

**Oracle® Retail Store Inventory Operations Cloud
Services**

Implementation Guide

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Primary Author: Tracy Gunston

Contributing Author: Bipin Pradhan

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Oracle Retail Store Inventory Operations Cloud Services Implementation Guide,
Release 22.1.103.0

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Preface

This document provides critical information about the processing and operating details of Oracle Retail Store Inventory Operations Cloud Services.

Audience

This document is for:

- Systems administration and operations personnel
- Systems analysts
- Integrators and implementers

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Related Documents

For more information, see the following documents in the Oracle Retail Store Inventory Operations Cloud Services Release 22.1.103.0 documentation set:

- *Oracle Retail Enterprise Inventory Cloud Service Administration Guide*
- *Oracle Retail Enterprise Inventory Cloud Service Security Guide*
- *Oracle Retail Enterprise Inventory Cloud Service User Guide*
- *Oracle Retail Store Inventory Operations Cloud Services Release Notes*
- *Oracle Retail Store Inventory Operations Cloud Services Data Model*
- *Oracle Retail Store Operations Cloud Service Mobile Guide*
- *Oracle Retail Store Operations Cloud Service User Guide*

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Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Oracle SIOCS Implementation Overview

EICS (Enterprise Inventory Cloud Service) and SOCS (Store Operations Cloud Service) are two separately licensed products.

EICS includes:

- EICS Browser Client
- EICS Web Services
- EICS Server Tier
- EICS Database tier with data access code, batches, reports

SOCS includes:

- Oracle MAF Client

In order to use SOCS, EICS needs to be deployed.

The implementation process includes a needs assessment, business impact analysis, requirements gathering, and other activities. However, this document is concerned only with the specific aspects of a technical implementation. In a typical project life cycle, technical implementations can begin only after the environment has been provisioned. Once a subscription agreement has been signed and Service Activation Request is logged, the Oracle Cloud team will start the provisioning process.

Once the account is provisioned, the Oracle Cloud team provides the following:

- URL to access the EICS Application User Interface (UI) for production and staging environments.
- One Customer Delegate Administrator user account.
- URLs to access the various web services associated with the staging and production environments.

Noteworthy Differences between V16.x/on premise (SIM) and SIOCS V19.x (GBUCS cloud)

- **UI:** No Wavelink UI, No Swing UI. Uses Oracle JET (JavaScript extension technology) based UI for Administration & Oracle MAF (mobile application framework) for mobile UI.
- **Server:** No change in technology. Some changes to support modified/new functionalities.
- **Database:** Minimal schema change.
- **Integration:** Integrates with RICS (Retail Integration Cloud Service).

- **Security model:** "hybrid" model
 - AuthN: using IDCS or OCI IAM/WTSS
 - AuthZ: within EICS administration UI
- **Batch scheduling:** Internal to EICS. It has a batch scheduler interface.
- **Printing:** Reports would be downloaded to UI. Users can then print from UI.
- **Deployment:** Standardized cloud deployment model.

Noteworthy Differences between SIOCS V19.x (GBUCS cloud) and SIOCS V22.x (Gen2SaaS)

- **Deployment:** SIOCS 22.x supports two (2) deployments.
- **A> shared pluggable database (PDB) with Merchandising Foundation Cloud Service (MFCS)**
 - different schema
- **B> standalone**
 - allows field enabled integration to on-premises RMS

Table 1–1 Noteworthy Differences

	V19 / GBUCS	V22.x (shared PDB)	V22.x (standalone)
Foundation data seeding	BDI (bulk data integration)	Direct pull from MFCS	File Transfer Service
Changes to foundation data	RICS/RIB	RICS/RIB	RICS/RIB
Pricing - initial import	BDI (bulk data integration)	Direct pull from MFCS	File Transfer Service
Pricing changes	RICS/RIB	Direct pull from MFCS	File Transfer Service
Inventory Transactions	RICS/RIB	RICS/RIB	RICS/RIB
3rd party file uploads	BDI (bulk data integration)	File Transfer Service	File Transfer Service
Report Printing	Service specific OBIEE / BIPublisher instance	DIS - common service for all Retail GBU	DIS - common service for all Retail GBU

Oracle Retail Integration Components

EICS requires others systems, such as a merchandising system, to provide foundation (item, location, and so on) and transaction data (purchase order, stock order) to operate. This would be integrated through RICS (Retail Integration Cloud Service).

EICS integrates out of the box with Oracle Retail Merchandising Foundation Cloud Service (RMFCS).

All other web services based integration (such as with Point of Sale and Oracle Retail Order Broker systems) exist as well.

The following Integration Infrastructures are required for EICS to integrate with external systems:

- RICS (Retail Integration Cloud Service)

For more details, see the information on integration in the *Oracle Retail Enterprise Inventory Cloud Service Administration Guide*.

Implementation Considerations

In general, a technical implementation involves the following key steps areas:

- [Setup Users](#)
- [Signing into EICS](#)
- [System Configurations](#)
- [Batch Job Admin](#)
- [Initial Data Seeding](#)
- [Report Configurations](#)
- [Store Configurations](#)
- [Internationalization and Localization](#)
- [Integrations](#)
- [Mobile Application \(SOCS\)](#)

URL Reference

The EICS URLs required for reporting, apex data viewer, EICS to RICS Message Publishing and Web service APIs will need to be formed using the format provided in the *Oracle Retail Enterprise Inventory Cloud Service Administration Guide*.

Setup Users

By default, EICS provision one system operator user account and one customer delegate administrator user account. The customer delegate cloud administrator may create additional application admin accounts and implementation user account. Customer cloud administrator may also create a customer security admin user to manage users.

Terminology

This section defines Security Terms used throughout this document.

Table 2-1 Security Terms

Term	Definition
Application Administrator	A customer application admin user who can perform application configurations via EICS admin screen.
Application Implementer	System implementer is user who implements the application.
Application Role	An application role is a collection of users and other application roles. Application roles are defined in applications and they are not necessarily known to a Java Container.
Application System Operator	Application system operator user can perform application setup and configurations, including operations which are restricted to other application users.
Customer Cloud Administrator	A delegated customer cloud user for customer cloud management tasks, for example create customer security admin user, and other users.
Customer Security Admin	A customer security admin user who can create customer users and assign application roles.
Enterprise Group	An enterprise group is a collection of users and groups. Enterprise groups are defined in security store, and are known to java EE server container.
Store Manager	A user who performs store manager role.
Store User	A user who performs store operations with assigned role permissions.
User	A user is an end-user accessing a service or application.

User Types and Responsibilities

Users in SIOCS are divided into the following types based on their job duties.

Table 2–2 User Types and Responsibilities

User Type	Responsibilities
Application Implementer	Data Seeding Configuration Operation Issues
Customer Cloud Administrator Security Admin	Create Additional App Users
Application Administrator	Configure System Configure Store
Store Manager	Store Management
Store User	Store Operations
Retail Home User	A user who can access EICS tile reports on Retail Home and navigate to related operational views in EICS from there.

In addition to application users, integration users need to be setup based on integrated applications.

User Access Control

Users of SIOCS have roles through which they gain access to functions and data.

Security implementation involves the management of:

- Assign security groups to corporate operational users
- Assign application roles to store users

Assign Customer-Cloud-Admin User and Security-Admin User

This is for Retailer's admin to setup other users. This user has application Administrator role assigned. This user can be created and managed by customer in IDCS or OCI IAM.

The Cloud service administrator may setup additional users based on their job duties.

IDCS or OCI IAM Application Roles assigned to Application Admin User:

- admin_users
- security_users
- mps_users
- batch_users
- global_store_users
- full_permission_users

Users also need to be assigned application roles via SIOCS Security Admin Role permission console. For details on how to use the SIOCS administration screens, see the *Oracle Retail Enterprise Inventory Cloud Service Security Guide* and the *Oracle Retail Enterprise Inventory Cloud Service User Guide Security* chapter.

Assign Implementation Users

Implementation users perform the key setup tasks to start your implementation. As part of initial setup, add an implementation user, and give them login credentials and the url for your Oracle Applications. The Cloud service administrator may setup additional users for performing implementation tasks. To create implementation users and the data roles for performing the tasks, the service administrator performs following tasks:

- Create Implementation users and assign appropriate security IDCS or OCI IAM Application Roles in IDCS or OCI IAM
- Assign SIOCS Application Roles in SIOCS Security Admin Console to implementation users, optionally you can create custom roles and data roles to assign to implementation users

Users also need to be assigned application roles via SIOCS Security Admin Role permission console. For details on how to use the SIOCS administration screens, see the *Oracle Retail Enterprise Inventory Cloud Service Security Guide* and the *Oracle Retail Enterprise Inventory Cloud Service User Guide Security* chapter.

Assign Store Users

The Customer security admin user will need to setup the additional application users and store users using IDCS or OCI IAM, and assign EICS application permissions and stores to store users via SIOCS Security Users Screens.

Store assignments control the stores available for a user to login to. Users can be assigned access to specific stores through the SIOCS security admin UI.

Steps to setup users and permissions:

- Custom Security Admin creates application users in Oracle Identity Cloud Service (IDCS) or Oracle Cloud Infrastructure Identity and Access Management (OCI IAM)
- Assign IDCS or OCI IAM Application Roles which are applicable to application users based on their job duties
- Define Custom Roles for non-Administrator role. You may assign the Default ADMINISTRATOR role to admin user.
- Assign permissions to Role:

EICS defines two default application roles (ADMINISTRATOR and MANAGER), you may define custom roles to control user accesses based on job duties. There are 350+ roles permissions that decide how users access functionality. For details, see the *Oracle Retail Enterprise Inventory Cloud Service Administration Guide - Configuration* chapter.

- Assign user to roles and stores:

Once stores are seeded into EICS, in SIOCS Security screen, customer security admin can assign users to stores, application roles. You may assign a single user to stores, or use SIOCS UI Spreadsheet Data Loader to upload user role assignments.

See *Oracle Retail Enterprise Inventory Cloud Service Security Guide - Application Security* chapter, Mass Assigning Roles and Stores section and [SIOCS UI Spreadsheet Data Loader](#).

Signing into EICS

When you launch the EICS URL, you are re-directed to login Screen.

Login Screen

Use the EICS login screen to sign in the EICS application.

Oracle Identify Cloud Service (IDCS) or Oracle Cloud Infrastructure Identity and Access Management (OCI IAM) requires you to provide a valid user ID and password set up in IDCS or OCI IAM and select **Sign In**. The user must also be assigned proper roles and permissions within EICS.

Successful Login

If the User ID and password are valid, IDCS or OCI IAM authenticate the user, and if the user is configured in EICS, the system logs the user in.

Un-Successful Login

Please see [Troubleshooting Tips](#).

System Configurations

There are 200+ system configuration settings applicable across the product functionalities. Depending on which functionality would be used, please read and configure settings accordingly.

Users with ADMINSTROR application role and admin_users IDCS or OCI IAM Application Role have permissions to update configurations. Some of restricted configuration settings requires users to have sysop_users IDCS or OCI IAM Application Role.

For more information on configuration please see *Oracle Retail Enterprise Inventory Cloud Service Administration Guide - Configuration* chapter.

Summary of Admin System Configurations Topics

The property settings that displayed on the Configure System Screen are listed below in groups:

- [Admin Configurations](#)
- [Audit Configurations](#)
- [Batch Configurations](#)
- [Functional Areas Related Configurations](#)
- [Message Processing Configurations](#)
- [Mobile Configurations](#)
- [Notification Configurations](#)
- [Purge Configurations](#)
- [System and Integration Web Service Configurations](#)
- [Time Zone Configurations](#)
- [UI Configurations](#)

Admin Configurations

Table 4–1 Admin Configurations

Configuration Topic	Descriptions
Admin	Configurations under this topic contains general application admin settings. See <i>Oracle Retail Enterprise Inventory Cloud Service Administration Guide - Configuration</i> chapter for details.

Audit Configurations

Table 4–2 Audit Configurations

Configuration Topic	Descriptions
Audit	Configurations under this topic contains auditing settings. See <i>Oracle Retail Enterprise Inventory Cloud Service Administration Guide - Configuration</i> chapter for details.

Batch Configurations

Table 4–3 Batch Configurations

Configuration Topic	Descriptions
Batch	Configurations under this topic contains settings for batch settings, such as file import path, object-storage/FTS (file transfer service) locations, and so on.

Batch File Configurations

At the time of provisioning, the Oracle Cloud team configures an object-storage/FTS (file transfer service) to facilitate the import and export of the batch files in and out of the cloud service. The batch file paths are set during EICS application installation. If the paths changed after installation, system operator may update the path using EICS system configuration screen.

Functional Areas Related Configurations

Table 4–4 Functional Area Specific Configurations

Configuration Topic	Descriptions
Carton Lookup	Configurations under this topic contains settings for Container Lookups.
Customer Order	Configurations under this topic contains settings for Customer Order Fulfillment.
DSD Receiving	Configurations under this topic contains settings for Direct Store Receiving.
Inventory Adjustment	Configurations under this topic contains settings for Inventory Adjustment.
Item Basket	Configurations under this topic contains settings for Item Basket.
Item Lookup	Configurations under this topic contains settings for Item Lookup.

Table 4–4 (Cont.) Functional Area Specific Configurations

Configuration Topic	Descriptions
Item Price	Configurations under this topic contains settings for Item Price.
Ops	Configurations under this topic contains settings related to specific functional area operations.
RTV	Configurations under this topic contains settings for Return to Vendor.
RTV Shipment	Configurations under this topic contains settings for Return to Vendor Shipment.
Shelf Replenishment	Configurations under this topic contains settings for Shelf Replenishment.
Stock Counts	Configurations under this topic contains settings for Stock count.
Transfer Receiving	Configurations under this topic contains settings for transfer receiving.
Transfer Shipment	Configurations under this topic contains settings for transfer shipment.
transfers	Configurations under this topic contains settings for transfers.
UIN	Configurations under this topic contains settings for Item Unique Identification Number processing Configurations.

Message Processing Configurations

Table 4–5 MPS Configurations

Configuration Topic	Descriptions
MPS	Configurations under this topic contains settings for MPS (Message Processing). See <i>Oracle Retail Enterprise Inventory Cloud Service Administration Guide - Configuration</i> chapter for details.

Mobile Configurations

Table 4–6 Mobile Configurations

Configuration Topic	Descriptions
Mobile	Configurations under this topic contains settings for Mobile Client. See <i>Oracle Retail Enterprise Inventory Cloud Service Administration Guide - Configuration</i> chapter for details.

Notification Configurations

Table 4–7 Notification Configurations

Configuration Topic	Descriptions
Notification	Configurations under this topic contains settings for notification settings. See <i>Oracle Retail Enterprise Inventory Cloud Service Administration Guide - Configuration</i> chapter for details.

Purge Configurations

Table 4–8 Purge Configurations

Configuration Topic	Descriptions
Purge	Configurations under this topic contains settings for data purge, such as days to hold, and so on. See <i>Oracle Retail Enterprise Inventory Cloud Service Administration Guide - Configuration</i> chapter for details.

System and Integration Web Service Configurations

Table 4–9 System and Integration Web Service Configurations

Configuration Topic	Descriptions
System Setting	Configurations under this topic contains settings for generic system configurations, and so on, external web service URLs, and system setting refresh rates, and so on. See <i>Oracle Retail Enterprise Inventory Cloud Service Administration Guide - Configuration</i> chapter for details.

Time Zone Configurations

Table 4–10 Time Zone Configurations

Configuration Topic	Descriptions
TIME_ZONE	Configurations under this topic contains settings to determine if GMT time zone settings are used. See <i>Oracle Retail Enterprise Inventory Cloud Service Administration Guide - Configuration</i> chapter for details.

UI Configurations

Table 4–11 UI Configurations

Configuration Topic	Descriptions
UI	Configurations under this topic contains UI related settings, such as UI search limits, and so on. See <i>Oracle Retail Enterprise Inventory Cloud Service Administration Guide - Configuration</i> chapter for details.

Batch Job Admin

Batch Scheduler

EICS provides a batch scheduler interface that allows customers to enable/disable batch jobs and schedule batches with specific intervals.

Please note this is part of EICS itself.

For more details, see the information on batches in the *Oracle Retail Enterprise Inventory Cloud Service Administration Guide* Batches Chapter- Job Scheduler.

Batch Activity

Admin users and system operator can view batch job activities via EICS Batch Job Admin Screen.

See *Oracle Retail Enterprise Inventory Cloud Service Administration Guide* Batch Job Admin Chapter- Job Admin screen.

Cleanup Batches

The scheduled batch jobs that perform cleanup of old data have been moved to systems operations. The scheduling and execution of these batch jobs is necessary for the functioning of the application. Each of these jobs will be scheduled to run by default on a cycle, often daily. As systems operations, these will not appear on the batch screen unless the user is an Oracle system operations account.

However, most of these cleanup batch jobs have a retention policy that is configurable in the systems configuration. The system configuration is available to standard customer accounts where they can set those configurations within specified range.

Cleanup Batch List

- Activity Locks
- Adhoc Stock Count
- Batch Directories
- Batch Log
- Closed Transfers
- Completed UINs

- Customer Orders
- DSD and Purchase Orders
- Invalid Users
- Invalid User Roles
- Inventory Adjustments
- Item
- Item Baskets
- Item Hierarchy
- Item Price
- Notifications
- Price Change Worksheet
- Price History
- Related Items
- Resolved UIN Problems
- RFID
- Sales Posting
- Shelf Adjustments
- Staged Messages
- Stock Counts
- Store Orders
- Temporary UINs
- Vendor Returns

Initial Data Seeding

Initial Data Seeding

Data seeding is a process where EICS seed enterprise foundation information from external system, such as merchandise hierarchy, items, locations, items, suppliers, and related data.

See *Oracle Retail Enterprise Inventory Cloud Service Administration Guide - Data Seeding* chapter.

SIOCS UI Spreadsheet Data Loader

Use EICS Spreadsheet Data Loader to upload data to the EICS application tables from spreadsheets. Spreadsheet Data Loader is applicable to small or medium data file up to a few Megabytes.

EICS UI spreadsheets loader provides following features:

- Download the templates
- Upload user store assignments
- Upload user role assignments
- Data Validations

Upload Store Assignments

You can assign users to stores using EICS Spreadsheet data loader in EICS Admin Security screen. User must exist in credential store (for example, Oracle IDCS).

You must have the Application Administrator job role or privileges.

Spreadsheet Templates

UserAssignmentsTemplate.xlsx/Store Assignments:

Table 7–1 Spreadsheet Templates

Field	Description	Required
Action	The assignment action, choose value from dropdown, assign, revoke.	Yes
Action Value	N/A	No
Username	The username to assign the store.	Yes
Store ID	The store Id to assign to user.	Yes

See *Oracle Retail Enterprise Inventory Cloud Service Security Guide* and *Oracle Retail Enterprise Inventory Cloud Service User Guide Security* chapter.

Upload Role Assignments

You can assign users to roles using EICS Spreadsheet data loader in EICS Admin Security screen. User must exist in credential store (for example, Oracle IDCS or OCI IAM).

The role must exist in EICS.

You must have the Application Administrator job role or privileges.

Spreadsheet Templates

UserAssignmentsTemplate.xlsx/Role Assignments:

Table 7-2 Spreadsheet Templates

Field	Description	Required
Action	The assignment action, choose value from dropdown, assign, revoke.	Yes
Action Value	N/A	No
Username	The username to assign the store.	Yes
Role Name	The role name to assign to user.	Yes
Store ID	The store Id to assign to user.	No
Start Date	User start date.	No
End Date	User end date.	No

See *Oracle Retail Enterprise Inventory Cloud Service Security Guide* and *Oracle Retail Enterprise Inventory Cloud Service User Guide Security* chapter.

Report Configurations

EICS ships with around 30+ built-in operational reports. These reports are requested from the EICS user interface. The reports are displayed in PDF on the EICS user interface. These reports cannot be modified.

See *Oracle Retail Enterprise Inventory Cloud Service Administration Guide Reporting* chapter and *Oracle Retail Enterprise Inventory Cloud Service Administration Guide Appendix D: Report Formats*.

Store Configurations

Once stores are seeded into EICS, you can change default store configurations.

There are 100+ configuration settings applicable specific for a store(s).

Users with ADMINSTROR application role and admin_users IDCS or OCI IAM Application Role have permissions to change store configurations.

Store Admin UI also provides mass store configuration updates features to update configurations for all stores or list of stores.

For details, see the *Oracle Retail Enterprise Inventory Cloud Service Administration Guide* Configuration chapter.

Mobile Application (SOCS)

SOCS is a hybrid mobile platform that gets distributed through a mobile application archive (.maa) file from the Oracle Software Delivery Cloud (OSDC). Go to <https://edelivery.oracle.com> and search for **Store Operations Cloud Service** to get the mobile archive file. This .maa needs to be built into either an Android build (apk) or an iOS build (ipa).

SOCS can also be downloaded as an application from Google Play Store.

For details, see the *Oracle Retail Store Operations Cloud Service Mobile Guide*.

Configure Manual Quantity Entry Mode

For MAF client, you need to set the numeric entry popup on MAF will have its mode defaulted to either scan mode or override mode.

For details, see the *Oracle Retail Enterprise Inventory Cloud Service Administration Guide* Configuration chapter.

Enable Mobile Functionalities

By default, the EICS application installer set following value as false.

```
input.sim.mobile.client.enabled = false
```

By disabling **Access Execution UI**, Mobile Client (SOCS) access on following functional areas are disabled. If a customer has purchased SOCS licenses then following access permissions need to be enabled in order to use these functionalities on mobile client.

- Access Execution UI
- Access Inventory Adjustments
- Access DSD Receiving
- Access RTV
- Access RTV Shipment
- Access Transfer
- Access Transfer Shipment
- Access Transfer Receiving
- Access Customer Order
- Access Stock Count

- Access Shelf Replenishment
- Access Open Transactions
- Access Notifications
- Access Item Basket

Internationalization and Localization

SIOCS supports translation into following locales out of the box:

1. Arabic
2. Chinese (Simplified)
3. Chinese (Traditional)
4. Croatian
5. Dutch
6. English
7. French
8. German
9. Greek
10. Hungarian
11. Italian
12. Japanese
13. Korean
14. Polish
15. Portuguese (Brazilian)
16. Russian
17. Spanish
18. Swedish
19. Turkish

Extension hook for adding new locales

Translation records for these new locales have been defaulted to English.

Translation value can be updated for these locales by accessing administration screen on EICS Admin UI.

1. Albanian
2. Armenian
3. Azerbaijani
4. Belarusian

-
5. Bengali
 6. Bosnian
 7. Bulgarian
 8. Burmese
 9. Czech
 10. Danish
 11. Estonian
 12. Filipino
 13. Finnish
 14. Georgian
 15. Hebrew
 16. Hindi
 17. Indonesian
 18. Kazakh
 19. Khmer
 20. Lao
 21. Latvian
 22. Lithuanian
 23. Malay
 24. Norwegian
 25. Romanian
 26. Serbian
 27. Slovak
 28. Slovene
 29. Thai
 30. Ukrainian
 31. Urdu
 32. Uzbek
 33. Vietnamese

EICS Admin UI translations relies on following two bundle categories:

1. Framework bundles: owned by Oracle JET and Oracle Retail platform team.
2. EICS bundles: owned by EICS.

These bundles are merged at runtime to provide an overall translation bundle which is used to provide translated UI content.

For updating Oracle provided translations Administration UI provides a setup screen.

For more details, see the information in the *Oracle Retail Enterprise Inventory Cloud Service Administration Guide* Internationalization chapter.

SOCS (built using Oracle MAF) follows an XML format to organize translation records within a translation bundle. Each supported locale will have its own XLF file. For example, translations for French locale could be found under **xxxMobileViewControllerBundle_fr.xlf** file. For information on how to update the mobile translations, see the *Oracle Retail Store Operations Cloud Service Mobile Guide*.

Operational Monitoring

To assist system operators and implementers to view operational issue, following tools can assist users with job monitoring activities.

View Operational Issues through EICS Admin UI

To view EICS application operational issues, EICS provides an Operational Issues Admin UI. For details, see *Oracle® Retail Enterprise Inventory Cloud Service Administration Guide*.

EICS DB Data Viewer User

In addition to data sources users, EICS database installation also creates a DB data viewer user.

This user has read permissions to all tables/synonyms owned by EICS master schema. This DB data viewer user can be used by system implementer or system operator to perform necessary job monitoring activities. This user has the following database roles assigned to it:

- sim_business_viewer
- sim_admin_viewer
- sim_mps_viewer
- sim_security_viewer
- sim_rib_viewer

This chapter describes the integration setup within EICS to integrate with other systems.

For completed integration interfaces, see *Oracle Retail Enterprise Inventory Cloud Service Administration Guide* - Integration chapter.

- [Pricing Integration with Retail Pricing Cloud Service](#)
- [Stock Count Export Integration with MFCS](#)
- [Sale Data Integration with POS and ReSA](#)
- [Web Service: Integration with Manifest System](#)
- [Web Service: Integration with External System for Ticket Printing](#)
- [RIB Integration Guidance \(From SIOCS Perspective\)](#)
- [Other Integration Interfaces](#)
- [Standalone Deployment - Integration with on-premise RMS/RIB](#)

Pricing Integration with Retail Pricing Cloud Service

Clearance Transaction Import

See *Oracle® Retail Enterprise Inventory Cloud Service Administration Guide* Batch Chapter: Clearance Transaction Import

Price Change Transaction Import

See *Oracle® Retail Enterprise Inventory Cloud Service Administration Guide* Batch Chapter: Price Change Transaction Import

Promotion Offer Import (N/A): Requires Field Enabled Integration

SIOCS does not use Oracle Retail Pricing Cloud Service Interface PromotionOffer_Tx. It requires field enabled integration. At this point, the pricing service does not post promotion price by item/date, so there is nothing for SIOCS to use. SIOCS does have a generic promotion interface for the retailer to integrate promotion price into.

Stock Count Export Integration with MFCS

Stock Count Export

When a Unit Amount stock count is authorized, a Unit and Amount Stock Counts Export file is generated.

See *Oracle® Retail Enterprise Inventory Cloud Service Administration Guide Appendix: Unit and Amount Stock Counts Export*.

Sale Data Integration with POS and ReSA

Retail Sale Audit Import Batch

See:

- *Oracle® Retail Enterprise Inventory Cloud Service Administration Guide* Batch chapter
- *Oracle® Retail Enterprise Inventory Cloud Service Administration Guide* Integration chapter

Web Service: Integration with Manifest System

See:

- *Oracle® Retail Enterprise Inventory Cloud Service Administration Guide - Integrate with Manifest System*
- Web Service URL:

System Integrator provides the external Web Service URL. This URL is taken as input by the EICS installer to update system configuration entry in the database.

The URL can also be updated via EICS System Configuration UI using the below configuration.

SIOCS is not a package shipping management system. It calls an external shipping-manifest system that acts as a broker for multiple courier entities such as FedEx, UPS, DHL, national mail carriers and so on.

Details of the shipping manifest web service are captured in the WSDL. Details of the data elements are provided in the XSD.

- Download Shipping-Manifest-Service jar from My Oracle Support <Patch XXXXXX> after contacting Oracle Support.
- Please look at all the definitions/wsdl in that JAR and write service as needed. This service will run on a server outside of Oracle network.
- Please log a service request to allow-list this server URL.
- Please use the Credentials Administration UI under Technical maintenance to update credential details. For details please see *Oracle® Retail Enterprise Inventory Cloud Service Administration Guide - Chapter 6*.
- Web Service User alias: manifest-user
- Web Service: Integration with External System for Ticket Printing

Web Service: Integration with External System for Ticket Printing

See:

- *Oracle® Retail Enterprise Inventory Cloud Service Administration Guide - Ticket Print*
- Web Service URL:

System Integrator provides the external Web Service URL. This URL is taken as input by the EICS installer to update system configuration entry in the database.

SIOCS is not a printing system that manages printers & formats. Tickets are sent to an external web service end-point; that is implemented by any system that needs to receive tickets. The external system is responsible for managing printing.

SIOCS stages the printed tickets in the Message Processing System queue. In order to process the staged tickets, the **TicketPrint** outbound MPS work type needs to be enabled through the MPS Work Type screen. Please refer to the Oracle Retail Enterprise Inventory Cloud Service Administration Guide for details on MPS Work Type screen.

The external web service is called **tps-TicketPrint** and has one operation **printTickets**.

Details of the ticket printing web service are captured in the WSDL. Details of the ticket data elements are provided in the XSD.

- Download tps- TicketPrintService jar from My Oracle Support <Patch XXXXXX> after contacting Oracle Support.
- Please look at all the definitions/wSDL in that JAR and write service as needed. This service will run on a server outside of Oracle network.
- Please make sure outbound TicketPrint MPS work type has been enabled.
- Please log a service request to allow-list this server URL.
- Please use the Credentials Administration UI under Technical maintenance to update credential details. For details please see *Oracle® Retail Enterprise Inventory Cloud Service Administration Guide - Chapter 6*.
- Web Service User alias: ticket-user

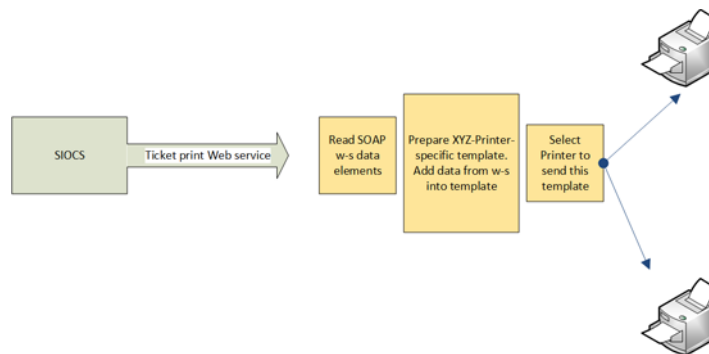
ZPL

- ZPL is a proprietary ticket formatting language used for printing to Zebra printers.
- ZPL is not entirely an ASCII format and is not readable without tools.
- If not using ZPL ticket printing on Zebra printers, then usage of ZPL is not recommended.
- If using ZPL with ZPL printers, SIOCS allows for the placement of tags within the ZPL design (managed by ZPL tools).
- SIOCS will then replace those tags with the correct data before sending the ticket information to the web service endpoint.
- ZPL files and formats are created and managed by tools and software outside of SIOCS. Files are uploaded into SIOCS.

Non-ZPL Printing

- Information captured in printer administration is sent with the ticket information, such as printer name and address.
- The custom development of the printing system (or middleware system designed to speak to a printing solution) must use the printer and ticket information to determine how to print.
- Ticket information can be used to determine format of ticket to print, but such tasks as matching the ticket type information to a template managed by the implementing system.
- Once a template in the middleware system is identified, the middleware system should use ticket information to populate the template and print the ticket. SIOCS does not manage printing templates.
- Printer information can be used to determine which printer it should be sent to.
- Printing templates are created and managed by tools and software outside of SIOCS as part of a custom or middleware product.

Figure 13–1 Ticket Printing



RIB Integration Guidance (From SIOCS Perspective)

Overview

The Oracle Retail Integration Bus (RIB) is a fully distributed integration infrastructure that implements messaging using Asynchronous JMS Publish/Subscribe Fire-and-Forget model.

The concept of message-bus is that one product broadcasts information and each product or cloud service only subscribes to those message families/payloads that they are interested in. Everything else is ignored.

To process all messages intended for ordering systems, pricing systems, or any other external systems would require massive processing of mapping, then writing to the database, and then reading messages that are not intended for processing in our system in order to discard them.

To avoid all the processing and overhead, messages not intended for SIOCS are simply dropped at the point of receiving them from the RIB.

Unsupported Messages and Payloads

When an entire family or message type is not used or desired in SIOCS, then it is not subscribed to and does not arrive at SIOCS.

The message type and payload has no injector that places the RIB payload into the MPS staged message processing workflow in SIOCS.

Unsupported Data within Messages and Payloads

In the case of some message families or types, a brief look at the internal information of the message may also determine, it is not meant for SIOCS.

1. SIOCS does not process non-stockholding stores (stores with no inventory). So, if a payload arrives for a message family and type we support, but the payload contains an internal attribute, usually labeled "stockholding_ind" that is set to "N", the payload is dropped as it is not intended for the SIOCS system.
2. SIOCS does not process virtual stores so limited itself by store type. If the payload contains a store type attribute, then SIOCS only processes COMPANY ("C") stores and FRANCHISE ("F") stores.
3. When dealing with quantities, a quantity of 0 primarily means a cancellation or removal of that item or detail from a transaction, and so it is deleted. There may be exception to this in certain circumstances.

Errors

Errors that occur within the RIB through injection in MPS are logged and managed within the RIB.

Errors that occur within MPS staged messages within SIOCS are logged and can be seen and managed with MPS management workflow.

Messages that are successfully processed, including successfully being ignored as not relevant to the store, do not log any information.

Modify/Delete

In the case of transaction data, in some cases if the transaction is actively being processed by a user or business functionality in the store, it may have already passed a state where it can be modified or canceled.

Message Family/Type

The following table contains a list of message families and types that SIOCS subscribes to (incoming) or broadcasts (publishes out) to other systems.

It indicates the family name, message type, payloads used within the family, whether or not SIOCS publishes or subscribes to it, and whether or not it is part of the initial data seeding.

Message type suffixes indicate the intent of the payload: **Cre** means create information, **Mod** means modify information, and **Del** means cancel or delete information.

Table 13–1 Message Family/Type

Message Family	Message Type	Payload	Publish/Subscribe	Seeded	SIOCS Data
ASNIn	ASNInCre	ASNInDesc	Subscribe	No	Store Delivery
	ASNInMod				
ASNOut	ASNOutCre	ASNOutDesc	Publish	No	Store Shipment
ClrPrcChg	ClrPrcChgCre	ClrPrcChgDesc	Subscribe	No	Clearance Price Change
	ClrPrcChgMod	ClrPrcChgRef			
	ClrPrcChgDel	ClrPrcChgDtlRef			
CoInvAvail	COInvAvailMod	COInvAvailDesc	Publish	No	Customer Order Store Inventory Shift Notification
Diffs	DiffCre	DiffDesc	Subscribe	Yes	Differentiators
	DiffDel	DiffRef			
	DiffMod				
DSDReceipt	DSDReceiptCre	DSDReceiptDesc	Publish	No	Non-PO DSD Receipt
	DSDReceiptMod				
FulfilOrd	FulfilOrdStDlvCre	FulfilOrdDesc	Subscribe	No	Fulfillment Orders
	FulfilOrdReqDel				
	FulfilOrdApprDel				
FulfilOrdCfm	FulfilOrdCfmCre	FulfilOrdCfmDesc	Publish	No	Fulfillment Order Confirm
FulfilOrdCfmCnc	FulfilOrdCfmCncCre	FulfilOrdRef	Publish	No	Fulfillment Order Cancel
InvAdjust	InvAdjustCre	InvAdjustDesc	Publish, Subscribe	No	Stock Movement Notification
InvReq	InvReqCre	InvReqDesc	Publish	No	Store Order/Item Request

Table 13–1 (Cont.) Message Family/Type

Message Family	Message Type	Payload	Publish/Subscribe	Seeded	SIOCS Data				
ItemLoc	ItemLocCre	ItemLocDesc	Subscribe	Yes	Item Location Item Replenishment				
	ItemLocDel								
	ItemLocMod								
	ItemLocReplMod								
Items	ItemBOMCre	ItemBOMDesc	Subscribe	Yes	Item Item Details Item UPC Item Image				
	ItemBOMDel	ItemDesc							
	ItemBOMMod	ItemHdrDesc							
	ItemCre	ISCDimDesc							
	ItemDel	ItemImageDesc							
	ItemHdrMod	ItemTcktDesc							
	ItemImageCre	ItemUPCDesc							
	ItemImageMod								
	ItemImageDel								
	ItemUPCCre								
	ItemUPCDel								
	ItemUPCMod								
	Items	RelItemHeadCre				RelatedItemDesc	Subscribe	Yes	Related Items
		RelItemHeadMod							
RelItemHeadDel									
RelItemDetCre									
RelItemDetDel									
RelItemDetMod									
Items	ItemSupCre	ItemSupCtyDesc	Subscribe	Yes	Supplier Items Supplier Manufacturer Supplier Country				
	ItemSupDel	ItemSupCtyMfrDesc							
	ItemSupMod	ItemSupDesc							
	ItemSupCtyCre								
	ItemSupCtyDel								
	ItemSupCtyMod								
	ISCDimCre								
	ISCDimMod								
	ISCDimDel								
	ISCMfrCre								
	ISCMfrDel								
	ISCMfrMod								

Table 13–1 (Cont.) Message Family/Type

Message Family	Message Type	Payload	Publish/Subscribe	Seeded	SIOCS Data
Items	ItemUDALOVCre	ItemUDADateDesc	Subscribe	Yes	Item User Defined Attributes
	ItemUDALOVMod	ItemUDAFFDesc			
	ItemUDALOVDel	ItemUDALOVDesc			
	ItemUDAFFCre				
	ItemUDAFFMod				
	ItemUDAFFDel				
	ItemUDADateCre				
	ItemUDADateMod				
	ItemUDADateDel				
MerchHier	ClassCre	MrchHrClsDesc	Subscribe	Yes	Department Class Subclass
	ClassMod	MrchHrDeptDesc			
	ClassDel	MrchHrScsDesc			
	DeptCre				
	DeptMod				
	DeptDel				
	SubclassCre				
	SubclassMod				
	SubclassDel				
Order	POCre	PODesc	Subscribe	No	Purchase Order
	PODel	PORef			
	PODtICre				
	PODtIDel				
	PODtIMod				
	POHdrMod				
Partner	PartnerCre	PartnerDesc	Subscribe	Yes	Finishers
	PartnerDel	PartnerOUDesc			
	PartnerMod	PartnerRef			
	PartnerDtICre				
	PartnerDtIDel				
	PartnerDtIMod				
PrmPrcChg	MultiBuyPromoCre	PromotionDesc	Subscribe	No	Promotions
	MultiBuyPromoMod				
	MultiBuyPromoDel				
	PrmCnlItemLocCre				
RcvUnitAdj	RcvUnitAdjCre	RcvUnitAdjDesc	Subscribe	No	Adjusts Supplier Deliveries
	RcvUnitAdjMod				

Table 13-1 (Cont.) Message Family/Type

Message Family	Message Type	Payload	Publish/Subscribe	Seeded	SIOCS Data
Receiving	ReceiptCre ReceiptOrdCre	ReceiptDesc	Publish	No	Transfer Receipt, Purchase Order Receipt, Receipt with Customer Order
RegPrcChg	RegPrcChgCre RegPrcChgMod RegPrcChgDel	RegPrcChgDesc RegPrcChgDtl	Subscribe	No	Regular Price Change
RTV	RTVCre	RTVDesc	Publish, Subscribe	No	Warehouse Return
RTVReq	RTVReqCre RTVReqMod RTVReqDel RTVReqDtlCre RTVReqDtlDel RTVReqDtlMod	RTVReqDesc RTVReqRef	Subscribe	No	Supplier Return
SeedData	DiffTypeCre DiffTypeDel DiffTypeMod	DiffTypeDesc DiffTypeRef	Subscribe	Yes	Differentiator Types
ShipInfo	ShipInfoCre	ShipInfoDesc	Publish	No	Pre-Shipment Notification
SOStatus	SOStatusCre	SOStatusDesc	Publish, Subscribe	No	Transfers Shipments
StkCountSch	StkCountSchCre StkCountSchMod StkCountSchDel StkCountSchDtlDel	StkCountSchDesc	Publish	No	Stock Count Schedule
StockOrder	SOCre SODtlCre SODtlDel SODtlMod SOHdrDel SOHdrMod	SODesc SODRef	Subscribe	No	Transfer Allocation
Stores	StoreCre StoreDel StoreMod StoreDtlCre StoreDtlDel StoreDtlMod	StoreDesc StoreRef	Subscribe	Yes	Store

Table 13–1 (Cont.) Message Family/Type

Message Family	Message Type	Payload	Publish/Subscribe	Seeded	SIOCS Data
UDAs	UDAHdrCre	UDADesc	Subscribe	No	User Defined Attributes
	UDAHdrMod	UDAREf			
	UDAHdrDel	UDAValDesc			
	UDAValCre	UDAValRef			
	UDAValMod				
	UDAValDel				
Vendor	VendorAddrCre	VendorAddrDesc	Subscribe	Yes	Suppliers
	VendorAddrDel	VendorAddrRef			
	VendorAddrMod	VendorDesc			
	VendorCre	VendorRef			
	VendorDel				
	VendorHdrMod				
	VendorOUCre				
	VendorOUDel				
WH	WHCre	WHDesc	Subscribe	Yes	Warehouse
	WHDel	WHRef			
	WHMod				

Other Integration Interfaces

See Oracle® Retail Enterprise Inventory Cloud Service Administration Guide Integration chapter.

Standalone Deployment - Integration with on-premise RMS/RIB

SIOCS V22 has enabled standalone deployment (that is, not shared pluggable database with MFCS) option. In order to integrate with on-premise Retail merchandising system, field enablement would be needed.

As noted in the [Oracle SIOCS Implementation Overview](#) chapter, File Transfer Service (FTS) would play a key role in enabling this integration.

Depending on the version of Retail Merchandising System (RMS), RIB payloads may differ as well. Implementers will have to do analysis. If your RMS version is V19 or V16 then payloads would be much more compatible in terms of required attributes; than dealing with pre-V16 RMS.

Please note that RIB (retail integration bus) would always deploy where Merchandising gets deployed; hence RIB-on-premise would interact with SIOCS/RICS.

At high level, field enablement would be needed for:

- Foundation Data seeding and pricing

For file layout and more detail, please see the Standalone Data Seeding section in the *Oracle Retail Enterprise Inventory Cloud Service Administration Guide*.

- File movement between SIOCS and Merchandising

- ReSA import into SIOCS
- Stk count export from SIOCS to Merchandising

- 3rd party file imports

For more information, please see the FTS Enabled Third Party File Import Batches section within the File Transfer Services chapter in the *Oracle Retail Enterprise Inventory Cloud Service Administration Guide*.

- In order to call RIB instance located on-premises from SIOCS V22, RIB end-point needs to be allow listed. Create a service request on My Oracle Support to allow list the on-premises server url.

- Once allow listed, SIOCS to RMS communication via RIB can commence through standard RIB- SOAP services.
- Similarly on-premise RMS would use RIB-SOAP-injector service to communicate with SIOCS.

Customization and Extension

Customization and Extension Considerations

This section provides considerations for customization and extension.

Code Customization

No customization to the core application code is permitted.

No write access to the database or data model is permitted.

File Transfer Services

Overview

Oracle Cloud Infrastructure Object Storage, is an internet-scale, high-performance storage platform that offers reliable and cost-efficient data durability. File Transfer Service (FTS) for the Store Inventory Cloud Services are available as JSON REST services. These APIs allows you to manage uploading and downloading files to Object Storage.

Access to files is through a Pre-Authenticated Request (PAR), which is a URL that requires no further authentication to upload or download to the application's object storage. To retrieve a PAR, you must use the appropriate FTS services.

The FTS APIs enables external application to import files to and export files from Object Storage used by the solutions.

See *Oracle Retail Enterprise Inventory Cloud Service Administration Guide - File Transfer Services* chapter.

This chapter describes the integration setup within EICS to Integrate with other systems.

EICS Log Debug Settings

EICS debug settings apply to EICS-server, JET-Admin-UI and MAF-mobile-UI.

The server would be the main place for debug logging. Accessing logs is only via filesystem at least for EICS logs. WebLogic logs can be viewed in the console, if needed.

If a log level change is needed to troubleshoot a problem, in addition to, changing debug settings, restarting the server is required.

Debug Configuration file: `sim-server-resources.jar -> logback.xml`

Server: For the server debug, it's possible to access through MBeans (JMX), otherwise it requires changing deployed files, which means restarting the server.

JET Admin UI (EICS): Does allow for changing logging through the browser console, but this would be after application startup. So any logging for the start/login processes would need the configuration on the server to be changed (deployed).

MAF UI (SOCS): would require a new build and tools to access the logs.

Server Log File Locations

Table 16-1 Server Log File Locations

#	Log Type	Log Location
1	EICS application log	Server: <eics weblogic server> Log directory: <eics_domain_home>/log For example: /u01/domains/wls_sim/SIMDomain/log sim.log, sim.1.log, ..., sim.log.log sim_services.log (For clustered environment, need to check all nodes log locations)

Table 16–1 (Cont.) Server Log File Locations

#	Log Type	Log Location
2	Domain and admin server log	Server: <eics weblogic server> Log directory: <eics_domain_home>/servers/AdminServer/logs SIMDomain.log AdminServer.log access.log
3	Application server log	Server: <eics weblogic server> Log directory: <eics_domain_home>/servers/sim-server_1/logs For example: /u01/domains/wls_ sim/SIMDomain/servers/sim-server_1/logs sim-server_1.log sim-server_1.out access.log

Troubleshooting Tips

[Application Login Troubleshooting](#)

[Report Troubleshooting](#)

[RIB \(Retail Integration Cloud Service / RICS\) Troubleshooting](#)

[Web Service Troubleshooting](#)

[References](#)

Application Login Troubleshooting

Table 17–1 Application Login Troubleshooting

#	Error Category	Solution Hint
1	Customer Admin User login issue	<p>1. Verify user exists in Oracle IDCS or OCI IAM (Notes: a default admin user is also created in EICS database)</p> <p>2. Verify user in IDCS or OCI IAM has assigned the following IDCS or OCI IAM Application Roles:</p> <ul style="list-style-type: none"> admin_users security_users mps_users batch_users global_store_users <p>3. Verify user in SIOCS has assigned ADMINISTRATOR SIOCS Application Role</p>
2	Store user login failure on web client after version upgrade	<p>Clear browser cache.</p> <p>Custom cache headers are used which do not allow the web client application to be cached by the browser.</p> <p>Users are required to clear the existing copy of the client that is already cached on their systems by clearing the browser cache before logging into the web client first time after a version update.</p>
3	Store user login failure	See <i>Oracle® Retail Enterprise Inventory Cloud Service Administration Guide - Security</i> chapter for details.

Report Troubleshooting

Table 17–2 Report Troubleshooting

#	Error Category	Solution Hint
1	EICS report connection issue	Verify Reporting WSDL in EICS System Configuration screen setup.

RIB (Retail Integration Cloud Service / RICS) Troubleshooting

Table 17–3 RIB (RICS) Troubleshooting

#	Error Category	Solution Hint
1	RIB injection user connection issue	Verify user has been assigned the following IDCS or OCI IAM Application Role: integration_users
2	RIB publisher connection issue	Verify the credentials of rib-user alias matches between in both EICS credential store and RIB-SIM. In RIB-SIM server, that the user need to be in ribAdminGroup.

Web Service Troubleshooting

Table 17–4 Web Service Troubleshooting

#	Error Category	Solution Hint
1	RIB injection user connection issue	1. Verify user has been assigned integration_users IDCS or OCI IAM Application Role 2. Verify web service end point url 3. Verify web service policy

References

1. Oracle® Retail Store Inventory Operations Cloud Services Data Model residing on My Oracle Support
2. Oracle Retail Integration Cloud Service Integration Guide
3. Oracle Retail Enterprise Integration Overview Guide

Appendix: Accessibility

Accessibility involves making your application usable for persons with disabilities such as low vision or blindness, deafness, or other physical limitations. This means, for example, creating applications that can be:

- Used without a mouse (keyboard only).
- Used with assistive technologies such as screen readers and screen magnifiers.
- Used without reliance on sound, color, animation, or timing.

Enterprise Inventory Cloud Service (EICS)

This user interface is designed using Oracle JavaScript Extension Toolkit (JET). Oracle JET components have built-in accessibility support that conforms to the Web Content Accessibility Guidelines version 2.0 at the AA level (WCAG 2.0 AA), developed by the World Wide Web Consortium (W3C). Please note that since different browsers themselves support accessibility somewhat differently, user experience tends to differ on different web-browsers.

Oracle JET components provide support for:

- Keyboard and touch navigation
Oracle JET components follow the Web Accessibility Initiative - Accessible Rich Internet Application (WAI-ARIA) guidelines.
- Zoom
Oracle JET supports browser zooming up to 200%.
- Screen reader
Oracle JET supports screen readers such as JAWS, Apple VoiceOver, and Google Talkbalk by generating content that complies with WAI-ARIA standards, and no special mode is needed.
- Oracle JET component roles and names
Each Oracle JET component has an appropriate role, such as button, link, and so on, and each component supports an associated name (label), if applicable.
- Sufficient color contrast
Oracle JET provides the Alta theme which is designed to provide a luminosity contrast ratio of at least 4.5:1.

Besides use of JET components, the following updates were made to application.

- Added alternative texts to images/logos/icons as needed.
- Added labels as needed to gui widgets.
- Color Contrast was adjusted.
- Improved error identification & display, so screens readers can read meaningful information.

Store Operations Cloud Service (SOCS)

This user interface is designed using Oracle Mobile Application framework (MAF). MAF AMX UI and data visualization components have a built-in accessibility support, with most components being subject to the accessibility audit. Oracle MAF is a hybrid framework which means same codebase gets compiled and rendered on IOS and Android mobile platforms.

MAF accessibility is achieved using WAI-ARIA. Please note that iOS and Android mobile platforms and versions, support WAI-ARIA to varying degrees.

So your MAF Accessibility experience will be greatly influenced by a given platform's support.

Besides use of MAF components, following updates were made to application.

- Added alternative texts to images/logos/icons as needed.
- Added alternative texts for background images.
- Added short-descriptions UI elements on list screens.
- Color Contrast was adjusted.
- Improved error identification & display, so screens readers can read meaningful information.