Oracle Utilities
Customer Self Service

Whitepaper:

Using OUCSS-OUCCB Optional BPEL Flows

Release 2.1.0

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Chapter 1

Overview

When Oracle Utilities Customer Self Service 2.1.0 is installed, the OUCSS modules that need to interact with Oracle Utilities Customer Care and Billing (CCB) invokes, by default, the CCB Web services directly.

With the release of Patch 17632298, customers have an option to use the OUCSS-OUCCB Optional BPEL flows to interact with CCB to get information or process data.

This whitepaper describes the steps to install and uninstall the OUCSS-OUCCB Optional BPEL flows. It also describes the OUCSS-OUCCB Optional BPEL flows released with the patch.

Additional Resources

For additional details see the following resources:

- The *Oracle Utilities Customer Self Service Installation Guide* provide information on product installation/uninstallation, requirements, configuration, and administration.

- The Readme.txt inside *Patch 17632298* provides information on the installation/uninstallation requirements, configuration, and administration of the CSS-CCB Optional BPEL flows.

- The *Oracle Utilities Customer Self Service Implementation Guide* provide information on OUCSS Implementation and CSS BPEL Flows.

Note: This document and the documentation mentioned above is subject to revision and updating. For the most recent version of this and related documentation, as well as information on functionality and known issues for other Oracle products that may be required for installation and proper functionality of this product, check the Oracle Utilities Documentation area on the Oracle Technology Network (OTN) web site (http://www.oracle.com/technetwork/apps-tech/utilities/documentation/index.html).

Abbreviations

OUCSS	Oracle Utilities Customer Self Service
CCB or OUCCB	Oracle Utilities Customer Care and Billing
MDS	Metadata Services
MW_HOME	Middleware Home
OUCSS_Product_Home	The folder in which the webcenter_WSS.zip file is extracted.

Software Requirements

- Oracle Utilities Customer Self Service version 2.1 (OUCSS210.zip, available from Oracle Software Delivery Cloud at edelivery.oracle.com).

Chapter 2

Install and Uninstall

Installation

The following sections describe the settings and requirements for a successful installation.

Prerequisites

OUCSS BPEL flows which are part of the Oracle Utilities Customer Self Service package must already be installed and running on the server. Refer to Chapter 3, "Installing CSS BPEL Flows", in the *OUCSS 2.1.0 Installation Guide*.

Installation Steps

1   Download the OUCSS-OUCCB Optional Flows patch (17632298.zip) from the Oracle Automated Release Updates site (http://aru.us.oracle.com/).

2   Follow the installation instructions in the readme.txt.

   Note: OUCSS-OUCCB Optional BPEL flows will be deployed in the same OUCSS partition where OUCSS BPEL flows are deployed. The OUCSS-OUCCB Optional BPEL Flows will also use the same MDS repository as the OUCSS BPEL flows.

Post-Installation Checklist

Verifying Composites in SOA Enterprise Manager

1   Log in to the SOA Enterprise Manager.

2   Expand the **Farm_soa_domain>soa>soa-infra>OUCSS** partition.

3   Verify that the 35 CSS-CCB composites are deployed in the OUCSS partition:

OUCSSOUCCBWXAccountChargesSummaryRetrieverEBF [1.0]
OUCSSOUCCBWXAccountSearchEBF [1.0]
OUCSSOUCCBWXAutoPaySetupEBF [1.0]
OUCSSOUCCBWXBillPayHistoryRetrieverEBF [1.0]
OUCSSOUCCBWXBillViewEBF [1.0]
OUCSSOUCCBWXBudgetDetailsEBF [1.0]
OUCSSOUCCBWXContextInfoEBF [1.0]
OUCSSOUCCBWXCreateMeterReadEBF [1.0]
OUCSSOUCCBWXEBillSetupEBF [1.0]
OUCSSOUCCBWXFinancialHistoryRetrieverEBF [1.0]
OUCSSOUCCBWXFormsListEBF [1.0]
OUCSSOUCCBWXFormsManagementEBF [1.0]
OUCSSOUCCBWXGetConsumptionSummaryEBF [1.0]
OUCSSOUCCBWXGetRatedSAsEBF [1.0]
OUCSSOUCCBWXGetSelfServiceDropdownsEBF [1.0]
OUCSSOUCCBWXGetSelfServiceLabelsEBF [1.0]
OUCSSOUCCBWXInvitePersonListEBF [1.0]
OUCSSOUCCBWXMaintainMailingAddressInfoEBF [1.0]
OUCSSOUCCBWXMaintainPhoneInfoEBF [1.0]
OUCSSOUCCBWXMakePaymentEBF [1.0]
OUCSSOUCCBWXMultipleAccountFinancialHistoryEBF [1.0]
OUCSSOUCCBWXPremiseSearchEBF [1.0]
OUCSSOUCCBWXProcessBudgetRequestEBF [1.0]
OUCSSOUCCBWXProcessPayArrangementRequestEBF [1.0]
OUCSSOUCCBWXProcessStartStopRequestEBF [1.0]
OUCSSOUCCBWXRateAnalysisEBF [1.0]
OUCSSOUCCBWXRetrieveAccountDocumentsEBF [1.0]
OUCSSOUCCBWXRetrievePPBBalanceAndChargesEBF [1.0]
OUCSSOUCCBWXRetrievePPBEstimatesAndCostsEBF [1.0]
OUCSSOUCCBWXRetrieveScalarUsageEBF [1.0]
OUCSSOUCCBWXSetBillNotifyPreferenceEBF [1.0]
OUCSSOUCCBWXUsageChargesToDateEBF [1.0]
OUCSSOUCCBWXVerifyAccountEBF [1.0]
OUCSSOUCCBWXViewAccountEBF [1.0]
OUCSSOUCCBWXViewAccountListEBF [1.0]

Verify Security Credentials from SOA Enterprise Manager

Follow these steps to verify security for connecting to Oracle Utilities Customer Care and Billing (CCB) from SOA11g middleware:

1   Log in to the SOA Enterprise Manager.

2 Expand WebLogic Domain and right-click **soa_domain > Security > Credentials**.
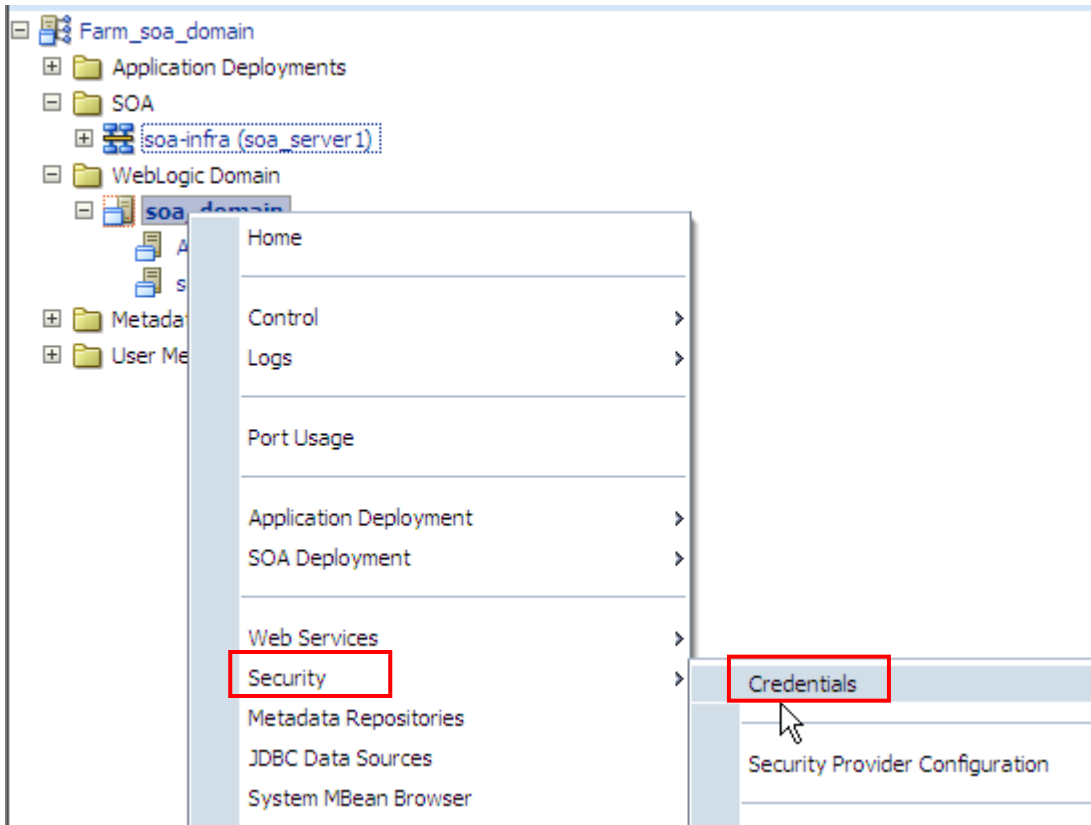
3 Expand the **oracle.wsm.security** credential and verify that the keys **OU_CCB_01** is created.

Verify Attached Policies from SOA Enterprise Manager

Follow these steps to verify the policies attached to the web services that each BPEL process is using:

1 Log in to SOA Enterprise Manager.

2 Expand the **SOA > OUCSS** partition.

3 Choose a composite (example: **OUCSSOUCCBWXAccountSearchEBF**), then scroll down to the **Services and References** section.

- Verify that the Web Service Type with Service Usage (example: **OUCSSOUCCBWXAccountSearchEBF_Client_ep**) is linked to a service policy.

- Verify that the Web Service Type with Reference Usage (example: **OUCCB_WXAccountSearchService**) is linked to a client policy. The client policy attached to that web service should use the **OU_CCB_01** csf-key.

- Repeat this verification procedure for all remaining BPEL composites, as needed.

Verify ADF Connection in OUCSS Enterprise Manager

Verify that the OUCSS-OUCCB *wsdls* are correctly tokenized and referenced in the ADF Connections:

1 Log in to the OUCSS Oracle Enterprise Manager console at
   `http://<WLSAdminHost>:<WLSAdminServerPort>/em` with wlsadminuser/wlsadminpasswd.

2 Select **OUCSSPortal(v2.1.0)** from **Application Deployments**, then right-click and choose **ADF > Configure ADF
   Connections** from the context menu as shown in the following image:
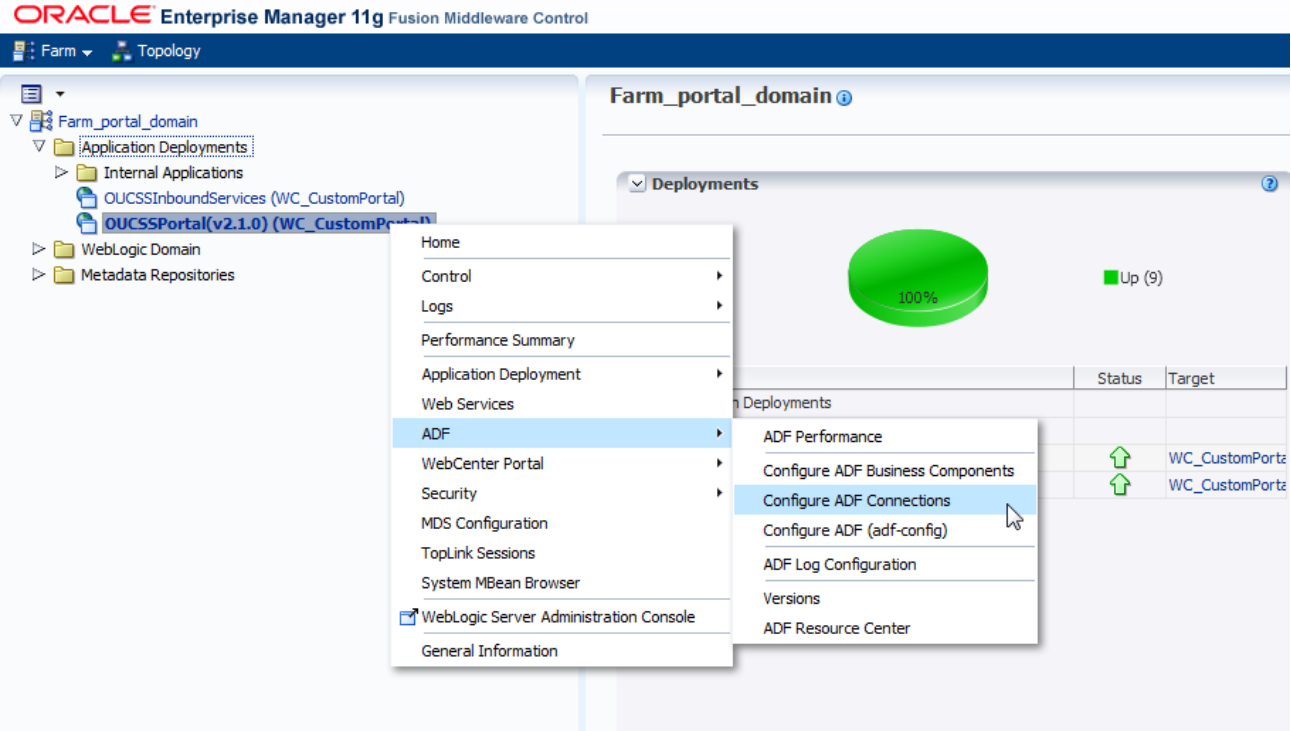
3   Under **Webserver connections**, each connection name should show a corresponding OUCSSOUCCB BPEL WSDL URL.

4   Click on a connection name (example: SSGetRatedSAsService), click **Edit**, select **WSDL URL**, and open the connection in your browser. If the WSDL URL is correctly formed (e.g., `http://soahostname:soaportno/soa-infra/services/OUCSS/OUCSSOUCCBWXGetRatedSAsEBF/OUCSSOUCCBWXGetRatedSAs_Client_ep?WSDL`) and WSDL opens, then tokenization has been completed correctly.

5   Click on a connection name (example: SSGetRatedSAsService), click **AdvancedConnectionConfiguration**, select **Configuration** tab, make sure the **Endpoint Address** has the same entry as the wsdl above, except with no **'?wsdl'** at the end. The **Endpoint Address** will look like the sample below if it is correctly formed (e.g., http://soahostname:soaportno/soa-infra/services/OUCSS/OUCSSOUCCBWXGetRatedSAsEBF/OUCSSOUCCBWXGetRatedSAs_Client_ep)

6 Click on a connection name (example: SSGetRatedSAsService), click **AdvancedConnectionConfiguration**, select **OWSM Policies tab**, make sure a client policy is in the Directly Attached Policies and csf-key assigned is **OUCSS_INTG_BASIC_KEY**.

7   Repeat this verification procedure for all remaining connections that need to call the OUCSS-OUCCB Optional BPEL services

Uninstallation

Follow the uninstall instructions in the readme.txt file.

Note: The schemas and wsdl added to the MDS repository during OUCSS-OUCCB Optional BPEL Flows will not be deleted from MDS during uninstall. Only the OUCSS-OUCCB BPEL Composited deployed to the OUCSS partition will be undeployed.

Chapter 3

OUCSS Web Services

The following base services invoked by Oracle Utilities Customer Self Service can be configured to use the OUCSS-OUCCB Optional BPEL service to connect to CCB.

Note: For more information on the base services invoked by Oracle Utilities Customer Self Service, see Chapter 2, "OUCSS Implemention", in the *Oracle Utilities Customer Self Service Implementation Guide*.

OUCSS Service Name Module Name	Service Description	CSS-CCB BPEL Service
SSInvitePersonList Login	It is responsible for retrieving person information related to an account.	OUCSSOUCCBWXInvitePersonListEBF
SSVerifyAccount Login	This service is used to enroll an account to a self-service user for web access. The list of verification fields per line of business are defined on the Self-Service Integration master configuration.	OUCSSOUCCBWXVerifyAccountEBF
SSViewAccountService Login	This service retrieves account information to display in the self-service application.	OUCSSOUCCBWXViewAccountEBF
SSViewAccountList Login	This service accepts a list of accounts from self-service and returns corresponding account information. It uses the information scripts defined on the Self-Service Integration master configuration. In addition, it may also invoke the account list filter script defined on the self-service master configuration to apply filter criteria to the account list.	OUCSSOUCCBWXViewAccountListEBF

AccountSummaryService AccountSummary	This service retrieves account charge summary information to display in the self-service application.The service returns • The most recent bill for the account (excludes off cycle bill generated bills) • Account's current balance	OUCSSOUCCBWXAccountChargesSummaryRetrieverEBF
SSAutoPaySetupUpdateService AccountManagement, AutoPay	This service is used for retrieving and maintaining an account's auto pay details. For auto pay updates, the service merely creates an instance of the Auto Pay Setup business object defined on the Self-Service Integration master configuration.	OUCSSOUCCBWXAutoPaySetupEBF
BillingHistoryService BillingHistory	This service retrieves bills and payments for an account for a given period to display in the self-service application.	OUCSSOUCCBWXBillPayHistoryRetrieverEBF
WSSEBillUpdateService AccountManagement Electronic Billing	This service is responsible for retrieving and maintaining a customer's bill routing method, e.g., postal, email, etc. This service supports the following modes: • On READ action, it retrieves the account's current bill routing method setting • On UPDATE action, it updates the account's current bill routing method setting	OUCSSOUCCBWXEBillSetupEBF
SSMaintainMailingAddressUpdateService AccountManagement, Account AddressInfo	This service is used for retrieval and updation of customer's mailing address. This service supports the following modes: • On READ action, it retrieves the account's current mailing address • On UPDATE action, it updates the account's mailing address. Note that when a mailing address is updated, it is stored on the person correspondence information	OUCSSOUCCBWXMaintainMailingAddressInfoEBF
WSSAccountPhoneInfoUpdateService AccountManagement, AccountPhoneInfo	This service is responsible for for retrieval and updation of customer's phone numbers. This service supports the following modes: • On READ action, it retrieves the customer's current phone information • On UPDATE action, it updates the customer's phone information	OUCSSOUCCBWXMaintainPhoneInfoEBF
ViewBillService BillingHistory	This service retrieves account's bill details to display in the self-service application.	OUCSSOUCCBWXBillViewEBF
SSCreateScalarMeterAddService Scalar Meter	It is responsible for retrieving and adding manual or scalar meter reads. When adding a new meter read, the service merely creates an instance of the Meter Read Creation business object defined on the Self-Service Integration master	OUCSSOUCCBWXCreateMeterReadEBF

	configuration.	
SSConsumptionSummaryService ConsumptionSummary	This service retrieves consumption information for display in the self-service application. It retrieves consumption information for service agreements that do not require MDM bill determinants.	OUCSSOUCCBWXGetConsumptionSummaryEBF
SSGetRatedSAsService RateAnalysis	This service retrieves the rated service agreements of an account. It also returns the valid rate schedules for every SA's SA Type.	OUCSSOUCCBWXGetRatedSAsEBF
SSRateAnalysisService RateAnalysis	This service receives an SA and a new rate schedule and does a comparison of the bill segments of the SA versus what the charges would have been if the SA was billed using the new rate schedule.	OUCSSOUCCBWXRateAnalysisEBF
SSOneTimePaymentService Payment/OneTime	This service is used for creation of online payments.	OUCSSOUCCBWXMakePaymentEBF
BillNotificationUpdateService BillNotification	This service is responsible for maintaining the billing notification preferences of a self-service user.	OUCSSOUCCBWXSetBillNotifyPreferenceEBF
SSServiceChargesToDate ServiceChargeToDate	This service retrieves the charges to date for a self-service user's account. The system only attempts to calculate unbilled charges to date for service agreements that require bill determinants from MDM.	OUCSSOUCCBWXUsageChargesToDateEBF
CustomerMgmtService ServiceMgmt	This inbound service is used to process start, stop and transfer service requests. The service supports the following modes: • On READ action, it invokes the start service criteria script defined on the self-service master configuration • On UPDATE action, the service merely creates an instance of the start service task type defined on the master configuration. The start, stop or transfer request is handled within the service tasks's lifecycle.	OUCSSOUCCBWXProcessStartStopRequestEBF
PremiseSearchService ServiceMgmt	This service is used to search for a premise. It invokes the existing CCB premise search page to search for a premise by the address field constituents.	OUCSSOUCCBWXPremiseSearchEBF
PaymentArrangement PayArrangement	This service is used to process a pay arrangement request. The service supports the following modes: • On READ action, it invokes the payment arrangement eligibility script defined on the self-service master configuration. The eligibility script is responsible for returning the list of available pay arrangement service task types. • On UPDATE action, the service merely	OUCSSOUCCBWXProcessPayArrangementRequestEBF

	creates an instance of the pay arrangement service task type selected by the end customer. The pay arrangement request is handled within the service tasks's lifecycle.	
SSLookupService Admin/Lookup	This service retrieves data for populating dropdown lists in the self-service application. The following is returned: • Valid credit card types as defined on the Self-Service Integration master configuration • Valid payment types as defined on the Self-Service Integration master configuration • Valid bill route types • Valid phone types	OUCSSOUCCBWXGetSelfServiceDropdownsEBF See **Note below
SSLabelService Admin/Labels	This service retrieves data for populating field labels in the self-service application.	OUCSSOUCCBWXGetSelfServiceLabelsEBF See **Note below
SSContextInfoService AccountContextInfo	This service accepts account id and person id and returns a list of the context properties for the account	OUCSSOUCCBWXContextInfoEBF
SSAccountSearchService CSRAccountSearch	This service accepts account information, together along with search information The web service will return the list of accounts as a response	OUCSSOUCCBWXAccountSearchEBF
SSBudgetDetailService BudgetBilling	The webservice accepts account information The list of eligible SAs along with their recommended budget amounts will be sent back to CSS. Ineligible SAs will also be sent, identifying them as such	OUCSSOUCCBWXBudgetDetailsEBF
SSBudgetRequestUpdateService BudgetBilling	After sending an update request to the service, the service will cancel the account's budget billing plan.	OUCSSOUCCBWXProcessBudgetRequestEBF
SSFinancialHistory Financial History	The webservice accepts account information and returns bills and payments. Under each bill row, more details related to the bill will be supplied (total adjustments and corrections as well as the individual bill segments reported on the bill). Also, transactions not yet reported on a bill will be displayed individually.	OUCSSOUCCBWXFinancialHistoryRetrieverEBF
PrepaidBalanceAndChargesService PrePaid	The webservice is used for fetching the balance and charges associated with a particular prepaid account	OUCSSOUCCBWXRetrievePPBBalanceAndChargesEBF
PrepaidEstimatesAndCostService PrePaid	This webservice is used for fetching the estimated number of days available for a particular prepaid customer before his service is cut.	OUCSSOUCCBWXRetrievePPBEstimatesAndCostsEBF

ScalarUsageDetailService Scalar Usage Details	The webservice accepts on read account information. It return sthe list of service agreements with their corresponding scalar usage details measurement	OUCSSOUCCBWXRetrieveScalarUsageEBF
SSFormsListService FormsMgmt	This web service has one action which is READ, when this web service is invoked, the edge application will return the list of form entries for the FORMTYPE.	OUCSSOUCCBWXFormsListEBF
SSFormsManagementUpdateService FormsMgmt	On UPDATE the webservice is passed with the updated Form details. If the transaction is successful a reference number is returned back	OUCSSOUCCBWXFormsManagementEBF
WXRetrieveAccountDocumentsService SSReadAccountDocuments	The webservice returns a list of valid documents related to the given account and the description of the documents	OUCSSOUCCBWXRetrieveAccountDocumentsEBF
CommercialBillHistoryService SSCommercialBillHistory	This service accepts a list of accounts and returns the financial history for the accounts. The base financial history service is called. This Web service is used for commercial context.	OUCSSOUCCBWXMultipleAccountFinancialHistoryEBF

Note: OUCSSOUCCBWXGetSelfServiceDropdownsEBF and **OUCSSOUCCBWXGetSelfServiceLabelsEBF will not work with the current Oracle Utilities Customer Self Service version 2.1.0. Bug 17645726 has been opened to address this issue.

For now, please use the CCB Web services **WXGetSelfServiceDropdowns** and **WXGetSelfServiceLabels** to get data from CCB. When patch 17645726 is ready and applied, these flows will work with OUCSS.