

## OrderPath® and NumberManager® Software

**Course Title:** OrderPath® and NumberManager® Advanced System Administration Training Course

**Overview:** As mandated by the FCC, Service Providers must have a means to easily and quickly move telephone services between eligible telephone service providers allowing for Local Number Portability (LNP). OrderPath is a local Service Order Administration (LSOA) tool that helps Service Providers comply with the mandate. Through OrderPath, Service Providers can communicate with and process LNP service orders through the Number Portability Administration Centers (NPAC) to the Local Service Management Systems (LSMS). NumberManager is a Local Service Management System (LSMS) tool that helps Service Providers comply with the mandate. Through NumberManager, Service Providers receive and process subscriptions from the Number Portability Administration Centers (NPAC) and update the LNP network elements accordingly through the Network Element Management Systems (NEMS).

The purpose of the Advanced System Administration training course is to enable system administrators to perform advanced troubleshooting on the OrderPath and NumberManager applications.

After completing this course, participants will be able to describe how OrderPath and NumberManager manage LNP data at the level of system events and application processes; manage application resources; troubleshoot using system tools and log data; maintain database integrity; resolve problems with commercial-off-the-shelf software; resolve NPAC connection, data resynchronization, and import data problems; resolve problems associated with setting up NPA splits and security key exchanges; administer the high availability cluster.

**Audience:** This course is valuable for individuals who:

- ◆ set up and maintain the OrderPath and NumberManager applications
- ◆ set up and maintain the UNIX® system for the OrderPath and NumberManager applications
- ◆ set up and maintain user security for OrderPath and NumberManager applications

**Pre-requisites:** Participants should have:

- ◆ a basic knowledge of:
  - A basic knowledge of Local Number Portability
  - Service order processing in a telephony environment
  - UNIX system administration
  - Oracle® database administration
  - General computer operation skills
- ◆ Familiarity with the operation of OrderPath and NumberManager (recommend participating in the Operating OrderPath and Operating NumberManager courses)
- ◆ Familiarity with basic system administration of OrderPath and NumberManager (required participation in the OrderPath Application and System Administration and NumberManager Application and System Administration courses or equivalent on the job experience)



**Course Duration:** 4 days

**Training Location:** Denver, CO

**Course Hours:** **Monday:** 10:00 AM – 5:00 PM **Tuesday through Thursday:** 9:00 AM – 4:30 PM

**Maximum Class Size:** 6 Participants

**Contact:** Your respective Customer Manager

## Course Outline:

- ◆ **Understanding OrderPath and NumberManager System Operations**
  - The role of application processes
  - Understanding event data
  - Database table structure
  - Porting transaction flows in OrderPath and NumberManager
  - Analyzing subscription version status interactions
- ◆ **Application Resources and How They are Used**
  - Overview of application resources
  - Configuring kernel parameters
  - Monitoring memory usage
  - Monitoring disk usage and performance
  - Monitoring port usage
  - Working with watchdog timers
- ◆ **Maintaining a “Healthy” Application**
  - Normal data flow in the OrderPath application
  - Normal data flow in the NumberManager application
  - System tuning
  - Using dtool
  - Understanding error messages
- ◆ **Administering & Troubleshooting Using System Tools**
  - Using show\_evt
  - Using OpFetchEvent and NmFetchEvent
  - Using show\_tuna
  - Using show\_sv
  - Using ShowRegionInfo
  - Using ConnStatus
  - Using CheckLicense
  - Using APEPingProc
  - Using APEProcStatus
  - Using APESetLogging
  - Using APEReinitProc
  - Using APEStopProc
  - Using APEStartProc
- ◆ **Using Log Data Effectively**
  - Introduction to application logs
  - Troubleshooting using application logs
  - Understanding alarms
- ◆ **Maintaining Database Integrity**
  - Understanding the application database
  - Maintaining the database
  - Database integrity
- ◆ **Administering Commercial-off-the-shelf Software**
  - Overview of commercial-off-the-shelf software
  - Working with the Apache Web Server
  - Working with Tomcat
  - Working with Orbix
  - Working with OTS 9000
  - Working with CMIP Runtime
  - Troubleshooting startup problems
- ◆ **Troubleshooting NPAC Connection Problems**
  - The NPAC connection process
  - Configuring the NPAC region and local SPID
  - Configuring the OrderPath or NumberManager application Router address
  - Configuring the NPAC Router address
  - Connecting to the NPAC
  - Troubleshooting NPAC connection problems
- ◆ **Resolving Problems with NPAC Data Resynchronization**
  - The Data Resynchronization Process
  - OrderPath application resynch events
  - NumberManager application resynch events
  - Resynchronization parameters
  - Understanding resynchronization segments
  - Conducting a manual resynch
- ◆ **Working with Import Data**
  - Understanding data imports
  - Import data files
  - Import file naming conventions
  - Import data file contents
  - Conducting a data import
  - Using the SV deletion tool
  - Provisioning import data
- ◆ **Clarifying NPA Split Processing**
  - Understanding NPA Splits
  - NPA splits database tables
  - Conducting an NPA split
  - NPA split processing
  - NPA splits and provisioning interface options
  - NPA split parameters
  - Setting NPA split processing trace flags
  - NPA split provisioning scenarios

- ◆ **Troubleshooting Key Exchanges**
  - Introducing public-key cryptography
  - Conducting key exchanges
  - Security key parameters
  - Security key database tables
  - Troubleshooting security keys
- ◆ **Reporting and resynchronizing audits**
  - Overview of audit processing
  - Reporting audits
  - Resynchronizing audits
  - Following up on an audit
  - Audit parameters
- ◆ **Administering the High Availability Solution**
  - Understanding High Availability
  - Prerequisites for high availability
  - Monitoring the high availability cluster
  - Working with the cluster, nodes, and packages
  - Upgrading the Evolving Systems' products in an HA environment
  - Oracle maintenance with high availability
- ◆ **Putting it all Together**
  - Applying what you have learned