



**Enterprise Computing Solutions - Education Services**

## **TRAINING OFFERING**

---

**You can reach us at:**

Arrow Enterprise Computing Solutions Ltd, Part 1st Floor, Suite 1D/1, Central House, Otley Road, Harrogate, HG3 1UG

Email: [educationteam.ecs.uk@arrow.com](mailto:educationteam.ecs.uk@arrow.com)  
Phone: 0870 251 1000



# Implementing Juniper Paragon Pathfinder and Planner Applications (JPAW)

CODE:	LENGTH:	PRICE:
JUN_JPAW	32 Hours (4 days)	£3,195.00

## Description

This four-day course introduces Paragon Automation applications including Paragon Pathfinder, Paragon Planner, and Paragon Insights. Through demonstrations and hands-on labs, students will learn the capabilities of these applications including WAN topology discovery, segment routing traffic engineering (SR-TE) and RSVP- signaled label-switched path (LSP) management, Path Computation Element Protocol (PCEP) LSP discovery and provisioning, label-switched path (LSP) optimization, LSP calendaring, maintenance scheduling, point-to-multipoint (P2MP), LSP management, failure simulation, reporting, network modeling, path demand placement, hardware inventory collection, network telemetry collection, and closed-loop automation. Students learn to configure and monitor these features on a WAN consisting of vMX Series devices. This course is based on Junos version 22.4R1.10 and Paragon Automation version 23.1.

### COURSE LEVEL

Advanced

## Objectives

- Describe various WAN domains.
- Configure Paragon Pathfinder for initial use.
- Configure Paragon Pathfinder topology discovery.
- Provision various LSP types.
- Describe P2MP use cases.
- Perform LSP provisioning using Network Configuration Protocol (NETCONF).
- Schedule network maintenance events.
- Use Paragon Insights to analyze network performance.
- Launch and use Paragon Planner.
- Perform network modeling.
- Perform network component failure simulation.
- Manage and optimize network demands.

## Audience

This course benefits individuals using Paragon Automation to automate the management of service provider or large enterprise MPLS networks

## Prerequisites

- Understanding of the OSI Model
- Junos OS configuration experience—Introduction to the Junos Operating System course or equivalent
- Advanced MPLS knowledge—Junos MPLS Fundamentals course or equivalent

## Programme

	2 WAN Automation	3 Paragon Pathfinder Architecture
	• Describe WAN domains	• Explain the Path Computation Element Protocol
	• Describe Paragon Pathfinder capabilities	• Explain LSP Signaling and the CSPF Algorithm
	• Describe Paragon Planner capabilities	• Describe Paragon Pathfinder Architecture
<b>DAY 1</b>	1 Course Introduction	• Configure the Network
		Lab 1: Initial Configuration

#### 4 Network Topology Discovery

- Describe how Paragon Pathfinder discovers network topology
- Configure Paragon Pathfinder network topology discovery

#### Lab 2: Network Topology Discovery

#### 5 Using Paragon Automation

- Examine the Paragon Automation interface
- Examine the Paragon Planner Desktop interface

#### DAY 2 Lab 3: Using Paragon Automation

#### 6 Basic LSP Management

- Describe various LSP types
- Configure PCC-controlled LSPs
- Configure PCE-delegated LSPs
- Configure PCE-initiated LSPs
- Monitor LSPs from the Paragon pathfinder UI

#### Lab 4: Basic LSP Management

#### 7 Advanced LSP Management

- Describe primary, secondary, and standby LSPs
- Describe symmetric pairs of LSPs
- Discuss diversity groups
- Describe using JUNOS MPLS LSP templates
- Explain LSP calendaring
- Describe inter-AS LSPs
- Explain how to provision multiple LSPs
- Define LSP optimization

#### Lab 5: Advanced LSP management

#### DAY 3

#### 8 Segment Routing

- Describe segment routing
- Configure and verify segment routing on routers running Junos OS
- Use Paragon Pathfinder to provision SR-MPLS LSPs

#### Lab 6: Segment Routing

#### 9 P2MP LSPs

- Describe the basic functionality of P2MP and its use cases
- Manage P2MP LSPs with Paragon Pathfinder
- Monitor P2MP PSPs with Paragon Pathfinder
- Describe point-to-multipoint LSPs

#### 10 Maintenance Scheduling and NETCONF LSP Provisioning

- Automate rerouting of LSPs
- Configure NETCONF LSP provisioning

#### Lab 7: Maintenance Scheduling and NETCONF Provisioning

#### 11 Paragon Insights

- Describe Paragon Insights capabilities
- Configure Paragon Insights monitoring

#### Lab 8: Paragon Insights

#### DAY 4

#### 12 Paragon Automation Troubleshooting

- Troubleshoot Paragon Automation components
- Troubleshoot network topology acquisition
- Troubleshoot the Path Computation Element Protocol

#### Lab 9: Paragon Automation Troubleshooting

#### 13 Paragon Planner

- Explain the features and capabilities of Paragon Planner
- Launch Paragon Planner Desktop and explore the interface

#### Lab 10: Paragon Planner

#### 14 Network Modeling

- Create a network model
- Analyze network model data files
- Modify network models

#### Lab 11: Network Modeling

#### 15 Network Demands and Failure Simulation

- Calculate network demand forwarding
- Simulate network failure

#### Lab 12: Network Demands and Failure Simulation

#### SELF-STUDY MODULE

#### 16 Paragon Active Assurance Solution Components

- Passive versus active
- PAA solution overview
- Overview of use case topologies

## Follow on courses

Juniper SD-WAN with Mist AI

## Test and Certification

RELATED CERTIFICATION: JNCIA-SEC

## Session Dates

On request. Please [Contact Us](#)

## Additional Information

This training is also available as onsite training. Please contact us to find out more.