

## Deploying, Configuring, and Administering Microsoft Lync Server 2010

### Introduction

This **five-day** instructor-led course teaches **IT professionals** how to deploy, configure, and administer a Microsoft Lync Server 2010 solution. The course emphasizes Lync Server 2010 **Enterprise Voice** features from a **deployment and configuration** perspective. The labs in this course build on each other to create a solution that includes **IM and Presence, Conferencing, and Enterprise Voice**. This course helps the student prepare for **Exam70-664**.

### Audience Profile

This course is intended for **IT professionals** and **telecommunications professionals**, who want to learn how to **install, configure, manage and maintain** a Microsoft Lync Server 2010 environment. These professionals should have at least 3 years' experience working with unified communications software, including knowledge of and experience with Microsoft Office Communications Server 2007 R2.

### At Course Completion

After completing this course, students will be able to:

- Describe how the features and architecture of Microsoft Lync Server 2010 enable real time communication and collaboration
- Deploy Lync Server 2010
- Configure users and rights using Role Based Access Control (RBAC)
- Deploy and manage Lync 2010 clients
- Configure and manage external user access using the Edge server role
- Deploy basic Enterprise Voice functionality
- Extend Enterprise Voice functionality to include Trunk options, call park orbit, and the unassigned number feature
- Integrate Microsoft Exchange Server 2010 Service Pack 1 (SP1) Unified Messaging (UM) with Lync Server 2010
- Configure the Response Group Service, including agent groups, queues, and workflows
- Configure and manage conferencing
- Configure and use archiving and monitoring
- Perform back up and restore of Lync Server 2010 critical data
- Improve bandwidth management using Call Admission Control (CAC)
- Configure and deploy Enhanced 9-1-1
- Configure a Survivable Branch Server for a branch office

### Pre-requisites

In addition to their professional experience, students who attend this training should have an understanding of the following telecommunications concepts:

- The difference between TDM and VoIP
- Gateways and PBX
- Session Initiation Protocol (SIP)
- Codecs
- Dialing plans

Students should also understand the following general concepts:

- Networking fundamentals, including TCP/IP/UDP, DNS
- Active Directory principles and management
- Windows Server 2008 fundamentals
- Public Key Infrastructure (PKI)
- Exchange Messaging concepts
- PowerShell basics
- SQL Server concepts and operation

### Duration

- 5 days
- Includes lunch, refreshments and manuals

**Level:** 200

## Course Outline

### Module 1: Features and Architecture of Microsoft Lync Server 2010

This module introduces the architecture and topology of Lync Server 2010. It also explains a high-level overview of Lync Server 2010 features and capabilities, including enhanced social networking capabilities, and the improved administrative experience provided by the Central Management Store and the Lync Server Control Panel. Additionally, it provides an overview of the new Topology Builder tool.

#### Lessons

- Features of Lync Server 2010
- Architecture and Server Roles
- New Management Tools

**After completing this module, students will be able to:**

- Describe the features and capabilities of Lync Server 2010
- Describe the architecture and server roles of Lync Server 2010
- Describe the management tools of Lync Server 2010



## Module 2: Deploying Microsoft Lync Server 2010

This module introduces the planning and implementation tasks necessary for deploying Microsoft Lync Server 2010 Enterprise Edition. It also explains the Lync Server 2010 infrastructure requirements, the topology design and publishing process, as well as the steps required to prepare Microsoft Active Directory Domain Services (AD DS), deploy a Front End server and pool, and prepare for the deployment of the remaining server roles.

### Lessons

- Preparing for Deployment
- Reviewing the Design Process
- Deploying Lync Server 2010

### Lab : Preparing the Environment and Deploying a Lync Server 2010 Pool

- Exercise 1: Preparing for Lync Server 2010
- Exercise 2: Configuring a Lync Server 2010 Topology
- Exercise 3: Publishing the Topology
- Exercise 4: Configuring Domain Name Server (DNS)
- Exercise 5: Deploying the Front End Server Role

### After completing this module, students will be able to:

- Prepare for the deployment of Lync Server 2010
- Review the design process
- Deploy Lync Server 2010

## Module 3: Configuring Users and Rights in Microsoft Lync Server 2010

This module explains how to configure and manage users in Lync Server 2010. It describes the configuration management options in Lync Server 2010, including the Lync Server Control Panel and the Lync Server Management Shell. It also covers the basic syntax for working in Microsoft Windows PowerShell. Additionally, it describes the Role Based Access Control (RBAC) administrative model in Lync Server 2010, and highlights the predefined roles and the process to create new custom roles.

### Lessons

- Managing Lync Server 2010
- Role-Based Access Control

### Lab : Configuring Users and Rights

Exercise 1: Using the Lync Server Control Panel

Exercise 2: Using the Lync Server Management Shell

Exercise 3: Configuring Role-Based Access Control

### After completing this module, students will be able to:

- Use Lync Server 2010 management interfaces
- Configure Role-Based Access Control

## Module 4: Client and Device Deployment and Management

This module explains how to effectively manage desktop clients and devices in a Microsoft Lync Server 2010 environment. It describes how to create and define client and user policies in Lync Server 2010, as well as new procedures for deploying clients and devices.

### Lessons

- Preparing for Client Deployment
- Deploying and Managing Lync 2010 Clients
- Preparing for Device Deployment
- Deploying and Managing IP Phones

### Lab : Client and Device Management

- Exercise 1: Creating and Assigning Client Policies
- Exercise 2: Creating and Assigning Device Policies
- Exercise 3: Configuring Device Update

### After completing this module, students will be able to:

- Prepare for client deployment
- Deploy and manage clients
- Prepare for device deployment
- Deploy and manage IP phones

## Module 5: External User Access

This module explains how to support external access in a Microsoft Lync Server 2010 deployment. It describes the features and functionality of the Edge Server that support user communication and collaboration with external users, and internal user access to public IM services. Additionally, it explains how to configure network routing for the Edge Server, obtain and install certificates, and create and modify Access Edge Policies for federated, remote, and public scenarios.

### Lessons

- Edge Server Role
- Topologies for External User Access
- Preparing for External User Access
- Edge Server Deployment Process

### Lab : Deploying External User Access

- Exercise 1: Configuring the Topology for External Access
- Exercise 2: Deploying Edge Server and Configuring Remote Access
- Exercise 3: Testing and Verifying External User Access

### After completing this module, students will be able to:

- Define the Edge Server role
- Consider topologies for external user access



- Deploy Edge Server

## Module 6: Configuring Basic Enterprise Voice Functionality

This module provides an overview of the major components, features and topology requirements of Microsoft Lync Server 2010 Enterprise Voice. It explains the capabilities and components that are new or enhanced in Lync Server 2010. It also describes how to prepare, configure, and deploy basic Enterprise Voice functionality.

### Lessons

- Features of Lync Server 2010 Enterprise Voice
- Preparing for Enterprise Voice
- Deploying Enterprise Voice

### Lab : Configuring Basic Enterprise Voice Functionality

- Exercise 1: Configuring the Topology for Enterprise Voice
- Exercise 2: Configuring Lync Server 2010 Enterprise Voice

### After completing this module, students will be able to:

- Describe the features of Lync Server 2010 Enterprise Voice
- Prepare for the deployment of Lync Server 2010 Enterprise Voice Functionality
- Deploy and configure Lync Server 2010 Enterprise Voice Functionality

## Module 7: Extending Enterprise Voice Functionality

This module explains how to configure policies, routes, and usage records. It also describes how to implement the call park and unassigned number features.

### Lessons

- Configuring Enterprise Voice
- Introducing Call Park
- Introducing the Announcement Service

### Lab : Implementing Enterprise Voice

- Exercise 1: Configuring Voice Policies and PSTN Usages
- Exercise 2: Configuring Routes and Site Trunks
- Exercise 3: Configuring Call Park
- Exercise 4: Configuring the Unassigned Number Feature
- Exercise 5: Configure Users for Enterprise Voice
- Exercise 6: Testing and Verifying Enterprise Voice Functionality

### After completing this module, students will be able to:

- Configure Enterprise Voice Functionality
- Introduce the Call Park feature into your Enterprise Voice Deployment of Microsoft Lync Server 2010

- Introduce the Unassigned Number feature into your Enterprise Voice Deployment of Lync Server 2010

## Module 8: Microsoft Exchange Server 2010 SP1 Unified Messaging (UM) Integration

This module describes the prerequisites for integrating Exchange Server 2010 UM with Lync Server 2010. It also explains how to create and configure a UM dial plan. Additionally, it covers how to use the tools and services needed to integrate Exchange Server 2010 UM with Lync Server 2010. Finally it explains how to enable a user for UM integration with Lync Server 2010.

### Lessons

- Overview of Exchange Server 2010 SP1 Unified Messaging
- Prerequisites for Integrating Exchange Server 2010 SP1 UM with Lync Server 2010
- Integrating Exchange Server 2010 SP1 UM with Lync Server 2010

### Lab : Integrating Exchange Server 2010 SP1 Unified Messaging with Lync Server 2010

- Exercise 1: Configuring Exchange Server 2010 SP1 UM to Work with Lync Server 2010 Enterprise Voice
- Exercise 2: Configuring Lync Server 2010 to Work with Exchange Server 2010 SP1 UM
- Exercise 3: Testing and Verifying Integration

### After completing this module, students will be able to:

- Perform the necessary tasks to prepare for the integration of Exchange Server 2010 SP1 Unified Messaging with Lync Server 2010
- Integrate Exchange Server 2010 SP1 Unified Messaging with Lync Server 2010

## Module 9: Implementing Response Groups

This module introduces the Response Group Service and the changes that have been implemented with Microsoft Lync Server 2010. It describes RGS components, including queues, agent groups, workflows, and interactive workflows. It also explains how to use tools such as Lync Server Control Panel, Lync Server Management Shell, and Response Group Configuration Tool to manage workflows.

### Lessons

- Overview of the Response Group Service and its Application
- Response Group Service Components
- Response Group Service Management Tools



## Lab : Configuring the Microsoft Lync Server 2010 Response Group Service

- Exercise 1: Configuring Agents Groups and Queues
- Exercise 2: Configuring Workflows
- Exercise 3: Verifying the Response Group Service Behavior

### After completing this module, students will be able to:

- Describe the function of the Response Group Service and its new features
- Describe the components of the Response Group Service and their settings
- Describe the tools used to configure and manage response groups

## Module 10: Conferencing in Microsoft Lync Server 2010

This module introduces conferencing in Lync Server 2010. It also explains dial-in conferencing in Lync Server 2010 and how to manage and administer conferencing policies.

### Lessons

- Introduction to Conferencing in Lync Server 2010
- Dial-In Conferencing in Lync Server 2010
- Managing and Administering Conferencing Policies

### Lab : Conferencing Configuration and Deployment

- Exercise 1: Configuring Dial-In Conferencing
- Exercise 2: Configuring Conferencing Policies
- Exercise 3: Experiencing Lync Server 2010 Conferencing

### After completing this module, students will be able to:

- Describe the conferencing modes in Lync Server 2010
- Describe the Lync Server 2010 conferencing features
- Discuss the conferencing architecture and infrastructure components
- Explain conferencing call flows
- Explain the conferencing deployment and migration considerations

## Module 11: Monitoring and Archiving

This module describes the features and configuration of the Monitoring and Archiving services. It also explains how to interpret the Quality of Experience (QoE) reports and use this information to better manage and deliver a high-quality user experience for Microsoft Lync Server 2010.

### Lessons

- Describing the Archiving Service
- Describing the Monitoring Service
- Configuring Archiving and Monitoring

## Lab : Configuring and Using Archiving and Monitoring in Lync Server 2010

- Exercise 1: Configuring the Archiving Server Role
- Exercise 2: Configuring the Monitoring Server Role and the Lync Server Monitoring Reports
- Exercise 3: Exploring the Lync Server Monitoring Reports

### After completing this module, students will be able to:

- Describe the archiving service
- Describe the monitoring service
- Configure the archiving and monitoring services

## Module 12: High Availability and Disaster Recovery in Microsoft Lync Server 2010

This module explains the requirements for high availability as well as the requirements for the Domain Name System (DNS) load balancing feature. It also describes the tools and methods for successfully backing up and restoring a Lync Server 2010 environment. Additionally, it explains how to backup and restore and export and import critical Lync Server 2010 data.

### Lessons

- High Availability Options
- Tools for Backing Up and Restoring Lync Server 2010
- Critical Lync Server Data to Export and Import
- Critical Lync Server 2010 Data to Export and Import

### Lab : Preparing for and Recovering from a Disaster

- Exercise 1: Using System and Application Tools to Backup Lync Server 2010
- Exercise 2: Using Lync Server 2010 Tools to Backup Lync Server 2010
- Exercise 3: Restoring Lync Server 2010 Configuration Settings

### After completing this module, students will be able to:

- Describe the high availability options
- Describe the tools for backing up and restoring Lync Server 2010
- Export and import critical Lync Server 2010 data
- Back up and restore critical Lync Server 2010 data

## Module 13: Call Admission Control

This module introduces Call Admission Control (CAC) in Lync Server 2010 and describes the various components. It explains how to deploy and use CAC bandwidth management to help prioritize and control allocation of network resources to real-time communications sessions.



## Lessons

- Overview of Call Admission Control
- Implementing Call Admission Control

## Lab : Implementing Call Admission Control

- Exercise 1: Configuring CAC Components
- Exercise 2: Verifying Bandwidth Policy Application

## After completing this module, students will be able to:

- Describe an overview of CAC features and functionality
- Configure and implement Call Admission Control

- Exercise 2: Testing and Verifying Branch Office Voice Resiliency with a WAN Outage
- Exercise 3: Testing and Verifying Branch Office Voice Resiliency with a Pool Outage
- Exercise 4: Testing and Verifying Branch Office Voice Resiliency with SBS Outage

## After completing this module, students will be able to:

- Explain voice resiliency in Lync Server 2010
- Explain the features available during various outage scenarios

## Module 14: Deploying and Configuring Enhanced 9-1-1

This module introduces Location Information Server (LIS), which builds on Enhanced 9-1-1, technology to provide location information to users of a network. It explains how to deploy and configure LIS for use with or without Enhanced 9-1-1.

## Lessons

- Overview of E9-1-1
- Deploying and Configuring E9-1-1

## Lab : Configuring the Lync Server 2010 Location Information Service for E9-1-1 Calling

- Exercise 1: Creating Emergency Routes and PSTN Usages
- Exercise 2: Defining LIS Locations
- Exercise 3: Experiencing LIS Features

## After completing this module, students will be able to:

Explain the function, features, components, and requirements of Enhanced 9-1-1

Deploy and configure Enhanced 9-1-1

## Module 15: Voice Resiliency Features of Lync Server 2010

This module describes the voice resiliency features of Lync Server 2010. It explains how voice resiliency is used to provide continuous Enterprise Voice service so that users can continue making and receiving calls, even if the central site or the WAN link from a branch to its central site becomes unavailable. It also explores multiple failure scenarios such as central site failover, branch site failover, and WAN failover.

## Lessons

- Voice Resiliency in Lync Server 2010
- Features Available During Various Outage Scenarios

## Lab : Implementing Voice Resiliency in Lync Server 2010

- Exercise 1: Configuring Central Site Resiliency

