

WDBWL (DEPLOYING BASIC CISCO WIRELESS LANS) 1.1

Objetivo

Este curso capacita um administrador de rede para implantar uma solução em rede sem fio (WLAN) através de uma configuração bem sucedida, utilizando os recursos proporcionados pela solução Cisco em redes sem fio. Após a conclusão deste curso, o aluno será capaz de atender a esses objetivos gerais: • Diferenciar as características de uma arquitetura unificada LAN sem fio e configurar e testar os controladores, pontos de acesso e os recursos básicos; • Diferenciar as características de uma arquitetura FlexConnect, bem com configurar e implantar; • Realizar manutenção de rotina, monitoramento de rede e tarefas comuns na solução de problemas em uma solução Cisco wireless LAN.

Público Alvo

O público principal deste curso é composto por: • Engenheiros de campo de Canal • Engenheiros Consultores de rede Cisco • Novos Parceiros Cisco (Cisco Unified Communications) • Gerentes, engenheiros de suporte e administradores de rede do cliente final

Pré-Requisitos

Os conhecimentos e habilidades que o aluno deve ter antes de participar deste curso são os seguintes: • Certificação CCNA ou conhecimentos equivalentes; • Desejável conhecimentos em RF (Rádio Frequência) com experiência de campo ; • Ter assistido os treinamentos IUWNE e/ou CWNS ou com conhecimentos equivalentes; • Conhecimentos básicos em sistema operacional Windows.

Carga Horária

24 horas (3 dias).

Conteúdo Programático

Unified Deployments

This module will introduce and contrast the capabilities of a Cisco unified wireless LAN to those of the autonomous access points. Upon completing this module, the learner will be able to differentiate the characteristics of a unified wireless LAN architecture, and configure and test the controllers, access points, and basic features.

- Perform initial controller setup, and configure basic settings
- Identify and describe the modes of operation available for a unified access point.
- Describe the mechanisms by which an AP associates to a WLC
- Identify and navigate the three user interfaces of a Cisco unified WLAN
- Identify and configure RRM parameters and CleanAir capabilities
- Define what a WLAN is and perform WLAN administration in a Cisco Unified Wireless Network
- Identify and configure the wireless LAN security parameters in a Cisco Unified Wireless Network
- Perform general administration tasks in a Cisco Unified Wireless Network environment

- Use the controller GUI to set up guest access in a Cisco Unified Wireless Network environment

Performing the Initial Wireless LAN Controller Configuration

- Describes how to select the initial setup options for the Cisco WLC
- Describe how to use the web-based GUI setup wizard
- Describe how to connect to the WLC web-based GUI

Describing Unified AP Modes of Operation

- Identifies the different AP operational modes
- Describes the AP local mode operation
- Describes the AP monitor mode operation
- Describes the AP Rogue Detector mode operation
- Describes the AP Sniffer Mode operation
- Describes the AP Bridged Mode operation
- Describes the AP SE-Connect Mode operation
- Describes the AP Flex-Connect Mode operation
- Describes the AP Office Extend operation

Understanding the AP Association Process

- Explains the mechanisms and the high-level process of how an AP joins a WLC
- Describes how an AP selects a WLC to join
- Describes the AP failover process and how to configure the failover priority for APs
- Describes the WLC high-availability capabilities and design options.

User Interfaces to the System

- Describe using the web-based GUI to configure the Cisco WLC settings
- Describe using the CLI to configure the Cisco WLC settings
- Introduce and describe the WLC configuration capabilities available via Cisco Prime Infrastructure

Radio Resource Management and CleanAir

- Describe the split MAC architecture of the Cisco Unified Wireless Network
- Describe the features and functionality of the RRM and describes how to configure the RRM settings on the Cisco WLC
- Introduce and describe the need for, and the benefits derived from deploying a CleanAir solution (Use video)
- Review of the CleanAir concepts and terms presented in the prerequisite course Cisco Wireless LAN Essentials
- Identifies the three modes of Cisco CleanAir operation
- Describe how to enable CleanAir functionality, monitor and interpret available reports
- Describe the two key mitigation features present when Cisco CleanAir is deployed.

Administering WLANs and AP Groups

- Define what a WLAN is and how they are configured in a Cisco Unified Wireless Network
- Describe how passive clients and how the Cisco WLC manages them
- Describe AP groups and how they relate to the SSID and VLAN assignment
- Introduce RF Profiles and describes how to configure them

Configuring Mobility Groups and Roaming

- Define the terms, which are used to describe client mobility within the same subnet in a Cisco Wireless network.

- Describe client-roaming behavior across multiple mobility groups.
- Configure mobility groups on the Cisco WLC.
- Describe the auto-anchor functionality and operation at Layer 2.

Configuring Security Options

- Describes configuring parameters that are related to the local security database
- Describes configuring MAC filtering parameters on the Cisco WLC
- Describe how to configure access control lists on the WLC
- Describe how to configure peer-to-peer blocking on the WLC
- Describe how to configure peer-to-peer blocking on the WLC
- Describes how to configure the WLC to use local EAP methods
- Describe how to configure the WLC to use an LDAP server with local EAP methods
- Describe the configuration setting that determines local versus AAA authentication for APs
- Describe Cisco TrustSec is implemented and configured in a Cisco Unified Wireless Network
- Describe how to configure the WLC to use Management Frame Protection
- Describe Wi-Fi direct devices and their interaction with a Cisco Unified Wireless Network.
- Describe the four states of client connectivity, and describes the general security policy logic
- Describe how to configure WLANs to provide 802.1X authentication using either WPA or WPA2.

Performing General Administration

- Describe the use of and configuration static Network routes for the WLC service port.
- Describe what Cisco Discovery Protocol is and explains its use and configuration on the Cisco WLC
- Describe the operation and configuration of the internal DHCP server on the WLC
- Describe the use and configuration of Local Policy Classification capabilities on the WLC to profile clients as they associate to the controller
- Describe how to configure the WLC to support multicast traffic in the wireless network
- Describe the business factors driving the need for video over WLAN, comparing wireless to wired services
- Describe Cisco VideoStream Technology
- Describe what Bonjour is/provides and describes configuration on the WLC
- Describe what AVC is/provides and describes configuration on the WLC.

Providing Guest Access

- Define what a guest network is and presents the technical requirements for a guest access solution using a Cisco WLC
- Describe the traditional methods used by enterprise customers to provide guest access capabilities without using Cisco WLCs
- Differentiate the methods available for providing guest access in the wired and wireless network
- Describe the configuration of guest access capabilities on the WLC

Deploying The FlexConnect Architecture

This module will introduce the capabilities of the FlexConnect solution utilizing a Cisco Unified Wireless LAN controller for centralized management of the solution which provides for ease of management with the flexibility of an autonomous AP deployment. Upon completing this lesson, the learner will be able to differentiate the characteristics of a FlexConnect architecture configure and deploy a FlexConnect based wireless LAN.

FlexConnect Deployments

- Describe the differences between AP stand-alone and connected mode operations.
- Describe the options, capabilities and limitations of authenticating users locally at the AP

- Configure the FlexConnect solution to provide the most efficient access to local resources.

FlexConnect Configuration and Operation

- Describe the differences between Fast Roaming capabilities in a FlexConnect deployment and a unified deployment
- Describe how AAA override capabilities are supported in a Flex deployment
- Describe Peer-to-Peer support and configuration in the FlexConnect solution
- Describe the configuration of, and the differences in, ACL usage in a Flex deployment
- Configure and use of FlexConnect groups

Maintaining and Troubleshooting a Cisco Wireless LAN

Today's wireless networks have become mission critical and employers are much less tolerant of outages. By gaining a firm understanding of the means and methods to collect information on exactly how the wireless network is performing. You will be able to Perform routine maintenance, network monitoring, and common troubleshooting tasks on the Cisco wireless LAN.

Performing Routine Maintenance

- Use the inventory option on the Cisco WLC GUI to display key system information
- Use the WLC GUI to locate key information about the AP hardware and software
- Describe the process of upgrading the operating software on the WLC
- Describe how to perform the AP pre-image download and describes the benefits of using the pre-download process
- Describe how to perform basic maintenance tasks for the WLC including how to upload and download files to or from the WLC, how to reboot the WLC via either the CLI or GUI, and how to reset all WLC parameters to their factory defaults
- Describe how to reboot an AP, remove configuration elements, and verify radio status.

Configuring Policies and Management

- Identify the wireless protection policies available on the wireless LAN controller (WLC)
- Configure rogue device policies and monitor rogue APs on the WLAN
- Identify WLAN attacks using intrusion detection
- Configure aggressive load balancing on the WLC
- Monitor and remove clients from the WLAN
- Describe the purpose and use of the client LinkTest

Gathering Data

- Describe when and how to use the data gathering capabilities available with Cisco APs
- Describe two AP capabilities that can be used for collecting packets for evaluation in order to correct issues
- Describe the use and management of the WLC message logging functionality
- View and interpret Cisco WLC, radio, and server statistics
- View and interpret statistics that are related to wireless clients

Troubleshooting in a Cisco Unified Wireless Network

- Describe the recommended methodology for approaching WLAN issues
- Describe how to troubleshoot issues concerning the way an AP associates to a Cisco WLC
- Describe the basic tools available for gathering or analyzing data to narrow down, or rule out, a source of failure in a Cisco Unified Wireless Network
- Describe how to use the CLI debug and show commands

Appendix A: Cisco Wireless LAN Essentials Refresher

This appendix was included to provide a refresher of the topics covered in the prerequisite eLearning course Cisco Wireless LAN Essentials. Although it is likely that you will have students who have either had an extended period of time since the completion of the eLT, or who have not completed the course at all. Rather than attempt to deliver the entire module in depth which would require too much time, the instructor should use questions to draw out and validate the students grasp of the material in the eLT. They should also encourage the students to refer back to this appendix throughout the course for foundational learning.

Appendix B: Pre-Deployment Planning

This appendix is intended to assist the learner in developing a deeper understanding of the critical need to properly plan a wireless deployment.

- Pre-Deployment Planning
- Planning Tools
- AP Placement

Appendix C: Autonomous Deployments

This appendix is intended as a general overview of the minimum requirements involved in the deployment of autonomous APs.

- AP Configuration
- Autonomous AP Modes of Operation.

LABS

- Lab 1 Perform the initial controller configuration using the CLI
- Lab 2: Unified AP Modes of Operation
- Lab 3: AP Association Options
- Lab 4: Controller Web Interface
- Lab 5: RRM and CleanAir Configuration
- Lab 6: Configuring Security parameters on the WLC
- Lab 7: VideoStream and mDNS Configuration (Optional)
- Lab 8: Configuring Guest Access and Web Authentication
- Lab 9: FlexConnect Local Switching
- Lab 10: IPv6 First Hop Security Configuration (Optional)