Core Sales Engineering Professional

Curriculum Description
This curriculum is designed to provide the Partner Sales Engineer employee with the working knowledge to position Engineer and sell the SBC Core product.

Curriculum Length and Delivery Method: 14 and ½ Hours Self-Paced

Intended Audience:
Channel Partners working toward SBC Core Sales Engineering certification.

OPS-PS-110 Quotation Management – 15 minutes
- Provides a working knowledge for configuring and quoting by reviewing the Ribbon online configuration tool and associated quoting processes. Required for SEs recommended for all users.

OPS-PS-120 Ribbon Order Management – 16 minutes
- This course reviews Ribbon order management processes and tools. It is designed for partner personnel responsible for entering and tracking orders, invoices and payments.

SBC5K-S-100 SBC 5000 Series Sales Training – 60 minutes
- Provides the working knowledge needed to be effective making “performance assurance” a competitive sales differentiator.

SBC5K-S-110 SBC 5000/SWe Implementation Services – 13 minutes
- Provides the working knowledge needed to price and quote Ribbon services specifically designed for the Ribbon SBC.

SBC5K-S-120 SBC SWe Sales Training – 28 minutes
- Provides the working knowledge needed to prices and quote Ribbon services specifically designed for the Ribbon SBC.

SBC5K-S-130 SBC 5000 Video Primer – 34 minutes
- Provides the working knowledge of video concepts customers are considering.

SBC5K-S-150 SBC 5400 Configuration and Interface Options – 10 minutes
- Provides the working knowledge of the SBC 5400 configuration and interface options.

SBC5K-S-160 SBC 5400 Licensing – 16 minutes
- Provides the working knowledge of the SBC 5400 licensing structure and options.

SBC5K-S-170 SBC 5400 Sales Training – 30 minutes
- Provides the working knowledge needed to effectively sell the SBC 5400 series including, what it is and does, positioning in the network, who to sell to, customer business value, and competitive differentiators.

SBC-S-100 SBC 7000 Sales Training – 30 minutes
- Provides the working knowledge needed to effectively sell the SBC 7000 including, what it is and does, positioning in the network, who to sell to, customer business value, and competitive differentiators.
SBC-S-SP-200 Where to sell the SBC 5X00 Series in the Service Provider Market – 13 minutes
  • Provides the working knowledge needed to apply “SonusCare” maintenance support to your customers.

SBC-S-SP-210 SBC Opportunity #1: Providing SIP trunks to Enterprises – 52 minutes
  • In this course, you will learn about the types of Enterprises to sell the Ribbon products to and the clear criteria of where to sell and where not to sell.

SBC-S-SP-220 SBC Opportunity #2: Enablement of Hosted Services – 45 minutes
  • In this course, you'll learn about the opportunities for Ribbon products where Enterprises are using hosted services.

SBC-S-SP-230 SBC Opportunity #3: The Over the Top Service Providers – 35 minutes
  • In this course, you'll learn the opportunities for Ribbon products in the over the top Service Providers.

SBC-S-SP-240 SBC Opportunity #4: Wholesaler Peering Enablement – 31 minutes
  • In this course, you'll learn the opportunities for Ribbon products in a Wholesaler peering environment.

SBC-S-SP-250 SBC Opportunity #5: SBC Managed Services – 47 minutes
  • In this course, you'll learn the opportunities for Ribbon SBC Managed Services.

SBC5K-SE-100 SBC 5000 Series Product Architecture – 59 minutes
  • Provides the working knowledge needed to be effective selling the technical capabilities of the SBC 5100

SBC5K-SE-110.1 SBC 5000 Series Deployment Considerations – Part 1 – 35 minutes
  • Provides the working knowledge needed to effectively determine customer deployment options of the Ribbon SBC 5000 Series as well as the deployment considerations in meeting customer needs. Considerations include: Call Admission control, Denial of Service Registrations and Firewall Management among others.

SBC5K-SE-110.2 SBC 5000 Series Deployment Considerations – Part 2 – 36 minutes
  • Provides the working knowledge of Ribbon SBC 5000 Series deployment considerations in meeting customer needs. Considerations include: Media Encryption and Quality of Service (QoS), among others.

SBC5K-SE-110.3 SBC 5000 Series Deployment Considerations – Part 3 – 55 minutes
  • Provides the working knowledge of Ribbon SBC 5000 Series deployment considerations in meeting customer needs. Considerations include: IMS/LTE Environments, Lawful Intercept, Applications Intelligent Networking, Interoperability, among others.
SBC5K–SE-120 SBC 5000 Series Licensing Structure – 18 minutes
- In this course, you’ll learn about the SBC 5000 Series licensing structure and options available to your customers.

SBC5K–SE-130 SBC SWe Licensing Structure – 21 minutes
- In this course, you’ll learn about the SBC SWe licensing structure and the options available to your customers.

SBC5K–SE-140 SBC 5000 Series Video Capabilities – 40 minutes
- This is a drill down course into the SBC 5000 Series video features and capabilities.

SBC5K–SE-150.1 SBC 5000 Security and Best Practices Overview – Part 1 – 33 minutes
- This is a drill down course into the SBC 5000 series security features and capabilities, Part 1

SBC5K–SE-150.2 SBC 5000 Security and Best Practices Overview – Part 2 – 33 minutes
- This is a drill down course into the SBC 5000 series security features and capabilities, Part 2

SBC5K–SE-150.3 SBC 5000 Security and Best Practices Overview – Part 3 – 33 minutes
- This is a drill down course into the SBC 5000 series security features and capabilities, Part 2

SBC5K–SE-160 SBC 5000 SIP Message Manipulation – 29 minutes
- This is a drill down course into the SBC 5000 series SIP Message Manipulation capabilities.

EMS-S-100 Ribbon Insight Element Management System – 31 minutes
- Provides the working knowledge needed to be effective making “performance assurance” a competitive sales differentiator.
SBC Core Support Engineer Professional

SBCC15 - SBC Core Support Professional

Course Description
This course is designed for Channel Partners and Customers tasked with implementing converged voice and data solutions using session border controllers in their network. The hands-on training addresses application components (including hardware where appropriate) used to configure, manage, and troubleshoot the SBC 5x00, SBC 7000, and the SBC SWe platforms. These components include: The Embedded Management Application (EMA), Embedded Call Routing Engine (ERE), and all provisioned elements required for peer-to-peer call/session environments. The course also covers the provisioning for media interworking using transcoding.

This training requires you to view several videos prior to class. The content of these videos will be briefly reviewed in class with time for any questions you may have regarding the material. You will receive more information regarding the videos when you register for class. At the end of the class a practical and theoretical exam will be taken for assessment purposes. In order to achieve certification, you must pass the practical exam with a score of 100% and the theoretical exam with a score of 80% or higher.

Course Length and Delivery Method: 5-day Instructor Led

Intended Audience:
System engineers, consultants and integrators, including Channel Partners working toward technical certification, who are responsible for the implementation, management and support of Ribbon VoIP equipment

Course Objectives:
Upon completion of this course, a student will be able to:

- Understand the usage and implementation scenarios for deploying the SBC applications into peering & access environments
- Explain the hardware components that make up the SBC 5x00/7000 machines
- Utilize the SBC Application Web Interface and Command Line Interface for provisioning and troubleshooting
- Describe various external call flow scenarios
- Provision the SBC Application for call routing in peer-to-peer and peer-to-peer-with-transcoding environments
- Perform software installations, system configurations
- Perform system backup and restore
- Read and manage event logs
- Debug the system for fault resolution
- Effectively use the packet capture tools
- Review system calls and perform troubleshooting tasks
- peering & access environments
- Explain the hardware components that make up the SBC 5x00/7000 machines
- Utilize the SBC Application Web Interface and Command Line Interface for provisioning and troubleshooting
- Describe various external call flow scenarios
- Provision the SBC Application for call routing in peer-to-peer and peer-to-peer-with-transcoding environments
- Perform software installations, system configurations
- Perform system backup and restore
- Read and manage event logs
- Debug the system for fault resolution
- Effectively use the packet capture tools
- Review system calls and perform troubleshooting tasks
- Use advance troubleshooting to resolve packet audio problems
- Provision access control lists (ACLs) and call admission controls (CAC) for system security

Key Topics:

Module 1 – Introduction
- SBC Positioning
- What It Is, What It Does and How It Does It
- Features
- Performance

Module 2 – Hardware
- SBC 5000/5400/7000
- Link Detection
- HA and GRHA
- BMC hardware requirements

Module 3 – Access and Navigation
- Embedded Management Application (EMA) Baseboard Management Controller
- SBC Command Line Interface
- Ribbon EMS
- Linux Access
- Lab

Module 4 – Software Architecture
- SBC application Hierarchy and object relationships
- Interface Groups - Interfaces
- Zones – IP Peers, Sip Trunk Groups, and SIP Signaling ports
- Lab

Module 5 – Provisioning
- Provision an Address Context and other objects to a lab specification
- Test provisioning for endpoint connectivity
- Troubleshoot basic configuration errors
- Lab

Module 6 Call Routing
- Provision:
  - Routing Label
  - Routing Label Routes
  - Routes

Module 7 – Packet Service Profiles
- How PSPs Work
- Provisioning PSPs Pass Through and Transcoding Scenarios
- PSP lab

Module 8 – Troubleshooting
- Event Logs - locate and download
- Call Detail Records - Use CDR tool to interpret a CDR stop record
- Call and Packet Trace – Use LX tool to interpret a call trace log – Send media and signaling to the PKT file and read with Wireshark
- Alarms – Locate and interpret using SBC documentation
- Lab

Module 9 – Command Line Interface
- Accessing the SBC CLI
- Command line syntax
- Command line familiarization - Lab
- Build and run a CLI script to reconstruct the carrier side setup - Lab
- Alarms – Locate and interpret using SBC documentation - Lab

Module 10 – Security
- How Traffic Policing is Done
- 4 Types of Traffic Policing
- Access Control Lists
- Security - Lab
Module 11 – Introduction
- Channel Services Guide/Review – To be replaced with Technical Services Guide when available
- Review Support level 1 and 2 responsibilities
- Documentation review and use
- System installations and upgrades – procedures
- Lab

Module 12 – Architecture and Signal Flows
- SBC Architecture – object relationships/Review
- Call flows through the SBC components
- High Availability – Review

Module 13 – System Configuration
Backup/Restore
- Backup/Restore using the EMA

Module 14 – Debugging Activities
- Sysdump – and other information gathering tasks
- Set up a Call trace with EMA and CLI
- View logs from Linux
- Troubleshooting tools
- Traps and Alarms
- Lab

Module 15 – SMM Introduction
- Using the EMA SMM tool
- Lab Practical – Configure Required Call Flows unassisted
- Certification Exam – Written Examination

Prerequisites:
Knowledge of SIP, SIP & IP Internetworking, IP PBX
Completion of assigned eLearning modules:

SBC5K-T-100 SBC 5000 / 7000 SWe Overview – 23 minutes
- This course provides the working knowledge of what the SBC 5000 Series of products are, what they do, how they do it, and the features available to the customer.

SBC5K-T-110 SBC 5000 Series Hardware Architecture – 25 minutes
- This course provides the working knowledge of the SBC 5000 platform, hardware and software components, and redundancy modules.

SBC5K-T-120 SBC 5000 Series Access Methods – 35 minutes
- This course provides the working knowledge needed to access the SBC 5000 provisioning tools including: Navigator through the Embedded Management Application (EMA), Platform Manager, the baseboard Management Controller (BMC) GUI, Command Line Interface (CLI) and Linux.

SBC5K-T-200 SBC 5000/7000/SWe Basic Provisioning – 20 minutes
- This course provides the working knowledge of provisioning and testing a SIP Peering scenario.

SBC5K-T-210 SBC 5000 Series Basic Routing – 21 minutes
- This course provides the working knowledge of the routing objects and provisioning and testing a basic peer routing scenario.
SBC5K-T-230 SBC 5000 Series Hardware and Software Level 1 Support Responsibilities – 35 minutes
- This course provides the working knowledge of assigning packet service profiles and walks through a pass-through call scenario.

SBC5K-T-240 SBC 5000 Setup for Remote Access via SecureLink – 21 minutes
- This course provides the working knowledge of implementing SecureLink, a software application that must be installed on your SBC for the Ribbon TAC to be able to connect to your SBC remotely to provide Level 2 and 3 support.

SBC5K-T-250 SBC 5000 Problem Solving Resources – 52 minutes
- This course provides the working knowledge of how to locate and interpret specific information you’ll need when reporting a problem to the Ribbon Technical Assistance Center.

SBC7K-T-100 SBC 7000 Overview and Hardware Architecture – 32 minutes
- This course provides the working knowledge of what the SBC 7000 is and does and its hardware architecture, including field replicable units.

SER-PT-100 Global Support Services Engagement – 23 minutes
- This course provides the working knowledge of how to use the Ribbon Global Support Portal to engage the Ribbon TAC, open cases and find useful support information.

SBC Core Implementation Engineer Professional

SBCC25 - SBC CORE IMPLEMENTATION CERTIFICATION TRAINING

Course Description
This course provides training and tools to channel partners who will be deploying Ribbon SBC 5K Hardware/Software Edition solutions on their own. During this hands-on workshop, students will use Ribbon documentation to perform a "basic" deployment on SBCs in a Ribbon lab in accordance with the Service Description.

All the Key topics required for a successful SBC deployment to your customers are included. This includes: Network design, site preparation, SBC configuration, licensing, testing, and software upgrades. At the end of the class a practical and theoretical exam will be taken for assessment purposes. In order to achieve certification, you must pass the practical exam with a score of 100% and the theoretical exam with a score of 80% or higher.

Course Length and Delivery Method: 5-day Instructor Led

Intended Audience:
System engineers, consultants and integrators, including members of Ribbon Channel Partners working toward technical accreditation, responsible for the implementation, management and support of the Ribbon SBC Core product.

Course Objectives:
Upon completion of this course, a student will be able to:
- Successfully deploy a SBC 5K/SWe at a customer site without assistance from Ribbon.
- Gather relevant information for the deployment
- Use the Ribbon customer questionnaire to document the deployment.
• Install and deploy a customer using information from the questionnaire and any applicable Ribbon documentation of procedures (application notes) for a given scenario.
• Successfully install software and perform a software upgrade (with the aid of documentation).
• Add SBC configurations for a deployment.
• Verify and test configurations using the Ribbon Verification Test Plan as a guideline.
• Perform basic troubleshooting
  o Interpret alarms for EMA
  o CDR analysis using “toolbox”
  o Wireshark (Tshark from SBC EMA/Troubleshooting tab)
  o Call trace/packed trace with EMA and LX Tool.

Key Topics:

• Network Design and Preparation
• Lab Details and Tour
• Installation of equipment at customer location – discussion
• VM (SWe) installation
• SBC software (SWe) installation
• SBC Configuration
• Call testing
• Debugging
• Test Plan Execution
• Post Implementation Topics
• SBC Software Upgrades

Prerequisites:

SBCC15 SBC Core Support

Note: Students will need to bring their own laptops.

**SBC Edge Sales Professional**

**Curriculum Description**
This curriculum is designed to provide the Partner Sales employee with the working knowledge to position and sell the SBC Edge product.

**Curriculum Length and Delivery Method:** 3 and ½ Hours Self-Paced

**Intended Audience:**
Channel Partners working toward SBC Edge sales certification.

OPS-PS-110 Quotation Management – 15 minutes
• Provides a working knowledge for configuring and quoting by reviewing the Ribbon online configuration tool and associated quoting processes. Required for SEs recommended for all users.

OPS-PS-120 Ribbon Order Management – 16 minutes
• This course reviews Ribbon order management processes and tools. It is designed for partner personnel responsible for entering and tracking orders, invoices and payments.

SBC-EDGE-e10 Product Overview – 16 minutes
• Introduction to the SBC Edge product line, including basic features and typical deployments.
SBC-EDGE-e12 Hardware Architecture – 17 minutes
- Explains the features, interfaces, and cards for the SBC 1000 and SBC 2000, and also describes the options for the Application Solution Module.

SBC-EDGE-e13 Deployment Scenarios – 15 minutes
- Describes the different deployment scenarios for the SBC Edge, including connecting with legacy PBXs and/or Skype for Business.

SBC-EDGE-e14 Partner Features (MS and Broadsoft) – 18 minutes
- Explains integration of the SBC Edge with Skype for Business, including Active Directory, the Survivable Branch Appliance, and Cloud Connector Edition. Also discusses integration with Broadsoft.

SBC-EDGE-e19 SWe Lite – 17 minutes
- Describes the features and functions of SWe Lite, differences with the SBC 1K/2K, and the basics of SWe Lite first time setup.

SBC-EDGE-e21 Licensing – 15 minutes
- Describes the high level licensing models of the SBC 1000 (including the gateway configurations) and SBC 2000, and explains how to calculate DSP resource requirements.

SBC-S-ENT-200 Where to Sell the Ribbon SBC Solutions Suite in the Enterprise Market. – 18 minutes
- In this course, you will learn about the types of Enterprises to sell the Ribbon Edge products to and the clear criteria of where to sell and where not to sell.

SBC-S-ENT-210 SBC Opportunity #1: SIP Trunks in Enterprises – 50 minutes
- In this course, you will learn why Enterprises need SIP trunks, how to qualify opportunities and how to sell the Ribbon Edge products.

SBC-S-ENT-220 SBC opportunity #2 Microsoft Lync and PBX Interworking – 34 minutes
- In this course, you'll learn about the opportunities for Ribbon Edge products where Enterprises are introducing Microsoft Lync for voice services as well as the interworking legacy PBXs as they implement SIP trunking.

Optional modules below provide additional skills beyond the basics providing insight to quoting opportunities.

SBC-EDGE-e11 Support Tools and Documentation. – 11 minutes
- Explains how to access and navigate the Ribbon Support Portal, and the basics of the LX log parsing tool.

SBC-EDGE-e15 System Setup and User Interface – 13 minutes
- Explains the basics of setting up an SBC Edge system, describes the layout and basic functions of the Web User Interface and using EMS to manage Edge systems.

SBC-EDGE-e16 Support and Problem Solving – 17 minutes
- Describes where to find system information within the Web UI for troubleshooting, setting up logging, analyzing log files with LX and basics of backup/restore and managing licenses.

SBC-EDGE-e17 Tenor Gateway – 15 minutes
- Introduces the Tenor Gateway product set and explains the functions, features and deployment options.

**SBC-EDGE-e20 Call Flow – 20 minutes**
- Defines the three main call configuration entities of the SBC Edge (Signaling Groups, Call Routing Tables, Transformation Tables), and explains the call flow logic of the system.

**SBC-EDGE-e22 Selling the SBC Edge – 15 minutes**
- Defines the three main call configuration entities of the SBC Edge (Signaling Groups, Call Routing Tables, Transformation Tables), and explains the call flow logic of the system.

**SBC-EDGE-e31 Deploying the CCE – 22 minutes**
- Describes the role of the CCE, and provides details on how to deploy the CCE on the ASM.

**SBC-EDGE-e32 Deploying the SBA – 28 minutes**
- Describes the role of the SBA, and provides details on how to deploy the SBA on the ASM.

**SBC-EDGE-e33 Logs – 12 minutes**
- Explains how to configure logs on the SBC Edge, capture them locally or on a remote server, and view them using the LX tool.

**TEN-SE-100 Ribbon Tenor Product Architecture and Deployment Strategies – 31 minutes**
- In this course, you will learn about the Ribbon Tenor components and architecture, how to determine which platform to use in customer situations and about the most common deployment models.

### SBC Edge Sales Engineering Professional

**OPS-PS-110 Quotation Management – 15 minutes**
- Provides a working knowledge for configuring and quoting by reviewing the Ribbon online configuration tool and associated quoting processes. Required for SEs recommended for all users.

**OPS-PS-120 Ribbon Order Management – 16 minutes**
- This course reviews Ribbon order management processes and tools. It is designed for partner personnel responsible for entering and tracking orders, invoices and payments.

**SBC-EDGE-e10 Product Overview – 16 minutes**
- Introduction to the SBC Edge product line, including basic features and typical deployments.

**SBC-EDGE-e12 Hardware Architecture – 17 minutes**
- Explains the features, interfaces, and cards for the SBC 1000 and SBC 2000, and also describes the options for the Application Solution Module.

**SBC-EDGE-e13 Deployment Scenarios – 15 minutes**
- Describes the different deployment scenarios for the SBC Edge, including connecting with legacy PBXs and/or Skype for Business.
SBC-EDGE-e14 Partner Features (MS and Broadsoft) – 18 minutes
  • Explains integration of the SBC Edge with Skype for Business, including Active Directory, the Survivable Branch Appliance, and Cloud Connector Edition. Also discusses integration with Broadsoft.

SBC-EDGE-e19 SWe Lite – 17 minutes
  • Describes the features and functions of SWe Lite, differences with the SBC 1K/2K, and the basics of SWe Lite first time setup.

SBC-EDGE-e21 Licensing – 15 minutes
  • Describes the high level licensing models of the SBC 1000 (including the gateway configurations) and SBC 2000, and explains how to calculate DSP resource requirements

SBC-S-ENT-200 Where to Sell the Ribbon SBC Solutions Suite in the Enterprise Market. – 18 minutes
  • In this course, you will learn about the types of Enterprises to sell the Ribbon Edge products to and the clear criteria of where to sell and where not to sell.

SBC-S-ENT-210 SBC Opportunity #1: SIP Trunks in Enterprises – 50 minutes
  • In this course, you will learn why Enterprises need SIP trunks, how to qualify opportunities and how to sell the Ribbon Edge products.

SBC-S-ENT-220 SBC opportunity #2 Microsoft Lync and PBX Interworking – 34 minutes
  • In this course, you’ll learn about the opportunities for Ribbon Edge products where Enterprises are introducing Microsoft Lync for voice services as well as the interworking legacy PBXs as they implement SIP trunking.

SBC-EDGE-e11 Support Tools and Documentation. – 11 minutes
  • Explains how to access and navigate the Ribbon Support Portal, and the basics of the LX log parsing tool.

SBC-EDGE-e15 System Setup and User Interface – 13 minutes
  • Explains the basics of setting up an SBC Edge system, describes the layout and basic functions of the Web User Interface and using EMS to manage Edge systems.

SBC-EDGE-e16 Support and Problem Solving – 17 minutes
  • Describes where to find system information within the Web UI for troubleshooting, setting up logging, analyzing log files with LX and basics of backup/restore and managing licenses.

SBC-EDGE-e17 Tenor Gateway – 15 minutes
  • Introduces the Tenor Gateway product set and explains the functions, features and deployment options.

SBC-EDGE-e20 Call Flow – 20 minutes
  • Defines the three main call configuration entities of the SBC Edge (Signaling Groups, Call Routing Tables, Transformation Tables), and explains the call flow logic of the system.

SBC-EDGE-e22 Selling the SBC Edge – 15 minutes
  • Describes the market opportunity, features and benefits of SBC Edge, and how to sell within customer organizations
SBC-EDGE-e31 Deploying the CCE – 22 minutes
- Describes the role of the CCE, and provides details on how to deploy the CCE on the ASM.

SBC-EDGE-e32 Deploying the SBA – 28 minutes
- Describes the role of the SBA, and provides details on how to deploy the SBA on the ASM.

SBC-EDGE-e33 Logs – 12 minutes
- Explains how to configure logs on the SBC Edge, capture them locally or on a remote server, and view them using the LX tool.

TEN-SE-100 Ribbon Tenor Product Architecture and Deployment Strategies – 31 minutes
- In this course, you will learn about the Ribbon Tenor components and architecture, how to determine which platform to use in customer situations and about the most common deployment models.

SBC Edge Support and Implementation Engineer Professional
SBCE20 - SBC EDGE IMPLEMENTATION & SUPPORT CERTIFICATION TRAINING

Course Description
This course provides attendees with a solid competency in the SBC 1000 and SBC 2000. This dives into the technical challenges in enterprise voice, Microsoft and BroadSoft environments will highlight the importance of highly scalable and flexible Unified Communications devices to meet the needs of today’s advanced VoIP deployments, both in the Enterprise as well as Service Provider environments. The course will start by looking at the detailed technical positioning and advanced voice solutions using Ribbon products, and continues with hands-on sessions configuring the SBC 1000 and SBC 2000. The focus is to build equipment implementation planning, configuration and troubleshooting skills required for all deployments such as ISDN trunks, SIP Trunks and integration into Microsoft and BroadSoft environments. With an emphasis on understanding call flows through the devices, different call routing scenarios are presented and configured, including Active Directory and Survivable Branch Appliance integration. At the end of the class a practical and theoretical exam will be taken for assessment purposes. In order to achieve certification, you must pass the practical exam with a score of 100% and the theoretical exam with a score of 80% or higher.

You will be required to view 2 videos prior to class. A very brief review of those modules will be done in class to provide an opportunity to ask any questions you may have regarding the material. You will receive more information regarding the videos when you register for this training.

Course Length and Delivery Method: ~3 Day Instructor Led

Intended Audience:
System engineers, consultants and integrators, including members of Ribbon Channel Partners working toward technical accreditation, responsible for the implementation, management and support of Ribbon VoIP equipment within enterprise VoIP and Microsoft Skype for Business environments.
Course Objectives:
Both enterprise VoIP and Unified Communications networks present unique challenges. This course aims to instruct in the understanding of implementation, configuration and basic troubleshooting of the SBC edge products (SBC 1000, SBC 2000 and SWe Lite) in these environments

Module 2 – Initial Setup
- Admin Connectivity
- Initial Setup Screen
- Baseline the SBC and the ASM
- Licensing

Module 3 – User Interface
- Log into the SBC
- User Interface Layout
- Managing the ASM using the WEB UI
- User Interface for SWe Lite
- Adding and Managing licenses
- Software upgrades
- Other Ways to Manage the SBC:
  Insight EMS, REST API

Module 8 – Features and Enhancements
- Widely Deployed Features
- New Features

Module 9 – Partner Deployment Options
- Broadsoft
- Microsoft
  - Media Bypass
  - Survivable Branch Appliance (SBA)
  - Cloud Connector Edition (CCE)
  - Active Directory

Conclusion:
- Exam
- Wrap Up
Prerequisites:
Microsoft Active Directory, Skype for Business competency and an understanding of PBX and IP telephony concepts such as ISDN, SIP, and CAS. Basic familiarity with Regular Expressions (Regex).

SBC-EDGE-e10 Product Overview
- Introduction to the SBC Edge product line, including basic features and typical deployments.

SBC-EDGE-e12 Hardware Architecture
- Explains the features, interfaces, and cards for the SBC 1000 and SBC 2000, and also describes the options for the Application Solution Module.

SBC-EDGE-e13 Deployment Scenarios
- Describes the different deployment scenarios for the SBC Edge, including connecting with legacy PBXs and/or Skype for Business.

SBC-EDGE-e17 Tenor Gateway
- Introduces the Tenor Gateway product set and explains the functions, features and deployment options.

PSX Sales Professional

Curriculum Description
This curriculum is designed to provide the Partner Sales employee with the working knowledge to position and sell the PSX product.

Curriculum Length and Delivery Method: 1 and 1/2 Hours Self-Paced

Intended Audience:
Channel Partners working toward PSX sales certification.

OPS-PS-110 Quotation Management – 15 minutes
- Provides a working knowledge for configuring and quoting by reviewing the Ribbon online configuration tool and associated quoting processes. Required for SEs recommended for all users.

OPS-PS-120 Ribbon Order Management – 16 minutes
- This course reviews Ribbon order management processes and tools. It is designed for partner personnel responsible for entering and tracking orders, invoices and payments.

POL-S-100 Policy Solutions Positioning Training – 10 minutes
- This course provides the working knowledge of how to position the PSX in a solutions sale.

POL-S-110 Selling the Policy Solution – 12 minutes
- This course provides the working knowledge of how to sell the PSX.

POL-S-ENT-200 Where to sell Policy in the Enterprise Market – 9 minutes
- This course provides examples of where to sell the PSX in the enterprise market.
POL-S-ENT-210 Policy Enterprise Opportunity #1: Dial Plan – 21 minutes
- In this course you will learn about the types of Enterprise dial plans and how to sell the Ribbon Policy products.

POL-S-ENT-220 Policy Enterprise Opportunity #2: Call Centers – 21 minutes
- In this course you will learn about the types of Call Center Enterprises and how to sell the Ribbon Policy products.

POL-S-ENT-230 Policy Enterprise Opportunity #3: Call Centers – 20 minutes
- In this course you will learn about the network efficiencies that Enterprises use and how to sell the Ribbon Policy products.

PSX Sales Engineer Professional

Curriculum Description
This curriculum is designed to provide the Partner Sales Engineer employee with the working knowledge to position and sell the PSX product.

Curriculum Length and Delivery Method: 4 Hours Self-Paced

Intended Audience:
Channel Partners working toward PSX Sales Engineering certification.

OPS-PS-110 Quotation Management – 15 minutes
- Provides a working knowledge for configuring and quoting by reviewing the Ribbon online configuration tool and associated quoting processes. Required for SEs recommended for all users.

OPS-PS-120 Ribbon Order Management – 16 minutes
- This course reviews Ribbon order management processes and tools. It is designed for partner personnel responsible for entering and tracking orders, invoices and payments.

POL-S-100 Policy Solutions Positioning Training – 10 minutes
- This course provides the working knowledge of how to position the PSX in a solutions sale.

POL-S-110 Selling the Policy Solution – 12 minutes
- This course provides the working knowledge of how to sell the PSX.

POL-S-ENT-200 Where to sell Policy in the Enterprise Market – 9 minutes
- This course provides examples of where to sell the PSX in the enterprise market.

POL-S-ENT-210 Policy Enterprise Opportunity #1: Dial Plan – 21 minutes
- In this course you will learn about the types of Enterprise dial plans and how to sell the Ribbon Policy products.

POL-S-ENT-220 Policy Enterprise Opportunity #2: Call Centers – 21 minutes
- In this course you will learn about the types of Call Center Enterprises and how to sell the Ribbon Policy products.

POL-S-ENT-230 Policy Enterprise Opportunity #3: Call Centers – 20 minutes
- In this course you will learn about the network efficiencies that Enterprises use and how to sell the Ribbon Policy products.
POL-SE-100 Policy Product and Architecture – 30 minutes
- In this course, you will learn about the Ribbon Policy product and architecture

POL-SE-110 Policy Deployment and Redundancy Models – 30 minutes
- In this course, you will learn about the types of deployments and how to sell redundancy models for the Ribbon Policy products

POL-SE-120 Policy Licensing Guidelines – 30 minutes
- In this course, you will learn about the licensing for the Ribbon Policy products and the various options.

POL-SE-130 Internal Architecture and Call Processing Part 1 and 2 – 57 minutes
- In this course, you will learn about internal architecture and call processing for the Ribbon Policy products.

PSX Support Engineer Professional

PSX15 PSX Support Certification in IP Environment 5 Days
Instructor Led

Course Description
This course teaches how to provision the PSX Policy Server to perform call routing/translations for calls processed by an SBC. It teaches how to fill essential database tables on the PSX Policy Server based on the most common Ribbon applications. In addition, the student will learn about advanced topics for call routing and delivering advanced services. All specialized training focuses on a particular provisioning item and has hands-on exercises using the Insight EMS interface. This course has two distinct sections for basic and advanced topics. At the end of the class a practical and theoretical exam will be taken for assessment purposes. In order to achieve certification, you must pass the practical exam with a score of 100% and the theoretical exam with a score of 80% or higher.

Curriculum Length and Delivery Method: 5 Days Instructor Led

Target Audience:
Translation engineers, call routing specialists, or anyone responsible for provisioning routing tables and call treatment services on the PSX Policy Server.

Section 1
Basic Course Objectives:
Upon completion of this course, a student will be able to:
- Trace a policy request as it is processed through the PSX
- Navigate through the Insight PSX Manager graphical user interface
- Provision the PSX database to support basic routing
- Test routes provisioned in the PSX using the SSREQ tool

Key Topics:
Module 1 – Overview
- How the PSX is positioned in a network
- What the PSX is and what it does
- The different PSX features
- How the PSX processes a Policy Request

Module 2 – Architecture
- Centralized PSX Hardware
- Different PSX configurations
- Various Redundancy Options
- PSX Software Architecture and Processes
Module 3 – PSX Navigation
- Ribbon Insight EMS
- Navigation
- Icons and documentation
- PSX Manager Drop Down Menus
- Choosing an Entity
- Entity Tracker
- Hot Links
- Adding Records

Module 4 – Basic Routing
- Standard Route – Processing Order
- Standard Route – Data Fill Order
- Gateway Entity
- Trunk Group Entity
- IP Peer & Zone Index Entities
- Country Entity
- Partition Entity
- SSG Entity
- Carrier Entity
- Softswitch Entity
- Time Range Entity
- Holiday Entity
- Routing Label Entity
- Supported Call Types
- Transmission Medium
- Standard Route
- Route Filtering

Module 5 – Basic Simulated Call Trace Tools
- Setting Up SSReq
- Verifying Routes
- Configure Menu
- File Menu
- Policy Request and Response Information

Module 6 – PSX IP (SIP) Trunk Group Setup
- Trunk Group – Data Fill Order
- Numbering Plan
- Prefix Profile Entity
- Carrier Selection Priority Entity
- Feature Control Profile Entity
- IP Peer & Zone Index Entities
- Various Profile Entities
- Signaling Flags
- Class of Service Entity
- Trunk Group Entity

Module 7 – Simulated Call Trace Tool (SSReq)
- Submitting a Policy Request
- PSX Processing Flow
- Reviewing a Policy Response
- Call Type Enumerations
- Reading Call Trace Output

Module 8 – PES.log
- Turn on and off PES.log
- Understand the difference between SSReq and PES.log

Section 2
Advanced Course Objectives:
Upon completion of this course, a student will be able to:
- Provision 14 different routing techniques
- Understand the DSI structure and where announcements are stored
- Build a blocking script using the Service Profile Editor
- Build services for each of the three service categories:
  - Provision treatment, routing and enhanced services
  - Provision the PSX to perform digit manipulation and parameter manipulation
  - Provision the PSX to translate 800 numbers locally
- Use the Command Line Interface method to add, update and delete records in the PSX database

Topics:
Module 1 – Additional Routing Techniques
- Default Country Routing & Default World Routing
- Proportion & All Proportion
- Round Robin Routing
- Route Filter Routing
- Local Routing
- Least Cost Routing
- Temporary Alternative Routing
- Element Routing Priority Routing
- Route Hopping
- Origination Entity Routing
- Prefix Profile Routing
- Range Profile Routing
- On Net or Off Net Routing
**Module 2 – Announcements & the Service Profile Editor**
- Format
- How to build the blocking script using the Service Profile Editor
- How to build treatment services that will block or screen calls
- Examples include:
  - Blocking Services
  - International Blocking Services
  - Hi Fraud Country Blocking Service
  - Screening Service

**Module 3 – Treatment Services**
- How to build treatment services that block or screen calls
- Examples include:
  - Blocking Services
  - International Blocking Services
  - Hi Fraud Country Blocking Service
  - Screening Service

**Module 4 – Routing Services**
- How to build special routing services
- Examples include:
  - Calling Forced Routing
  - Destination Forced Routing
  - Special Access Code (SAC) Routing - North America Only
  - Services Standard Routing

**Module 5 – Enhanced Services**
- How to provision authorization codes and build an authcode service

**Module 6 – Digit & Uri Manipulation**
- Digit Manipulation Definition
- DM/PM Entities
- DM/PM Processing Order
- DM/PM Locations
- Variable Replacement
- Constant Replacement
- DM/PM Sub-Rules
- URI Manipulation

**Module 7 Local Database Translation**
- Local Database Translation Scenario
- Required Entities
- Number Translation Criteria entity
- Number Translation Service Definition entity
- Number Translation Label entity
- Number Translation entity
- Softswitch entity
- Country entity
- Testing using SSReq

**Module 8 – Command Line Interface (CLI)**
- How to use the CLI User Guide
- Accessing using Telnet or Putty
- Understanding the CLI Structure
- General Shell Commands, Querying and Provisioning Commands
- Building and Executing scripts

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**EMS Sales & Sales Engineering Professional**

**Curriculum Description**
This curriculum is designed to provide the Partner Sales employee with the working knowledge to position and sell the Ribbon EMS product.

**Curriculum Length and Delivery Method:** 1 Hour Self-Paced

**Intended Audience:**
Channel Partners working toward EMS sales certification.

EMS-S-100 Ribbon Insight Element Management System (EMS) Sales and SE Training
EMS-ISC-100 Login and Registration Part 1 - 19 minutes

As we mentioned in this part of the course, the purpose of the EMS Overview, Login and Registration is to familiarize you with the basics of accessing, navigating and then using the EMS to perform some basic setup tasks.
EMS-ISC-100 Login and Registration Part 2 – 15 minutes

- In this part, we will cover the remaining three Insight Administrator tabs listed here, and describe the purpose of the device manager.

EMS-ISC-110 Users and Roles – 19 minutes

- In this course, the Users and Roles application plays an important role in the initial setup of the EMS. Managing user names, passwords, security access levels, and many other functions that can be critical to the way the EMS oversees the network.

- In this course, we will discuss these functions in detail. In particular, you will learn to build and view roles, resource groups, users, user groups, and access control lists. This will help you support user access from within the Sonus Insight EMS.

- You will also learn to build user reports, how to terminate or unlock users, as well as synchronize user/passwords with the PSX.

EMS-ISC-120 Monitoring Alarms FM Part 1 - 16 minutes

- Working in a Network Operations Center (NOC) requires you to be able to view alarms from devices in the network as they are generated. In this course, we will show you how to create “views” that allow you to monitor all devices, or selected devices, depending on the requirements.

- In the first part of this course, we will use Fault Manager to view traps and alarms, and go over how to manage alarms by acknowledging them, assigning alarms to users, writing journal entries to share with others and clearing or deleting alarms.

EMS-ISC-120 Monitoring Alarms FM Part 2 – 16 minutes

- As we mentioned in part-1 of this course, working in a Network Operations Center (NOC) requires you to be able to view alarms from devices in the network as they are generated.

- In this part of the course, we will show you how to create “views” that allow you to monitor all devices, or selected devices, depending on the requirements. We will review the Fault Manager’s documentation, and finally discuss how to manage alarms from the Network Dashboard.

EMS-ISC-130 Advanced FM – 13 minutes

- This course is designed to teach you more about the Configuration of the Fault Manager.

- We will be discussing:
  - How to configure trap forwarding
  - How to create alarm rules
  - How to set administrative settings, including purging alarms from the EMS server

EMS-ISC-140 Support_SG05_Performance – 16 minutes

- In this course, you will learn to build and assign data collection profiles, then create and view performance reports. You will also learn to create thresholds.

EMS-ISC-150 CDRs – 17 minutes

- This course is designed to teach you about log files, log file management and Call Detail Records.
• While most of the focus is on Call Detail Records, or CDRs, log management is standard across log file types. In other words, what you learn about managing CDR files is applicable to other types of log files, such as DBG, TRC, and so on.

EMS-ISC-160 Call Trace Core Devices – 12 minutes
• This course is designed to teach you more about the Call Trace tool. We will be discussing:
  • How to create a call trace filter
  • How to view a call trace filter in the EMS
  • How to enable PSX trace destination, and
  • How to view PSX policy response in the EMS

EMS Support and Implementation Engineering Professional

REMS16 Ribbon EMS Support and Implementation Certification Training – 3 Day Instructor Led

Course Description
The object of this course is to provide the students with the knowledge and experience (hands-on labs will available in each module) that they will need to install a standalone EMS, navigate the EMS, monitor the network and perform daily or weekly tasks on the EMS. Students will learn how to perform baseline monitoring and maintenance tasks using the EMS as the managing tool. The EMS is mandatory in all Cloud SBC deployments. Since there is no difference between the provisioning of a virtual EMS/SWe versus a physical device, the information provided in this course will be valid for monitoring, configuring or provisioning both types of installations. At the end of the class a practical and theoretical exam will be taken for assessment purposes. In order to achieve certification, you must pass the practical exam with a score of 100% and the theoretical exam with a score of 80% or higher.

Course Length and Modality – 3 Day Instructor Led

Target Audience
System engineers, Network Operations Center Tier 1 and 2 technicians, consultants and integrators, including members of Ribbon Channel Partners working toward technical accreditation, responsible for the management, monitoring and support of Ribbon equipment via the Ribbon Insight EMS

Course Objectives:
Upon completion of this course, a student will be able to:
- Navigate the Insight EMS GUI and identify the proper application to use to perform task on the different Sonus devices
- Create new users and groups, assigning security privileges, logins and passwords
- Monitor the individual devices or the network and to recognize when alarms indicate problems in the network; as well as what action to take to clear the alarm
- Create and read Call Detail Records and Trace Files to troubleshoot call problems
- Create and implement Data Collection Profiles, which in turn are used to run the performance reports that provide real-time and historical information as to the status of the network
- Install a Stand-Alone version of the EMS, PSX GUI package and On-Line Documentation
- Register and discover Sonus Devices, add licenses to an EMS
- Perform daily and weekly routine maintenance, such as EMS status commands, backups and restores
- Monitor EMS processes
- Certification Exam

**Key Topics:**

**EMS-ISC – EMS Basics**
- Using an EMS, you will prove that you can:
  - Create Users and Roles
  - Build a Fault Manager View and display that view using the Real-Time tab.
  - Access the Advanced Fault Manager tabs and answer some questions
  - Build and display a Performance Report
  - Build a Call History Report
  - View a Call Trace

**EMS-ISC – EMS SWe Installation Workshop**
- Using VMWare, you will install a SA EMS, PSX GUI Package and On-Line Documentation
- Once the EMS is installed you will register and discover 2 Sonus devices: A PSX and SBC Core device
- Following the registration, you will add 2 licenses: Calls Per Second and CLI
- You will also test access to the EMS CLI

**EMS-ISC – EMS for SBC Core Devices**
- Produce an Inventory Report
- Backup and Restore a single SBC or a group of SBC devices
- Download backup files to your PC
- Upgrade an SBC Core device

**EMS-ISC – EMS for SBC Edge Devices**
- Backup and Restore a single SBC or a group of SBC devices
- Download backup files to your PC
- Create configuration files from a backup
- Provision new SBCs from an existing configuration file
- Upgrade one or more 1Ks or 2Ks at the same time

**EMS-ISC – EMS Routine Maintenance**
- Perform daily and weekly routine maintenance tasks
- Starting and Stopping the EMS
- Backing up an EMS
- Starting and Stopping the EMS Database and Listener
- Starting and Stopping the Fault Manager
- Create a snapshot of your EMS to send to Ribbon Support

**EMS-ISC – EMS Support**
- Locate important EMS directories and log files
- Verify versions installed EMS package
- What would you do? Troubleshooting Scenarios

**Conclusions**

- Review
- Certification Exam – Multiple choice

**Prerequisites**
- None