Circuit to Packet (CTP) Series

COURSE LEVEL

CTP is an entry-level course.

AUDIENCE

This course benefits individuals responsible for working with the CTP Series access products.

PREREQUISITES

The following are the prerequisites for this course:

- General understanding of networking.

CONTACT INFORMATION

Contact Juniper Education Services

COURSE OVERVIEW

This course will introduce the CTP Series access products and use cases. The course will describe the different hardware options and interfaces, and explain the steps needed to initially configure the CTP. This course will go into detail on the configuration options for accessing the CTP locally and remotely. Configuration of each interface type will be covered along with the node and circuit timing/sync options available. Jitter buffers and troubleshooting circuits will be covered. The CTPView network management application for configuration, software upgrades, database storage, monitoring, BERTs, loop-backs and graphing of performance information will be covered.

OBJECTIVES

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

- Introduction of CTP Series products
- Explain the drawbacks of legacy end devices and application
- Explain the advantages of using CTP devices in an IP/MPLS network
- Describe the different application where CPT is used
- Explain how CTP provides value to the application
- Explain the hardware and chassis components of the CTP150 and CTP2000 Series
- Identify different generations of the CTP Processors
- Provide an overview of different serial modules
- Describe the basic configuration of CTP
- Explain the network configurations for the CTP device
- Configure separate interfaces for circuit and management traffic
- Describe the caveats and limitations of Ethernet segregation
- Describe an overview of the Security Profile Management Menu
- Describe the four types of users in CTPOS
- Explain user management and password management options
- Explain the management of secure logs, security level, login banner, and port forwarding through the security Profile Management Menu
- Describe the different types of encapsulation methods used by CTP
- Describe the importance of Differentiated Services code point (DSCP) values for a CTP bundle
- Explain how to provision serial circuits in the CTP system
- Explain how to configure data encoding in the CTP bundle
- List the different CTP modules that support serial circuit configuration
- Explain how to configure serial circuits using the CTP menu
- Explain the CTP bundle configuration for T1 and E1 circuits
- Configure analog voice port interface for the CTP bundles
- Describe the caveats and limitations of configuring analog voice port interfaces for CTP bundles
- Configure a CESoPSN bundle for hairpinning
- Explain limitations of hairpinning
- Explain the use of Y-cable redundancy option in CTP
- Explain the different modes of Y-cable redundancy

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- Describe the process of setting up Y-cable redundancy option in CTP
- Describe the various clocking options used by the CTP
- Explain the process of timing the CTP using the Network Reference (NetRef) mode
- Describe the caveats and limitations of the different clocking options
- Describe the process of CTP buffering
- Explain the basic configuration of CTP buffering
- Describe the process of setting up the NTP timezone on CTP
- Explain the caveats and limitations of setting up the NTP timezone
- Describe the different CTP bundle states
- Troubleshoot different issues related to the CTP
- Explain the purpose of CTPView
- Explain the different interfaces of the CTPView management interface
- List functions of the different sections of the CTPView application

COURSE CONTENT

1 Introduction to CTP

This module provides an overview of Circuit to Packet (CTP) devices. It explains the drawbacks of legacy end devices and applications and describes the advantages of using CTP devices in an IP/MPLS network.

2 Legacy Devices

This module provides an overview of Circuit to Packet (CTP) devices. It explains the drawbacks of legacy end devices and applications and describes the advantages of using CTP devices in an IP/MPLS network.

3 CTP Application Examples

This module explains the different application examples where the Circuit to Packet (CTP) is used and how it provides value to these applications.

4 CTP Hardware

This module covers the hardware devices associated with the Circuit to Packet (CTP)

5 CTP Initial Configuration

This module describes the basic configuration of Circuit to Packet (CTP) and also explains the network configurations of the CTP device.

6 CTP Ethernet Segregation Circuit/Management

This module describes the process to separate the circuit traffic from the management traffic over different Ethernet interfaces on a Circuit to Packet (CTP). Each CTP has at least two Ethernet interfaces. This module describes how to force the circuit traffic at one interface and the management traffic at a different interface.

7 CTP Security Profile Menu

This module provides an overview of the Security Profile Menu options. It also describes how to configure the security profile through the Node Operations menu. The module then describes the four different types of users and the four different security levels of access to the system. It also explains the management of users, passwords, secure logs, login banner, security level, and port forwarding through the different options of the Security Profile Configuration Menu.

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8 — CTP Encapsulation

This module describes the different encapsulation types that the CTP uses. Encapsulation refers to the process of taking legacy non-IP traffic and placing it into an IP packet.

9 — CTP Circuit Provisioning

This module explains how to configure circuits for provisioning bundles in a Circuit to Packet (CTP) system.

10 — CTP Bundle Configuration Serial

This module describes how to configure CTP bundle configuration for T1 and E1.

11 — CTP Bundle Configuration: T1 and E1

This module describes the process to separate the circuit traffic from the management traffic over different Ethernet interfaces on a Circuit to Packet (CTP). Each CTP has at least two Ethernet interfaces. This module describes how to force the circuit traffic at one interface and the management traffic at a different interface.

12 — CTP Bundle Configuration Analog Voice: 4WE&M, 2WFXS, 2WFXO

This module explains about the analog bundle voice configurations for 4WE&M, 2WFXS, and 2WFXO.

13 — CTP CESoPSN Bundle for Hairpinning

This module describes the hairpinning configuration for a Circuit Emulation Service over Packet-Switched Network (CESoPSN) bundle. The module also explains the limitations of hairpinning.

14 — CTP Y-Cable Redundancy

This module explains the importance of using the Y-cable redundancy option in Circuit to Packet (CTP). The module also describes the five different modes for Y-cable redundancy. It then explains how to set up the Y-cable redundancy option in CTP.

15 — CTP Clocking

This module describes the two CTP clocking options, the system clocking options and the per port clocking options.

16 — CTP Buffering

This module describes the process of Circuit to Packet (CTP) buffering and also explains the basic configuration of CTP buffering.

17 — CTP NTP Timezone

This module explains how to set up the NTP timezone on a Circuit to Packet (CTP) device. It also explains some limitations of setting up the NTP timezone on CTP.

18 — CTP Bundle States and Troubleshooting

This module explains the different Circuit to Packet (CTP) bundle states. It also explains how to troubleshoot to isolate problems on the CTP.

19 — CTPView Web-Based Network Management

This module explains how to manage all the CTPs in a network using the CTPView, a Web-based network management application.

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