Oracle® Communications Enterprise Communications Broker

Release Notes
Release P-CZ2.1.0

August 2017

ORACLE

Notices

Contents

About this Guide

This guide augments the Oracle Enterprise Communications Broker (ECB) user and administrator guides by providing information about:

- Supported platforms, image files, boot loaders and upgrade paths
- New features
- Inherited features
- Known issues
- Caveats
- Unresolved Issues
- Resolved Issues

ECB Documentation Set

The following table describes the documentation set for this release.

Document Name	Document Contains Information About
License document	License types, uses, features, and limits
Oracle Enterprise Communications Broker Administrator's Guide	Hardware installation and system startup
Oracle Enterprise Communications Release Notes	Supported platforms, Image files, Boot loaders, and Upgrade paths, plus New features, Inherited features, Known Issues, and Caveats
Oracle Session Border Controller Family Security Guide	Security for the Enterprise Communications Broker
Oracle Enterprise Communications Broker User's Guide	Software configuration and system administration

Revision History

Date	Description
January 2017	• Initial Release
August 2017	• Adds the "SPL Support" topic.

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Supported Platforms and Image Files

The following platforms and image files support the P-CZ2.1.0 release.

Platforms

Netra X5-2

Note: The P-CZ2.1.0 release does not support Netra X3-2 and virtual machines.

Image and Boot Loader Files

Note: Patch immediately. The P-CZ2.1.0 release requires a patch before you attempt to use the software.

Download the following files:

- Image: nnPCZ210p1.bz
- Boot loader: nnPCZ210p1.boot

Platform Boot Loaders

Oracle Oracle Enterprise Communications Broker (ECB) platforms require a boot loader to load the operating system and software.

All ECB platforms require that the boot loader and the software image match per release. For example, if the software image filename is nnPCZ200m3.bz, use the corresponding boot loader file named nnPCZ200m3.boot.

You must install the boot loader file as /boot/bootloader on the target system. When you plan to upgrade the system image, upgrade the boot loader before booting the new system image.

SPL Support

The Oracle Enterprise Communications Broker supports the following Session Plug-in Language (SPL) engines.

- C2.0.0
- C.2.0.1

- C2.0.2
- C2.0.9
- C2.1.0
- C3.0.0
- C3.0.1
- C3.0.2
- C3.0.3
- C3.0.4
- C3.0.5
- C3.0.7
- P1.0.0
- P1.0.1

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New Features

Based on P-CZ2.0.0M4, the P-CZ2.1.0 release adds the following features and enhancements.

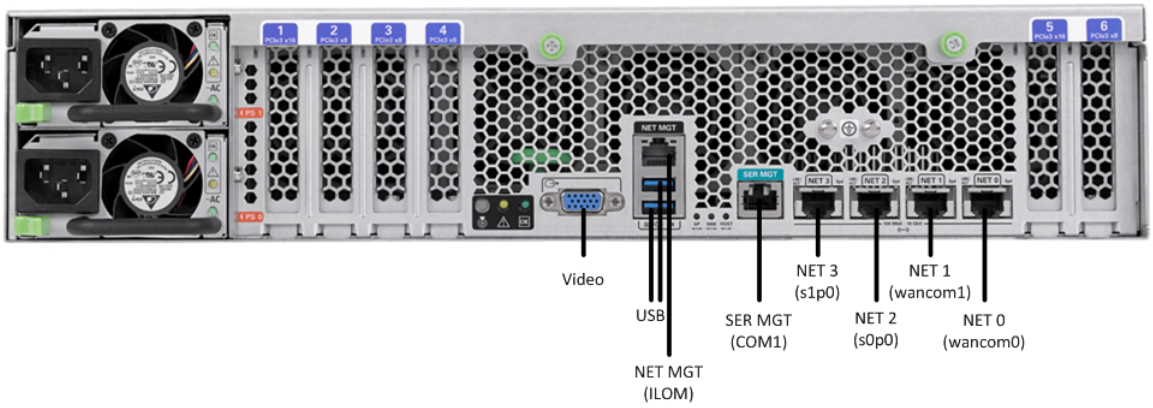
Features and Enhancements	Description
Netra X5-2 server	Adds support for the ECB to run on the Netra X5-2 server.
Security	Changes the default RSA Security key size from 1024 to 2048. Disables the SSH arcfour cipher and 96-bit HMAC algorithms.

Cable the Netra X5-2 for Communications

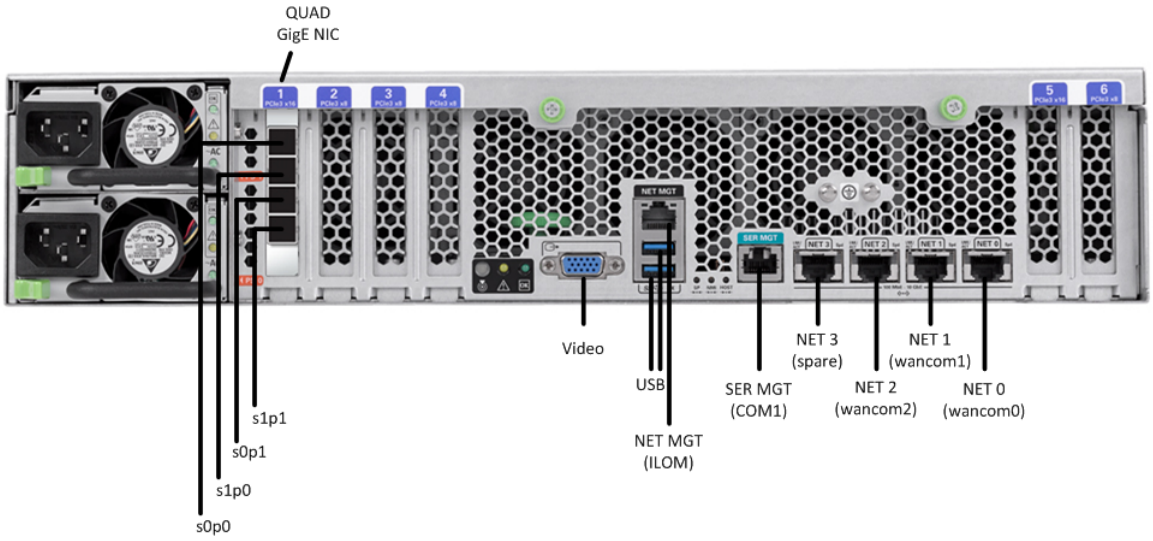
After mounting the Netra X5-2 for Communications in an equipment rack and installing all components, use the following instructions to connect all appropriate data cables to the ports before powering the system up and beginning the configuration.

Oracle supports the following configurations of the Netra X5-2 for Communications (the onboard 10 GigE ports are configured for 1G operation):

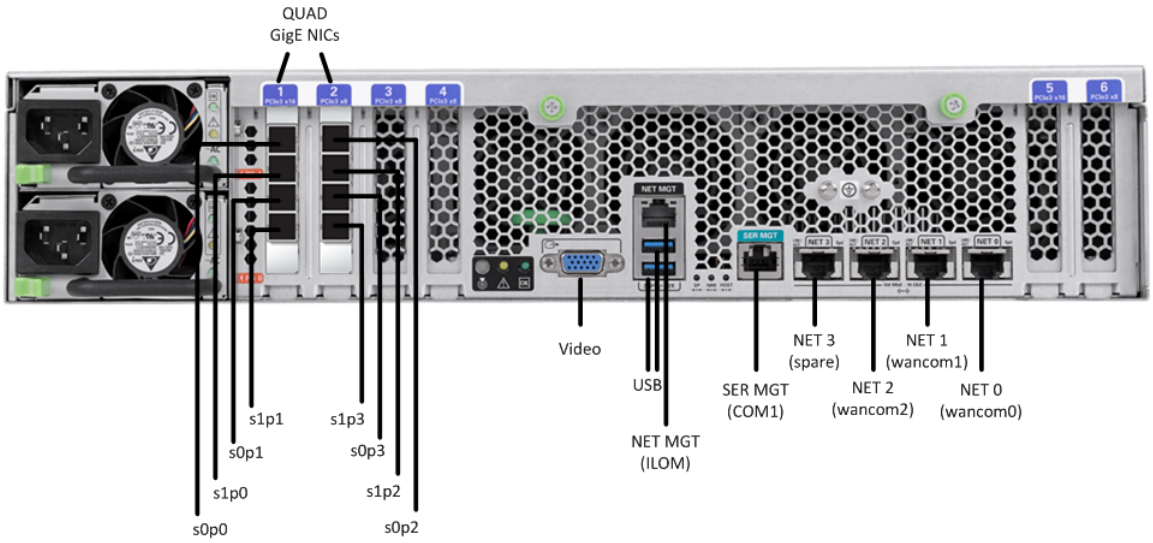
- Configuration A: Four onboard 10 GigE ports and no Quad GigE NIC
- Configuration B: Four onboard 10 GigE ports and 1 Quad GigE NIC
- Configuration C: Four onboard 10 GigE ports and 2 Quad GigE NICs



Netra X5-2 for Communications Configuration A (4 Onboard 10 GigE Ports)



Netra X5-2 for Communications Configuration B (4 Onboard 10 GigE Ports & 1 Quad GigE NIC)



Netra 5-2 for Communications Configuration C (4 Onboard 10 GigE Ports & 2 Quad GigE NICs)

Oracle recommends using Category 6 (or better) for all Ethernet connections.

You do not need to use every port for proper operation.

You can install and remove Ethernet and 1000BASE-T cables while the Netra X5-2 for Communication runs, but when you disconnect a cable the link is lost and the system generates an alarm.

Available Connections

Please read all of the information for each of the available connections prior to cabling the Netra X5-2 for Communications.

Port	Description	You Need:
NET (0-3)	10 GigE ports - labeled Net 3, Net 2, Net 1 and Net 0 (left to right). Enables you to connect the Netra X5-2 to your network.	A Category 6 (or better) Ethernet cable to connect to the NET 0 port to your network Network parameters such as an IP address (can be provided by DHCP services or assigned a static address in the OS) Additional Category 6 (or better) Ethernet cables and Ethernet addresses as needed for additional connections to NET 1 - 3
NET MGT	Provides a 10/100BASE-T Ethernet connection to the Service Processor (SP) through an RJ-45 connector. The NET MGT port provides support connections to the SP using the Oracle Integrated Lights Out Manager (ILOM) CLI and Web interface. By default, the NET MGT port is configured to use DHCP to automatically obtain an IP address. Alternatively, you can assign a static IP address to the NET MGT port. To use the NET MGT port, you must configure its network settings. Once configured, use the NET MGT port IP address to log on to the device using a browser or secure shell.	Category 6 (or better) Ethernet cable to connect the NET MGT port to your network IP address for this port (required from DHCP or a static address)
SER MGT (COM1)	Provides a TIA/EIA-232 serial Oracle/Cisco standard connection to the SP through an RJ-45 connector. Default settings: 8N1: eight data bits, no parity, one stop bit 115200 baud Disable hardware flow control (CTS/RTS) Disable software flow control (XON/XOFF)	A terminal device (e.g., terminal, connection to a terminal server, or computer such as a laptop running terminal emulation software) A cable to connect the terminal device to the SER MGT (COM1) port
USB	Provides USB connections to the SP. The USB ports are hot pluggable, so you can connect and disconnect USB cables from these ports and peripheral devices without affecting server operations.	USB keyboard USB mouse Note: Maximum USB cable length: 5 meters
VIDEO	Provides a temporary video connection to the SP.	VGA monitor HDB-15 video cable with a maximum cable length of 6 meters (19.7 feet)

Cable the Local Console

You can connect the Administration console to either the Oracle Integrated Lights Out Manager (ILOM) (NET MGT), the local VGA+USB console ports, or the local SER MGT (COM1) serial console port.

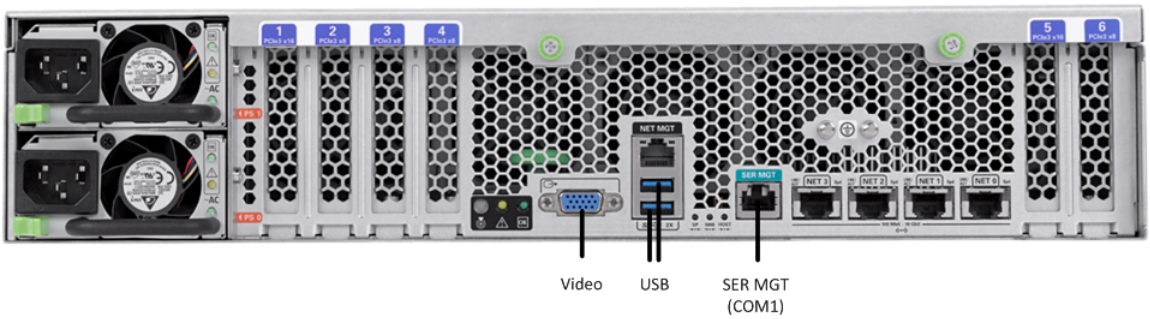
- To cable a serial console connection:
  - Serial console cable with an RJ-45 connector
- To cable a USB and Video Connection:
  - DB-15 video cable with a maximum cable length of 6 meters (19.7 feet)
  - USB cable with a maximum cable length of 6 meters (19.7 feet)
  - USB keyboard

  In the following procedure, you have the option to either cable a serial connection or to cable a USB/Video connection.

Note: Do not configure COM2 in the bootparams menu.

When configuring boot loader parameters, set the console to VGA when you use ILOM or VGA+USB, or to COM1 when you use SER MGT. The boot loader is accessible on all console ports, but only input from the active console port can be recognized by the Netra X5-2 for Communications.

1. Locate the appropriate cables to connect to the Netra X5-2 for Communications.
2. To cable a serial connection, insert the serial console cable into the SER MGT (COM1) port.



Connecting to USB, VGA and SER MGT (COM1) Ports

Note: Refer to the Netra X5-2 for Communications hardware documentation for information on how to configure the terminal application to connect to the console, and how to establish communications with the Netra X5-2 for Communications.

3. To cable a USB/Video connection, do the following:
   a) Insert the 15-pin connector end of the video cable into the Video port.
   b) Insert the USB cable from the mouse and keyboard into the USB ports.
4. Lead the cables neatly away from the rear panel.
5. Plug in the cables to their respective destination components.

Connect ILOM to the Netra X5 for Communications

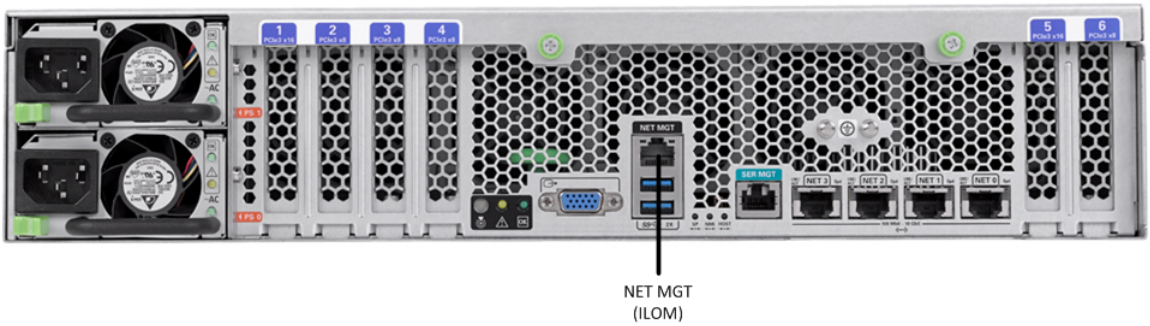
Use the following procedure to make a connection to the Netra X5-2 for Communications Oracle Integrated Lights Out Manager (ILOM) port. For a remote permanent connection to the Service Processor over the ILOM connection, use the rear panel NET MGT port.

Note: Keep Ethernet cables separated from power cables by at least 60mm where possible and never run them in the same channel of the rack without segregation.

- Category 6 (or better) Ethernet cable with RJ-45 jacks

1. Locate the cable to connect to the Netra X5-2 for Communications.

2. Plug the RJ-45 connector into the ILOM port.



3. Lead the cable neatly away from the rear panel.
4. Connect the other end of the cable to the LAN.

- Refer to the Netra X5-2 for Communications hardware documentation for information on how to configure the Web browser application to connect to the console, and how to establish communications with the Netra X5-2 for Communications.

Netra X5-2 for Communications Software Installation

Oracle Communications produces a variety of software products that run on the Netra X5-2 for Communications platform, including Oracle session delivery applications.

Use the following steps to prepare the Netra X5-2 for Communications for session delivery software installation.

1. Confirm applicable firmware on the server.
   - To check the firmware versions installed in the server, go to the Oracle Integrated Lights Out Manager (ILOM) web interface, and navigate to **System Information** > **Firmware**.
   - Software and firmware versions certified for use with Oracle Session Delivery products include:
     - ILOM—v3.2.4.32, r96182
     - BIOS—32000013
2. Upgrade or downgrade the firmware on the server as necessary. Go to https://docs.oracle.com/cd/E37444_01/index.html for ILOM upgrade instructions.
3. Configure the BIOS settings. (Settings navigation may differ based on the BIOS version.)
   a. Observe the boot procedure and use the documented key sequence to interrupt the boot and display the BIOS configuration dialogs. For example, pressing the F2 key is a common way to enter BIOS configuration from a terminal application that supports function keys.
   b. Navigate to the Boot menu and, depending on the software distribution you are using, set the USB or CD as the first device followed by the disk controller.
   c. Disable Hyper-Threading.
   d. Disable CPU power limit.
   e. Disable C6 Reporting.
   f. Disable the UEFI Stack.
   g. Change Energy Performance to Performance. (For example, set "ENERY_PERF_BIAS_CFG" mode to "PERF".)
   h. To decrease boot up time, Oracle recommends disabling Intel PXE Boot Agent for both onboard and NIC ethernet ports. To disable the Boot Agent for the onboard ethernet ports, navigate to the OpROM option for NET0, NET1, NET2, and NET3 interfaces (for example, IO > Internal Devices) and set it to disabled.
   i. To disable Boot Agent for NIC ethernet ports, note the blue PCIe slot number label at the back of the Netra server where the NICs are installed, then disable the OpROM option for those slots. (Note that

you may be able to identify slot number through the ILOM System Information > PCI Devices menu.)

j. Reboot the server.

4. Initialize the HDD.

a. Open the ILOM remote system console to observe the system's boot cycle, and interrupt the boot cycle to enter the LSI MegaRAID status display. For example, pressing the Ctrl-R key is a common way to enter LSI MegaRAID BIOS Configuration Utility.

b. Navigate the utility to establish the elements of your virtual drive, typically consisting of a New Configuration with two entire HDDs.

c. Access the menu from which you create a virtual drive.

d. Set the RAID level to RAID-1.

e. Select all of the drives that you want.

f. From the Virtual Drive Management dialog, select the new drive and initialize it. For example, pressing F2 and selecting Fast Init from the command menu is a common way to execute initialization.

g. After initialization is complete, Escape from the LSI MegaRAID Configuration Utility and reboot the system.

5. Perform a cold shutdown by removing all system power.

Install Software on Netra and Server-based Platforms

Oracle Enterprise Communications Broker (ECB) software requires installation when deployed on Netra and server-based platforms.

Prepare the device to boot from either a USB or a CD.

Note: Note that the ECB boots by default to VGA (or as configured by BMC) during the installation. You can temporarily change the default to serial during installation. Within the boot parameters and after installation, you can set the boot option to VGA or serial. This setting is “permanent”, meaning that any device set to boot to VGA appears unresponsive at serial and vice-versa.

Software installation on Netra and server-based platforms includes the following high-level steps:

1. Prepare the device to boot from either a USB or a CD.
2. Insert the installation media in any USB slot or CD drive.
3. Power up the device, observing the boot cycle.
   When the power-up process completes, the device loads the ECB software. Wait for the device to finish loading the software.
4. When prompted, remove the boot media and allow the device to boot to the newly installed ECB software.
   This step may not be required as some platforms support a boot priority mechanism that automatically boots from your hard drive after the installation is complete.

- Log on to the system
- Format the disk and set the boot parameters

Log On to the System

- Install the software on the system

Every time the runtime image loads, including the first time, the Oracle Enterprise Communications Broker (ECB) displays the ACLI login prompt as follows:

```
User Access Verification
Password:
```

If the ECB completed booting before you connected to the console port, press the <Enter> key on the console keyboard a few times to activate the console connection.

System access in the following procedure uses the default User and Superuser passwords.

1. At the ACLI Password prompt, enter the default system User password, and press <return>. The system does not display your entry on the screen.

```
User Access Verification
Password:
ORACLE>
```

2. Type enable, and press <return> to enter Superuser mode. The system prompts you to enter the superuser password.

```
ORACLE> enable
Password:
```

3. Enter the Superuser password and press <return>. The system prompt ends with a pound sign instead of a closed-angle-bracket to signify Superuser mode.

```
Password:
ORACLE#
```

- Format the hard drive and set the boot parameters

Format the Hard Drive and Set the Boot Parameters

You must format the hard drive and set the boot parameters the first time you power the system on.

- Install the Oracle Enterprise Communications Broker (ECB) software on a Netra or a server-based platform
- Log On to the System

On Common off the Shelf (COTS) and server-based platforms, perform the following procedure.

Note: Note at the system names the default boot parameters “/boot/bzImage." Be aware that upgrading the software requires obtaining the corresponding image and boot loader. See "Platform Boot Loaders."

1. Execute the format hard-disk command on the ECB, per your requirements.
2. Go to the boot parameters to set the “Target Name” to your preferred ECB name.
3. Go to the boot parameters to set “Console Device” to com1 (serial).
4. Go to the boot parameters to set the "IP Address" to your preferred management port IP address.
5. Configure the interfaces by way of the ACLI.
   By default, the system recognizes the first on-board interface as wancom interfaces and any subsequent interfaces as media interfaces.
6. Compare the ACLI interface MAC address and port mapping with the Oracle Integrated Lights Out Manager (ILOM) networking configuration to ensure that they both display the same information.
7. Power the software off with the **`Halt`** command, which provides a graceful software shutdown.
   The hardware remains powered on.
8. Power the hardware off using the power switch.

Known Issues

Netra X5-2 for Communications

The **interface-mapping locate** command does not work with the Netra X5-2 for Communications onboard interfaces. The command does work with PCI interfaces installed on the platform.

The Onboard Ethernet ports of the Oracle X-series servers (X3-2, X5-2, and so on.) run natively at 10GBASE- T, which requires the use of Category 6a cabling. These ports negotiate down to 1000BASE-T or 100BASE-T, but the negotiation might not succeed when you use incompatible cables. For example, do not use Cat5/5e cables or Cat6 cables not rated for 500MHz operation.

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Inherited Features

The PCZ2.1.0 release inherits all of the features added by way of maintenance releases since the PCZ2.0.0 release.

P-CZ2.0.0M1 Maintenance Release Features

Documentation for the following features previously appeared only in the P-CZ2.0.0M1 *Maintenance Release Guide* because Oracle does not update the full documentation set for a maintenance release. Oracle integrates the maintenance release content into the full documentation set upon the next major release. The following list provides a short description and the location of each feature integrated into the P-CZ2.1.0 documentation set from the P-CZ2.0.0M1 release.

Agent Groups

Agent groups contain multiple agents. Members of an agent group are logically equivalent (although they might vary in their individual constraints) and can be used interchangeably as transit targets for SIP traffic. For one reason or another, a given agent may not be able to service traffic. Users configure agent groups to establish multiple transit destinations for purposes such as redundancy. For complete information, see "Agent Groups" the *Oracle Enterprise Communications Broker User's Guide*.

Deny Patterns in Route Parameter Syntax

You can refine the Oracle Enterprise Communications Broker (ECB) routing engine behavior by configuring routes based on the called number and the calling number. You can use the route parameter syntax to prevent the routing engine from using the specified route entry as a member of the applicable route set. See "Deny Patterns in Route Parameter Syntax" in the *Oracle Enterprise Communications Broker User's Guide*.

Displaying and Clearing Alarms

The Oracle Enterprise Communications Broker (ECB) provides a widget that allows you to view and clear alarms that the system triggered. For complete information, see "Displaying and Clearing Alarms" in the *Oracle Enterprise Communications Broker User's Guide*.

Displaying Log Files

The Oracle Enterprise Communications Broker (ECB) allows you to view log files online. For complete information, see "Displaying Log Files" in the *Oracle Communications Enterprise Broker Administrator's Guide*.

Displaying System Health

The Oracle Enterprise Communications Broker (ECB) provides a widget that allows you to view the current system health score. For complete information, see "Displaying System Health" in the *Oracle Communications Enterprise Broker Administrator's Guide*.

Displaying Users

The Oracle Enterprise Communications Broker (ECB) provides a widget that allows you to see a list of users currently logged into the system. For complete information, see "Displaying Users" in the *Oracle Enterprise Broker User's Guide*.

Forcing an HA Switchover

The navigation pane on the System tab displays the Force HA Switchover link from which you can manually cause a High Availability (HA) pair to switch roles. When you force an HA switchover, the active system to becomes the standby and the standby to becomes the active system. For complete information, see "Forcing an HA Switchover" in the *Oracle Communications Enterprise Broker Administrator's Guide*.

Multi-Hop Agent Ping

The Oracle Enterprise Communications Broker (ECB) ping function can test connectivity to endpoints located more than one hop away from the source ECB. To use the multi-hop ping function you must configure special routes dedicated to sending SIP options pings to the endpoint targets. For complete information, see "Multi-Hop Agent Ping" in the *Oracle Enterprise Communications Broker User's Guide*.

Multi-Hop Header Manipulation Rules

Oracle Enterprise Communications Broker (ECB) multi-hop Header Manipulation Rule (HMR) support allows you to apply an outbound HMR to a session agent specified as the next-hop-only, last-hop-only, or next-and-last-hop of a route. You configure a multi-hop HMR on the session agent. You do not need to change the configuration of the HMR. For complete information, see "Multi-Hop Header Manipulation Rules (HMRs)" in the *Oracle Enterprise Communications Broker User's Guide*.

Obtain System Information for Customer Support

The Oracle Enterprise Communications Broker (ECB) can produce a pre-defined file that contains information that Oracle Customer Support personnel need when troubleshooting the system. For complete information, see "Obtaining Support Information" in the *Oracle Communications Enterprise Broker Administrator's Guide*.

RADIUS Authentication

The User Authentication and Access control feature supports authentication using one or more RADIUS servers. You can set two levels of privilege, where one level allows all privileges and another level that allows read-only privileges. For complete information, see "RADIUS Authentication" in the *Oracle Enterprise Communications Broker Administrator's Guide*.

Replacing the Calling Number in the FROM Header

The Oracle Enterprise Communications Broker (ECB) provides for replacement of the calling number in a SIP message FROM header. For example, to allow a recipient UE to display a caller ID that the recipient recognizes, even during an enterprise's transition to new dialing schemes. Applicable messages include INVITEs that match the query, and all messages sent by the ECB to the callees. For complete information, see "Replacing the Calling Number in the FROM Header" in the *Oracle Enterprise Communications Broker User's Guide*.

Route Policy - Deny and Stop Recursion

The route policy allows you to alter behavior of routes by denying a route or by stopping recursion. The Deny parameter prevents the Oracle Enterprise Communications Broker (ECB) from forwarding a SIP request to the specified destination. For example to prevent a session between two end points for policy or cost reasons. The Stop Recurse parameter stops further attempts by the ECB to forward SIP a request to a destination when the route becomes unsuccessful. For example, on cost-prohibitive routes or routes that may cause loops in SIP call flows. For complete information, see "Route Policy" in the *Oracle Enterprise Communications Broker User's Guide*.

Setting the Login Banner

You can create and edit the message that the Oracle Enterprise Communications Broker (ECB) displays in the login banner. For complete information, see "Setting Your Login Banner" in the *Oracle Enterprise Communications Broker Administrator's Guide*.

The User Menu

The Oracle Enterprise Communications Broker (ECB) displays a user menu under the Admin drop-down list control in the upper right-hand corner of the banner. Use the menu to get screen Help, Help topics, About information, and to log out.

P-CZ2.0.0M2 Maintenance Release Features

Documentation for the following features previously appeared only in the P-CZ2.0.0M2 *Maintenance Release Guide* because Oracle does not update the full documentation set for a maintenance release. Oracle integrates the maintenance release content into the full documentation set upon the next major release. The following list provides a short description and the location of each feature integrated into the P-CZ2.1.0 documentation set from the P-CZ2.0.0M2 release.

Command Line Display Timeout

The Oracle Enterprise Communications Broker (ECB) GUI provides configuration fields under the General icon that allow you to set timeout values to both serial (console) and Telnet sessions to the device. When the system detects no activity on a session within the timeout period, the system closes the session. For more information, see "System Settings" in the *Oracle Enterprise Communications Broker Administrator's Guide*.

Command Line Interface Widgets

The Oracle Enterprise Communications Broker (ECB) uses an underlying management interface called the Command Line Interface (CLI). Support technicians use the CLI to display detailed information about the system in text format. The ECB makes the CLI information available directly from the Widgets tab. The CLI widgets can provide useful troubleshooting information as well as insight into system operation. For more information, see "Command Line Interface (CLI) Widgets" in the *Oracle Enterprise Communications Broker User's Guide*.

Early Media Inhibit

The Oracle Enterprise Communications Broker (ECB) early media inhibit function extracts and stores SDP from provisional responses. When the dialog's final 200OK does not include SDP, the ECB inserts the stored SDP into the 200 OK before forwarding. When the final 200 OK includes SDP, the ECB forwards the message unchanged. You configure early media inhibit on a global (sip-interface) or per-agent basis. For more information, see "SIP Interface Configuration" in the *Oracle Enterprise Communications Broker Administrator's Guide*.

Fork Groups

Fork groups on the Oracle Enterprise Communications Broker (ECB) are sets of one or more contacts that the system attempts to reach simultaneously. The system uses fork group order to specify when it tries to reach each fork group's contacts. You can configure fork groups on agents, in the registration cache, and in the LDAP database. You can also configure a global fork group timer with a value from 0 to 32 seconds on the sip-interface. When the system does not receive a response from any contact within the configured time, it tries the next fork group. For more information, see "Fork Groups" in the *Oracle Enterprise Communications Broker User's Guide*.

LDAP Server

The Oracle Enterprise Communications Broker (ECB) supports LDAP communications for interaction with one or more LDAP servers. Many enterprises use Active Directory, a common LDAP-based service, to request information used in SIP session routing and authentication. The ECB LDAP client requires configuration on the ECB and the LDAP server. The ECB provides options for LDAP configuration to provide you with the flexibility to implement lookup precedence and preference on a per-agent and global basis. For more information, see "LDAP Client Configuration" in the *Oracle Enterprise Communications Broker User's Guide*.

Policy-Based Routing

TheOracle Enterprise Communications Broker (ECB) supports policy-based routing, allowing you to select pre-defined policies or to create your own policies and apply them to routes or to the Registrar. Routing policies affect the behavior of the applicable routes when traffic matches the defined conditions. You configure and apply policies by way of the Policy icon. For more information, see "Using Policy to Refine Routing" in the *Oracle Enterprise Communications Broker User's Guide*.

SIP Refer

SIP REFER provides the Oracle Enterprise Communications Broker (ECB) with the ability to terminate SIP REFER messages and perform attended or unattended call transfers. You can enable REFER termination at both the agent and SIP interface, with agent configuration taking precedence. You can also configure the SIP interface with support for sending NOTIFY messages for provisional responses. For more information, see "SIP Refer on the Oracle Enterprise Communications Broker" in the *Oracle Enterprise Communications Broker Administrator's Guide*.

Syslog Setting

The Oracle Enterprise Communications Broker (ECB) can send both syslog and process log data to appropriate hosts for storage and analysis. You can configure the settings by way of the General tab. For more information, see "Syslog Settings" in the *Oracle Enterprise Communications Broker Administrator's Guide*.

ToS marking

The Oracle Enterprise Communications Broker (ECB) provides RFC 2474 compliant Type of Service (ToS) marking for prioritizing traffic. You configure a single ToS marking for all SIP signaling traffic on a SIP interface, which the ECB inserts into all of the egress traffic from the interface. Upstream devices use the ToS markings to prioritize traffic. Configuration consists of enabling ToS marking and setting the value that the ECB inserts into all traffic. For more information, see "Configure a SIP Interface" in the *Oracle Enterprise Communications Broker Administrator's Guide*.

User Database - Longest Match

The Oracle Enterprise Communications Broker (ECB) user database supports the resolution of overlapping numbers during lookups by selecting entries with the longest matches. For more information, see "Resolving to the Longest Match in the User Database" in the *Oracle Enterprise Communications Broker User's Guide*.

P-CZ2.0.0M3 Maintenance Release Features

Documentation for the following features previously appeared only in the P-CZ2.0.0M3 *Maintenance Release Guide* because Oracle does not update the full documentation set for a maintenance release. Oracle integrates the maintenance release content into the full documentation set upon the next major release. The following list provides a short description and the location of each feature integrated into the P-CZ2.1.0 documentation set from the P-CZ2.0.0M3 release.

Audit Logs

The Oracle Enterprise Communications Broker (ECB) can record user actions in audit logs. The audit logs record the creation, modification, and deletion of all user-accessible configuration elements, as well as attempted access to critical security data such as public keys. For each logged event, the system provides the associated user-id, date, time, event type, and success or failure data. For more information, see "Audit Logs" in the *Oracle Enterprise Communications Broker User's Guide*.

Behavioral Changes

Widget layout change—The All Widgets list and the widget tree now include the commands displayed in the CLI portal widget.

Commands menu—The Configuration tab includes the Commands menu in addition to the Save and Wizards menus.

Non-E.164 Number Normalization—When a call comes from a non-E.164 number, the Oracle Enterprise Communications Broker (ECB) strips all special (non-numeric) characters from the header, with the exception of the plus sign. In addition, the ECB does not perform outbound translations on non-E.164 numbers. Previously, the system also removed the + character.

Widgets removed

- Answer and seizure ratio line graph, and table
- Established sessions line graph, and table
- Requests per second line graph, and table
- Response bar graph, pie chart, and table
- Session duration bar graph, and table

Configuring CNAM Replacement

The Oracle Enterprise Communications Broker (ECB) provides the user with the ability to specify the value of the caller name (CNAM) in the FROM header. A simple use case would consist of an enterprise inserting the name of their company into the FROM value, in place of the original caller name. The user configures the system to use other policy or routing configurations to determine when to replace a CNAM. The system applies this policy action on SIP requests immediately prior to egress. For more information, see "Configuring CNAM Replacement" in the *Oracle Enterprise Communications Broker User's Guide*.

License Widget

The License widget allows you to add, edit, remove, and view licenses from the GUI. For more information, see "License Widget" in the *Oracle Enterprise Communications Broker User's Guide*.

Proxy Registrations

The Oracle Enterprise Communications Broker (ECB) can proxy registrations when it receives REGISTERs for domains for which it is not a registrar. You enable proxy registration in the sip interface configuration. For more information, see "Proxy Registrations" in the *Oracle Enterprise Communications Broker Administrator's Guide*.

Restricting Session Initiation

The Oracle Enterprise Communications Broker (ECB) can restrict the set of end stations that can initiate sessions to those originating from active session agents and previously registered users. By default, the ECB does not restrict session initiation. You enable the restriction in the sip-port configuration. For more information, see "Restricting Session Initiation" in the *Oracle Enterprise Communications Broker Administrator's Guide*.

Synch Registration Cache

You can enable the Oracle Enterprise Communications Broker (ECB) to synch the registration cache to all ECB Synch agents. Each ECB Synch agent uses the data to create a separate ECB Synch-only registration cache table that includes contacts and the ECB from which the table entry originated. For more information, see "Synchronizing the Registration Cache" in the *Oracle Enterprise Communications Broker User's Guide*.

Using Policy to Normalize SIP Headers

The Oracle Enterprise Communications Broker (ECB) supports policy-based SIP Header Normalization, allowing you to copy and change the information in headers when the user parts are Tel-URIs or SIP URIs composed of numbers. The system writes header changes caused by a policy after any inbound, and before any outbound, manipulation performed by header manipulation rules. SIP Header Normalization policies work for registered users and targets derived from the user database or LDAP. You configure header normalization policies from the Policy icon. You can apply the policies to routes and to the Registrar. For more information, see "Using Policy to Normalize SIP Headers" in the *Oracle Enterprise Communications Broker User's Guide*.

P-CZ2.0.0M4 Maintenance Release Features

Documentation for the following features previously appeared only in the P-CZ2.0.0M4 *Maintenance Release Guide* because Oracle does not update the full documentation set for a maintenance release. Oracle integrates the maintenance release content into the full documentation set upon the next major release. The following list provides a short description and the location of each feature integrated into the P-CZ2.1.0 documentation set from the P-CZ2.0.0M4 release.

Add a Policy to a User Table

You can apply a policy to the Oracle Enterprise Communications Broker (ECB) user table for more granular control over where a policy gets applied to runtime routing decisions. Applying a policy to the user table provides more granularity than the routing table can provide because user table entries allow individual phone numbers and phone number ranges. You can use policies from the user table and the routing table together. The ECB applies policies from the user table to the last hop on the route list specified in the routing table. For more information, see "Apply a Policy to the User Table" in the *Oracle Enterprise Communications Broker User's Guide*.

SIP Monitor and Trace Filter Configuration

The SIP Monitor and Trace function allows you to monitor SIP sessions for notable events and display the results in the Oracle Enterprise Communications Broker (ECB) SIP Notable Events summary. Such information may help you perform troubleshooting. For more targeted monitoring, you can configure filters on particular users and addresses on the ECB, on a specific agent. For more information, see "SIP Monitor and Trace Filter Configuration" in the *Oracle Enterprise Communications Broker User's Guide*.

SIP Session Summary Changes

- The session summary no longer displays references to ingress and egress realms. The summary displays the Realm label instead, which the system populates with the built in realm called "ecb."

- The SIP Session Summary shows the Source Context that is applied to the session.

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Known Issues

The following list describes known issues in the P-CZ2.1.0 release.

Patch Immediately

The P-CZ2.1.0 release requires a patch before you attempt to use the software. Download the nnPCZ210p1.bz image file and the nnPCZ210p1.boot file.

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Caveats

The following notes explain behavioral information to consider when using the P-CZ2.1.0 release.

Bug DB Number	Issue	Workaround	Release found
25359719	Clearing a large number of entries in the registration cache can result in lost packets or a service disruption.	Clear the registration cache during a maintenance window.	P-CZ210p1

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Unresolved Issues

The following issues from previous releases remain unresolved in the P-CZ2.1.0 release. Oracle provides workarounds where available.

Bug DB Number	Issue	Description	Workaround	Issue Found in Release
20829860	Ladder diagram may not open in certain ECB Sync related scenarios	When placing a call from an agent connected to ECB 1, which routes to ECB 2 using routes learned from ECB sync, the ladder diagram may not open. Pressing the ESCAPE key displays no errors, but returns the display to trace view.	No workaround to display the ladder diagram, but press the Escape key to exit back to trace view.	2.0 M1
20838179	Source based routing may not work when calling number part of a group in User DB	Source based routing may not work when the calling number is part of a group in User DB.	Do not use group in User DB.	PCZ2.0.0 MR3
21544929	ECB does not use From host when LDAP routing is enabled	When LDAP routing is enabled (LDAP server is unreachable), the ECB does not look at the From host part when the LDAP query fails (503). When LDAP routing is disabled, the source agent is matched properly according to the From host part.		PCZ2.0.0M2

Unresolved Issues

Bug DB Number	Issue	Description	Workaround	Issue Found in Release
21693207	RURI with IP instead of SA name	The ECB resolves IP address of all configured session agents.		nnPCZ200m2.bz
22691332	ECB Appends agent IP or Host to received ldap attribute already containing host	The customer attribute format is to send user@host.com. In testing, ECB appends the agent IP or hostname to the received string from active directory.	Use only user name, no host in all LDAP queries.	2.0.0mr2p1
22828607	CANCEL not terminating forking scenario	CANCEL received after INVITE and 18x progress indicators but before a 200OK is forwarded to the endpoint, but call is still forking to alternate destination.		PCZ200m3
22854705	Policy redirect with hairpin sending incorrect route ECB transport & port	ECB has a codec policy to redirect traffic to an SBC with a hairpin. ECB should insert a route in the INVITE that is the same as the source ip/port/ transport of the ECB for the INVITE being sent out. The ECB inserts a route with the correct IP, but an incorrect transport and port.	Use a Header Manipulation Rule to resolve.	(null)
22887148	"Show User" command sometimes displays duration of "16863d:1"			nnPCZ200m2p1.bz
22990440	Duplicate error when configuring LDAP in regards to AoR	When using forking, the ECB shows an error for duplicate Address of Record Entries.	This error is cosmetic and can be ignored. Routing functionality is not affected.	nnPCZ200m3.bz Build 216
23010045	Incorrect handling of "302 Moved Temporarily"	When receiving a 302 Moved temporarily message for a registered endpoint,	Hard code the forward to include the IP address of an agent connected to the ECB.	PCZ2.0.0 MR-3 GA (Build 216)

Bug DB Number	Issue	Description	Workaround	Issue Found in Release
	repsonse on endpoints registered with ECB.	the contact address is not being utilized for the next hop invite.		
23293927	ECB is not recursing to other agents in the group when getting 503 response when using codec policy	When using an agent group within a codec policy with ECB, the SIP call will fail due to the agent group hunt not continuing when a 503 message occurs. Only one agent is ever attempted.		m3
23309022	2.0M4 User DB policy functionality Fails	The customer is using LDAP. In their particular call flow, ECB queries LDAP when it should be using the User DB.		(null)
23594273	After save/ activate gateway went unreachable	ECB takes too long for routing lookups and spikes the CPU.	Optimize the routing table.	nnPCZ200m3
23605740	Failed to allocate PAC buffer for pipe13001	ECB runs out of internal buffers.	This is usually a transient event due to overloading of the CPU. Keep the CPU load around 60%.	PCZ2.0.0 MR-1 Patch 1 (Build 156)
23608981	ECB memory utilization continues to increase without any calls or work going through the ECB	Possible memory leak.		PCZ200m4p1
23717066	ECB Stops Responding			PCZ200m3
24341685	ECB hung looks like when is SSH accessed or support-info is run	SSH Sessions will hang when too much data is displayed.		(null)
24363027	ECB re-booted unexpectedly			P-CZ2.0.0 MR-4 Patch 2
24453095	Fragmented SIP/TLS not handled properly	Small fragments shorter than the Ethernet frame size are		nnPCZ200m4p1

Bug DB Number	Issue	Description	Workaround	Issue Found in Release
		not reassembled properly.		
24476439	ACK not forwarded based on Route header but reINVITE does	ACK packets are not routed properly.		P-CZ2.0.0 MR-4 Patch 1
24750828	Dialog Transparency cannot be disabled			(null)
24926959	ECB not processing calls and unable to recover the HA pair due to timeouts			nnPCZ200m4p1.bz - Netra Server X3-2
24935320	ECB server became unresponsive and service was completely lost			P-CZ2.0.0 MR-1 Patch 1
25047356	Usbc & web unresponsive after upgrading from PCZ2.0.0m4p1 to PCZ2.0.0m4p5			P-CZ200m4p5
25354846	ERROR - netTupleGet: cannot get control buffer from g_mBlk_pool			P-CZ200m4p7

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Resolved Issues

Oracle resolved the following issues from previous releases in, or prior to, the P-CZ2.1.0 release.

Bug DB Number	Issue	Release Found	Fix Information
24298670	Dial patterns limited to 196 entries	PCZ200m4p1	To be fixed be fixed as an RFE.
24340982	ECB did not allocate PAC buffer for pipe13001	nnPCZ200m4p2.bz	Fixed in PCz200m4p8.
24395962	MatchNumbers: Unexpected character 'p' in prefix ping	PCZ2.0.0 MR-4 Patch 1 (Build 235)	Fixed in PCz200m4p8.
25112385	LDAP errors		PCz200m4p8.