

Oracle Comms Policy OAM Wireless Deploy Ed 4

Oracle Communications

DURATION

5 Days

MODULES

23 Lectures

COURSE CODE

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Course Overview

This Oracle Communications Policy Management OAM for Wireless Deployment training is ideal for operations, administration, and maintenance personnel who work with an installed Policy Management system. Develop the knowledge and skills to monitor the system and keep it healthy on a day-to-day basis.

What You Will Learn

Integrate - Policy into Your Network

- Course Purpose
- Course Topics
- Course Objectives
- Course Logistics
- Oracle University Reporting
- Introduction to Integrate
- Objectives
- The Policy Management Course Name
- What is Policy Management?
- How Does Policy Management Work?
- Plan to Use Policy Management
- Components of Policy and Charging Control
- Access to the Policy Charging and Rules Function
- Business Needs
- Business Need 1 Explained
- Business Need 2 Explained
- Business Need 3 Explained
- Use Case
- Structure of a Policy Rule
- Process Flow in a 3GPP PCC Network
- Summary

- Quiz
- Practice

Integrate - Plan for Oracle Communications Policy Management Product

- Objectives
- The Oracle Solution to the 3GPP PCRF
- Components of Oracle Communications Policy Management
- Oracle Communications User Data Repository (UDR)
- Wireless Policy Management Components Related
- Prepare to use the Configuration Management Platform
- Prepare to use the Multimedia Policy Engine
- The MPE Evaluates Policies
- The MPE Server Responds to Triggers
- The MPE Server Evaluates Policies
- The MPE Server Executes Actions
- The MPE Server Processes Policy Requests
- Advanced Policy Requests
- Prepare to use the Multiprotocol Routing Agent
- The MRA Server Routes Policy Requests
- Advantages of an MRA Server (Optional)
- Wireless Policy Management Product Without MRA
- Wireless Policy Management Product With MRA
- Wireless Policy Management Components Related
- Prepare to use the User Data Repository
- Subscriber Profile Data Fields
- Pool Profile Data Fields
- Plan Access to Networks
- Diameter Signaling Traffic Networks
- OAM Networks
- Plan OAM Access and Management Connections
- Summary
- Quiz
- Practice

Integrate - Extend Management and Reliability

- Objectives
- What Reliability Options are Available?
- Active/Standby HA Clusters Protect Systems
- How does Geo-Redundancy Protect a System?
- CMP Geo-Redundant Two-Level
- Example: CMP Geo-Redundant
- Example: Geo-Redundant with Sister Site
- HA Behavior with Spares
- Summary
- Quiz

- Practice

Integrate - Plan Interconnections

- Objectives
- Plan to Use 3GPP Interfaces
- Plan Subsystems Communications
- Diameter Protocol for the Policy Function
- Connect a PCRF to a PCEF
- Connect a PCRF to SPR or UDR
- Gx and Sh Diameter Messaging
- Message Flow End-to-End
- Message Flow - Session Request
- Message Flow - Build a Response
- Messages in a Session
- Message Flow - Send a Response to the PCEF
- Message Flow at Session Termination
- Summary
- Quiz
- Practice

Configure - Use the User Interface

- Objectives
- Introduction to Configure
- System Support
- IETF and 3GPP Guidelines
- Where is Customer Documentation?
- of Customer Docs
- Using Help Manuals
- On Line Help- On Line Documents
- On Line Help- Using On Line Documents
- Online Help- Articles
- Online Help - Hot links
- Use Oracle Support
- Access Policy Management Graphical User Interface
- Log In
- CMP Wireless GUI Screen Components
- Menu Organization
- Customer Docs - Login and Commands
- Summary
- Quiz
- Practice

Configure - Manage Component Configuration

- Objectives

- Preserve Before You Configure
- Types of Exports
- Bulk Export
- Selective Export
- Save Cart to Local Computer
- Import a Configuration
- MPE Configuration Tasks
- Manage Topology
- Modify Profile
- Manage Policy Server Options
- System Tab
- Policy Server Tab
- Data Sources Tab
- Managing Policy Servers in a Group
- Add a Policy Server to a Group
- Manage MPEs Using Configuration Templates
- Manage MPEs Using Virtual Templates
- Applying Configuration Templates and Virtual Templates
- Global Configuration
- Global Configuration Settings Summary
- Custom APNs
- 59 Settings
- Emergency APN Settings
- Summary
- Quiz
- Practice

Configure - Control Network Communications

- Objectives
- Communicate with Network Elements
- Define a Network Element
- Create a Network Element Profile
- Modify Settings of the Element Tab
- Manage Network Element Groups
- Verify Network Element Operation
- Interpret the PCEF Statistics Report
- The Management Network
- Configure using OSSl
- SNMP Reporting: Method:1
- SNMP Reporting: Method:2
- Summary
- Quiz
- Practice

Policies - Plan Policies

- Objectives
- Introduction to Policies
- Policy Rule Design Process
- Structure of a Policy
- Conditions Categories – Basic
- Policy Rule Actions
- Reference Data Determines Responses
- Summary
- Quiz
- Practice

Policies - Reference Data

- Objectives
- Reference Data
- Match List
- Time Periods
- Quota Profile Plans
- Quota Conventions
- Service/Ratings Groups and Monitoring Keys
- Policy Counter Identifiers
- Serving Gateway/MCC-MNC Mapping
- Tiers
- Entitlements
- Reference Data
- Traffic Profiles
- Traffic Profiles – PCC Rule
- Traffic Profiles – Predefined PCC Rules
- Traffic Profiles – PCC Rule-Base
- Traffic Profiles – QOS
- Traffic Profiles – ADC Rule
- Retry Profiles
- Charging Servers
- Custom AVP Definitions
- Inserting AVPs into a Message
- Summary
- Quiz
- Practice

Policies - Master Library

- Objectives
- The Policy Wizard Steps
- Create a Policy Rule
- Step 1: Create a Policy using a Blank Form

- Step 2: Select Condition(s)
- Step 3: Select Action(s)
- Step 4: Name the Policy Rule
- Optional Ways to Create a Policy Rule
- Method 1: Blank
- Method 2: Use Template
- Creating a Template
- Using a Template to Create a Policy
- Method 3: Copy Existing Policy
- Modify an Existing Policy
- Summary
- Quiz
- Practice

Policies - Deploy Policies

- Objectives
- Deploy Policy – Two Methods
- Deploy Policy
- Deploy a Policy – Sequence
- Modify a Policy – Impacts
- Delete a Policy – Impacts
- Modify/Delete Policy
- Manage Policy Groups
- Policy Groups – Create
- Policy Groups – Manage
- Summary
- Quiz
- Practice

System Administration

- Objectives
- Manage CMP Server Users
- Step 1: Set System Controls for CMP GUI Users
- Step 2: Create Roles in the CMP Server
- Step 3: Create a Scope in the CMP server
- Step 4: Create CMP User Profile
- Summary
- Quiz
- Practice

Ancillary Devices - SPR/UDR (Optional Lesson)

- Objectives
- Introduction to Policies
- The MPE Server Processes Policy Requests

- MPE Selects Among Paths to the UDR
- View Connections to a User Data Repository
- View Connections to a Subscriber Profile Repository
- MPE Selects Among Paths to the UDR
- Create a REST Connection
- Search for Existing Subscriber Records
- Create a Subscriber Test Record
- Create Values to be Used in the Create Record Form
- Verify Data Transfers Between MPE and UDR
- Verify Data Transfers Details
- Summary
- Quiz
- Practice

Ancillary Devices - MRA (Optional Lesson)

- Objectives
- Multiprotocol Routing Agent (MRA) Primary Functions
- MRA Scalability
- Step 1: Add MRA Cluster Profile
- OAM VIP address and Signaling VIP address
- Step 2: Create MRA Cluster
- Step 3: Configure the MRA - System Tab
- Step 3: Configure the MRA - MRA Tab
- Step 3: Configure the MRA - Diameter Routing Tab
- MRA Component Reports
- Session Viewer - MRA
- MRA - MRA Associations
- Create an Association
- Summary
- Quiz
- Practice

Monitor Components - Component Reports

- Objectives
- Introduction to Monitor Components
- Component Reports
- Cluster Information Report
- Internal Operations Reports
- Policy Statistics
- Component Reports - Quota Profile Statistics
- Component Reports - Protocol Statistics
- Component Reports
- Summary
- Quiz
- Practice

Monitor Components - Alarms

- Objectives
- Active Alarms
- Alarm History Report
- Wireless User Guide/Help Features
- Summary
- Quiz
- Practice

Monitor System - System Health

- Objectives
- Introduction to Policies
- System-Wide Reports
- Introduction to Key Performance Indicators (KPIs)
- KPI Dashboard
- Component Reports - CMP Cluster Information
- Active Alarms
- Alarm History Report
- Using Policy to Set or Clear Alarms
- Summary
- Quiz
- Practice

Monitor System - System Performance

- Objectives
- Trending Reports
- AF Session Report
- PDN Connection Report
- PDN APN Suffix Report
- Connection Status
- System-Wide Reports - Protocol Errors
- Policy Statistics Report
- MPE/MRA Rep Stats
- Subscriber Activity Log
- Subscriber Activity Logging Backup
- Summary
- Quiz
- Practice

Troubleshoot Policies - Policy Execution

- Objectives
- Introduction to Troubleshoot Policies
- Component Reports

- Component Reports – Policy Statistics
- Policy Statistics List
- Diameter PCEF Statistics
- Session Cleanup
- Latency Statistics
- Diameter Errors by Code
- Component Reports
- Summary
- Quiz
- Practice

Troubleshoot Policies – Diameter Message Processing

- Objectives
- Troubleshooting Scenario
- Scenario Diameter Message
- Scenario – Analyzing Message Flow
- 1. PCEF Defined
- 2. CER connection– Trace Report
- 2. CER Connection- CER Accepted
- 3. CCRi sent from PCRF
- 4. MRA binds a session to an MPE
- 5. MPE receives CCRi and Sends UDR
- 6. The UDR returns the subscriber record
- 7. Did the session register in the MPE Session Buffer?
- 8. Conditions are correct – List condition requirements
- 8. Conditions are correct – Verify Quota
- 8. Conditions are correct – Verify PCC Traffic Profile
- 9. Did the Policy Evaluate as True?
- 10. Did the MRA return CCAi with Traffic Profile?
- Policy Action Logs – Syslog
- Policy Action Logs – Tracelog
- Policy Action Logs – SMS Log
- Diameter Trace Summary
- Summary
- Quiz
- Practice

Fixed-Mobile Convergence – Planning to Integrate (Optional)

- Objectives
- Introduction to Fixed mobile Convergence
- Wireless and Fixed Radius PCC
- Wireless and Fixed Radius PCC – Oracle Solution
- MPE as a RADIUS Server
- Define Subscriber Keys
- Subscriber Key Matching

- Create a Subscriber Key
- Create a BNG Network Element
- Custom VSA Definitions and Vendors
- Create Custom VSA Definitions and Vendors
- Change of Authorization (CoA) Template
- Create a Policy with CoA Template
- Other MPE behaviors as RADIUS Server
- Summary
- Quiz
- Practice

What Is New in Release 12.2?

- Objectives
- Features to Be Covered in This Lesson
- Feature: Selectively Trigger on STR and CCR-T
- Terminate Session on CCR-T
- Terminate Session on AF Message – Processing
- Terminate Session on AF Message – Flow
- How to Implement This Feature
- Feature: Set Gx Parameters from AF Messages
- AF to Gx – Processing
- AF to Gx – Call Flow
- Parameters from AF Messages Used in Policy Actions
- How to Implement This Feature
- Feature: Mission-Critical QCIs
- Mission-Critical QCIs
- QCI Condition: Where the Requested QCI Is One Of ...
- QCI Condition: Where QCI Is in Match List
- QCI Traffic Profile
- Configure Bearer Level ARP in Policy Actions
- How to Implement This Feature
- Application Detection
- Traffic Detection Function Signaling on Gx
- Application Detection and Control (ADC) Rules
- Feature: Support ADC on Gx
- PCRF to PCEF Call Flow
- Example Start/Stop Policies
- PCRF Reports to PCEF and TDF
- Feature: SMS Notification
- SMS Notification During the Configured Interval
- Feature: Policy Triggered on Network Element Identity
- Conditions That Specify Network Element Identity
- Feature: Virtual Policy Tables
- Using Virtual Policy Tables in Policy Rules
- Creating Virtual Policy Tables

- Sample Virtual Table
- Deploying Virtual Policy Tables
- Feature: Supportability Features
- The Debug Report Tab
- Debug Log Settings (Modify)
- Transactions-per-Second Statistics
- Feature: Policy VNF Management
- An Introduction to Policy Management Virtual Machines
- Set Up VIM Connections with Platform Settings
- Topology Cluster Settings for VIMs
- Summary
- Quiz
- Practice

Tying It All Together

- Objectives
- Oracle Policy Management in 4G Environment
- Virtualization of Policy Management
- Flexible Hypervisors and Platforms
- Scenario – VoLTE
- The Task: Convert From Circuit-Switched to VoLTE
- 1. Integrate Policy for VoLTE Into Your Network
- What an Integrated VoLTE Network Looks Like
- Integrate VoLTE into Oracle Communications Policy Management
- Architecture
- 3. Configure Policy Management Components for VoLTE
- 5. Plan Policies for Your VoLTE
- VoLTE Use Cases
- 6. Plan Reference Data
- A. Bearer Setup
- B. IMS Registration
- C. VoLTE Session Setup
- D. User Triggered Session Terminate
- E. Gx Triggered Session Terminate
- 7. Plan to Deploy VoLTE Policies
- 10. Plan to MRA Changes for VoLTe
- 11. Plan to Monitor Component Reports for VoLTE
- 12. Plan to Monitor System Reports for VoLTE
- Add AF and Peer Measurements
- Course Wrap-Up
- What is Policy Management?
- What do We Have to Do?
- Summary
- Quiz
- Practice
- Course Summary

- Final Questions?
- End of Course Evaluation