



Course No: (TWI-JUN-ISRC)

Length: 5 days

About this Course

This course is designed to provide a solid foundation to the Session and Resource Control Policy Engine (SRC-PE) when managing routers running Junose software. The SRC-PE software runs on the C-series Controller. In this type of environment, the SRC-PE software typically manages residential and wireless LAN (WLAN) users. This course provides an overview of the SRC-PE architecture, which operates in a distributed environment, although you perform the labs in a local, single-system configuration.

Objectives

After successfully completing this course, you should be able to:

- Describe the SRC-PE application and how it manages Junose-based routers in a residential and WLAN environment.
- Describe the different layers in the next-generation networking architecture.
- Identify the products in the Juniper Networks Session and Resource Control portfolio.
- List the open interfaces used by the portfolio components.
- Identify C2000 and C4000 components and the field-replaceable units (FRUs).
- Describe the purpose of the universal serial bus (USB) storage device that ships with each unit.
- Use the SRC-PE command-line interface (CLI) and the C-Web graphical user interface (GUI) to configure and monitor a C-series Controller.
- Explain the role of each of the various network and SRC-PE components.
- Explain the purpose of the Lightweight Directory Access Protocol (LDAP).
- Configure new subscribers using the SRC-PE CLI and the C-Web GUI.
- Describe packet flow in Point-to-Point Protocol (PPP) and Dynamic Host Configuration Protocol (DHCP) environments.
- Explain the role of the redirect server and default policies in captive portal processing.
- Explain service activation engine (SAE) redundancy.
- Use the SRC-PE CLI to create new policies and services.
- Use the Junose router CLI to view and troubleshoot policy configuration.
- List the benefits of using global and local parameters within policies.
- Describe the purpose of the interface and subscriber classification scripts.
- Configure a wholesaler/retailer environment using shared subscriber profiles.
- Troubleshoot configuration issues using the SRC-PE log files.
- Describe the purpose of the DHCP classification script and DHCP profiles.
- Configure the SRC-PE to support DHCP network access.
- Describe the purpose of the network information collector (NIC).
- Describe the purpose of internal and external plug-ins.
- Modify the default internal plug-in configuration using the SRC-PE CLI.
- Configure dynamic subscriber interfaces on the Junose router.
- Configure the SRC-PE to manage dynamic subscriber interfaces.
- Configure the SRC-PE from a factory-default configuration.
- Test and troubleshoot the new SRC-PE environment.

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Intended Audience

This course is intended for technical network professionals responsible for the integration, configuration, and management of the SRC-PE software.

Course Level

This is an intermediate-level to advanced-level course designed to provide a strong foundation for configuring the SRC-PE software and understanding how it manages Junos-based routers.

Prerequisites

The following are the prerequisites for this course:

- The Introduction to Juniper Networks Routers—E-series course or equivalent knowledge;
- The E-series B-RAS Configuration Basics course or equivalent knowledge;
- Basic understanding of fundamental Broadband Remote Access Server (B-RAS) concepts, including the Point-to-Point Protocol over Ethernet (PPPoE) and bridged IP connections using DHCP;
- Basic understanding of the E-series Policy Manager, including classifier lists, rate-limit profiles, and policylists; and
- A solid knowledge of IP, including addressing, subnetting, and basic routing concepts.

Course Contents

Day1

Chapter 1: Course Introduction

Chapter 2: Session and Resource Control Overview

- Network Evolution
- Lab Network Overview
- Lab 1: Introduction to Session and Resource Control—Policy Engine
- Hardware Overview
- Network Management Options
- User Interface Options, Authentication, and Authorization
- Using the Command-Line Interface in Operational Mode
- Using the Command-Line Interface in Configuration Mode
- Using the C-Web Graphical User Interface
- Lab 2: SRC-PE User Interface Options

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Day 2

Chapter 5: SRC-PE Component Overview

- Configuring New Subscribers
- Lab3: Managing Retailers and Subscribers
- SAE Initialization Overview
- PPP Session Establishment Details
- Service Activation
- Captive Portal Processing
- SAE Redundancy
- Policy Manager Review
- PPP Default Policies on the Router
- Default Policy Configuration on the C-series Controller
- Policy and Service Configuration Using the SRC-PE CLI
- Simple Parameterization
- Lab 4: Creating Policies and Services
- Life of a Packet Review

Day 3

Chapter 8: Interface Classification and Subscriber Classification

- Classification Script Overview
- Interface Classification Operation and Configuration
- Interface Classification Troubleshooting
- Subscriber Classification Operation and Configuration
- Subscriber Classification Troubleshooting
- Shared Subscriber Profile Operation and Configuration
- Lab 5: Configuring Classification Scripts

Chapter 9: SRC-PE Operation in a DHCP Environment

- DHCP Terminology
- IP Interfaces on the Junose Router in a DHCP Environment
- Obtaining an IP Address Using DHCP
- DHCP Subscriber Portal Login and Logout Processing
- Lab 6: Configuring DHCP Network Access
- DHCP Life of a Packet Review

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Day 4

Chapter 10: Network Information Collector Overview

- DHCP Lab Environment Challenges
- NIC Components and Data Flow
- Basic NIC Configuration Using the OnePop Scenario
- NIC test Commands and NIC Logging
- Lab 7: Network Information Collector Overview

Chapter 12: Managing Dynamic Subscriber Interfaces

- Default SAE Authorization and Tracking Processing
- SAE Plug-In Overview
- Configuring SAE Internal Authentication and Tracking Plug-Ins
- Lab 8: Introduction to Plug-Ins
- Default DHCP Processing Review
- Subscriber Interfaces on the Junose Router
- DHCP Classification Script and DHCP Profiles
- Managing DSIs Using the SRC-PE Software
- Lab 9: Configuring and Managing DSIs
- Life of a Packet Review

Day 5

Chapter 13: Configuration, Troubleshooting, and System Administration

- Junose Router Configuration and Verification
- C-series Controller Initial Configuration
- SRC-PE Component Configuration
- Captive Portal Configuration
- C-series Controller System Administration
- Lab 10: SRC-PE Configuration and Troubleshooting

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