Course 20337B:

Enterprise Voice and Online Services with Microsoft Lync Server 2013

Course Details

Course Outline

Module 1: Voice Architecture

This module introduce Enterprise Voice features of Lync Server 2013 and discusses all components required to for implementation. A high level architectural design is provided and all relevant components such as mediation servers, gateways, SIP trunks, and PBX are discussed. This module provides students with the technical foundation to plan and deploy the Enterprise Voice workload.

Lessons

- Architecture and Server Roles

- Voice Features of Lync Server 2013

- Site Topologies

After completing this module, students will be able to:
- Describe the Enterprise Voice features and capabilities of Lync Server 2013.

- Explain Enterprise Voice architecture and server roles of Lync Server 2013.

- Define site topologies for an Enterprise Voice deployment.

Module 2: Configuring Basic Enterprise Voice Functionality

Basic enterprise voice functionality provides a seamless ability for employees to make and receive phone calls from legacy phones, IP phones, Lync clients, and even mobile devices. A caller just needs to know one number for calling employee or if integrated with Active Directory, just the name. This module discuss configuration items relevant to Enterprise Voice. At the end of the module, students will have an in-depth understanding of configuration items such as trunks, routes, voice policies, and dial plans. Students will be able to configure Enterprise voice, implement routing and normalization and enable users for Enterprise Voice functionality.

Lessons

- Introduction to Lync Voice Routing

- Configuring Enterprise Voice

- Defining Voice Policies

- Assigning DID Numbers

- How to Design a Dial Plan

Lab : Preparing for Enterprise Voice

- Analyzing the Existing Voice Infrastructure

- Configuring the Topology for Enterprise Voice

- Configuring Dial Plans and Normalization Rules

- Configuring Voice Routes

- Configuring Voice Policies and PSTN Usages

- Configuring Number Manipulation on Trunks

- Enabling Users for Enterprise Voice

- Verifying and Testing Normalization Rules

- Testing Trunk Routing and Translation Rules

- Configuring Inter-Trunk Routing

After completing this module, students will be able to:
- Create phone number normalization rules based on enterprise dialing habits.

- Define enterprise voice topology by using Topology Builder.

- Design and configure a dial plan.

- Configure voice policies and routes.

- Manage voice features for users.

Module 3: Designing Exchange Server 2013 Unified Messaging Integration with Lync Server 2013

This module discusses the process for integrating Exchange Server 2013 Unified Messaging (UM) with Lync Server 2013. Students also learn about UM dial plan requirements and how to create and configure a UM dial plan. Students learn how to enable a user for UM integration with Lync Server 2013.

Lessons
- Overview of Exchange 2013 Unified Messaging

- Integrating Unified Messaging with Lync Server 2013

Lab : Designing Exchange Server 2013 Unified Messaging with Lync Server 2013

- Configuring Exchange Server 2013 UM to work with Lync Server 2013 Enterprise Voice

- Configuring Lync Server 2013 Interoperability with Exchange Server 2013 Unified Messaging

- Testing and Verifying Integration

After completing this module, students will be able to:
- Understand how Lync Server 2013 integrates with Exchange Server 2013 UM.

- Plan for Exchange Server UM requirements.

- Configure Lync Server 2013 to work with Exchange Server 2013 UM.

Module 4: Voice Applications

Basic enterprise voice functionality provides a seamless ability for employees to make and receive phone calls from legacy phones, IP phones, Lync clients, and even mobile devices. A caller just needs to know one number for calling employee or if integrated with Active Directory, just the name. This module discuss configuration items relevant to Enterprise Voice. At the end of the module, students will have an in-depth understanding of configuration items such as trunks, routes, voice policies, and dial plans. Students will be able to configure Enterprise voice, implement routing and normalization and enable users for Enterprise Voice functionality.

Lessons
- Call Park Service

- Managing Calls to Unassigned Numbers

- PSTN Conferencing

- Overview of Response Group Services

- Implementing Response Group Services

Lab : Implementing Enterprise Voice Applications
- Configuring Call Park

- Configuring the Unassigned Number Feature

- Verifying Call Park Service and Unassigned Number Feature

- Configuring Agent Groups and Queues

- Configuring Workflows

- Configuring the Response Group Service Behavior

- Configuring Dial-In Conferencing

- Verifying Dial-In Access Configuration

After completing this module, students will be able to:
- Describe the purpose of Call Park.

- Explain the Unassigned Number feature.

- Describe PSTN conferencing.

- Describe Response Group Services.

- Describe the components of Response Group Services.

Module 5: Configuring and Deploying Emergency Calling

This module covers the Location Information Server (LIS) and how to implement Emergency dialing and Enhanced 911 (E9-1-1) where appropriate. The module discusses the implementation and configuration of Emergency Services for a Lync infrastructure and explores various configuration aspects of Emergency Services, such as location services, call routing and E9-1-1.

Lessons

- Introducing Location Information Server

- Overview of Setup and Call Flow

- Designing Location Policies

- Implementing LIS

- Address Discovery

- User Experience

Lab : Configuring Location Information Service for Emergency Calling and Enhanced 9-1-1

- Creating Emergency Routes and PSTN Usages

- Configuring Number Manipulation on Trunks for Emergency Numbers

- Defining LIS Locations

- Experiencing LIS Features

- Creating E9-1-1 Gateway Configuration

- Verifying Emergency Calling through the E9-1-1 Gateway

- Creating an Alternate Local Path for Emergency Calls

After completing this module, students will be able to:
- Describe Location Information Service (LIS).

- Understand how to set up and implement E9-1-1.

- Design Location policies for an E9-1-1 implementation.

- Configure LIS.

- Understand how location discovery works.

- Describe the process when a user makes an emergency call.

Module 6: PSTN Integration

This module discusses how to connect Microsoft Lync Server 2013 to a public switched telephone network (PSTN) using an existing Public Branch Exchange (PBX), gateway or Internet Telephone Service Provider (ITSP). Connection to the PSTN allows enterprise users to make calls to and receive calls from outside external numbers using the same Lync client used for internal calls. Later lessons will cover Lync 2013 features to improve managing and interacting with external users connected through the PSTN.

Lessons

- Connecting to the PSTN
- Connecting to the Existing PBX
- M:N Interworking Routing
- Call Routing Reliability

After completing this module, students will be able to:
- Connect Lync to the PSTN.
- Implement M:N interworking routing.
- Define a reliable route for calls by using the PSTN.
- Identify Auxiliary Calling Information passed during call forwarding.

Module 7: Lync Server 2013 and Networking

This module focuses on network requirements planning, including Quality of Service (QoS), capacity, conferencing traffic, Edge placement, and bandwidth management. The module also discusses how to plan and deploy Call Admission Control (CAC). Students will learn about Lync networking dependencies, design guidelines, and best practices. The module also provides background information on CAC and QoS, and design and configuration information. At the end of the module, students will understand the networking requirements for Lync Enterprise Voice, and know how to successfully design, implement and configure Lync for both QoS and CAC.

Lessons

- Planning for Media Requirements
- Call Admission Control
- Planning for Call Admission Control
- Media Bypass

Lab : Implementing Call Admission Control

- Configuring CAC Components

- Verifying Bandwidth Policy Application

After completing this module, you students be able to:
- Enable Lync Server 2013 for QoS.

- Enable Call Admission Control.

- Create network inter-site policies.

- Enable media bypass.

Module 8: Phones and Devices

This module discusses selecting, deploying and configuring phones and devices to use with Lync. At the end of the module the student will be able to deploy and configure Lync phones and devices.

Lessons
- Introduction to Phones and Devices

- Device Deployment

- Lync Server 2013 Phone Management

- Analog Device Support

After completing this module, students will be able to
- Understand the differences between the different types of Lync phones.

- Recommend phones for information workers, conference rooms and common areas.

- Set up, configure, and manage Lync Phone Edition and compatible devices.

- Configure voice policies for common area phones.

- Deploy and support analog phone devices.

Module 9: Lync Online Configuration and Migration

This module introduces Lync Online and hybrid scenarios as well as explaining how to migrate users to Office 365. The different Lync online deployment architectures and the differences in feature set and functionality are discussed.

Lessons
- Office 365 Architecture

- Deploying Lync Online

- Lync Hybrid Scenarios

Lab : Deploying Lync Online
- Implementing Identity Management with Office 365

- Deploying and Configuring a Lync Edge Server

- Configuring a Hybrid Deployment of the New Lync Server

After completing this module, students will be able to:
- Deploy Lync Online.

- Synchronize on-premises Active Directory and Microsoft Online Services Directory using Microsoft Online Services Directory Synchronization tool.

- Describe options for deploying Lync in a hybrid environment.

- Configure Lync split domain.

Module 10: Quality of Experience

This module explains the requirements for quality of experience (QoE) monitoring. Students learn to interpret and use QoE reports to better manage and deliver the Lync Server 2013 user experience.

Lessons

- Voice Quality Concepts

- Exploring Lync Monitoring Server Components

- Exploring Lync Monitoring Server Reports

- RTP and RTCP Collected Information

Lab : Exploring Monitoring Server Reports

- Reviewing Per-to-Peer Session Detail Reports

- Reviewing Call Detail Reports

After completing this module, students will be able to:
- Understand requirements for installing Monitoring server.

- Identify different built-in reports.

- Describe each matrix available in the reports.

- Review Quality of Service reports.

Module 11: Voice Resiliency

This module examines the capabilities of Lync Server 2013 for providing voice resiliency across the enterprise. The module explores multiple failure scenarios, such as central site, branch, and WAN failover.

Lessons

- Voice Resiliency in Lync Server 2013

- Lync Pool Resilience

- Branch Office Resilience

Lab : Implementing Voice Resiliency in Lync Server 2013

- Configuring a Survivable Branch Server

- Testing and Verifying Branch Office Resiliency with a WAN

- Testing and Verifying Branch Office Resiliency with a Pool

- Testing and Verifying Branch Office Resiliency with an SBA

- Testing and Verifying Central Site Voice Resiliency

After completing this module, students will be able to:

- Understand the resiliency challenges related to Lync Enterprise Voice.

- Describe the different Lync Server 2013 features that improve voice resiliency.

- Design and deploy Branch office resiliency improvements.

- Understand client behaviour for different outage scenarios.