PROTEGO
TRUST BANK N.A.

Functional Specification Document (FSD)

Oracle Customer Experience (CX)

Date and Version #:	April 1, 2022 | 1.0
About:	This document explains solution system capabilities and outlines requirements for business stakeholders.
Classification:	Confidential

Contents

1. Document Control

Details

Title	Functional Specification Design Document (FSD)
System	Oracle CX (CX)
Business Process Team	
Functional Owner	

Document Status

Status
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Change History

Date Modified	Modified By	Description of Change
27/01/2022	Surbhi Godawat	Document start
02/02/2022	Surbhi Godawat	Review changes
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Sign Off

Date / Version	Approver	Sign Off

2. Functional Design

2.1. Overall Project Architecture

Protego Trust Bank N.A (the Bank) uses the Oracle Customer Experience (CX) module to automate customer onboarding, manage sales channels (once customers are onboarded), and manage approvals (e.g., approvals from the Bank's Legal, Risk, Compliance, Information Security, and Trust departments) for Digital Custody release).

The Financial Crime and Compliance Management (FCCM) and Universal Banking System (UBS) deployed over Oracle Cloud Infrastructure (OCI) applications support CX. The integration of these applications with the Oracle CX is managed by the Oracle Service Bus/Enterprise Service Bus (OSB/ESB).

The functional design consists of five (5) processes (Sales Method):

1. New Customer Onboarding
2. Existing Customers (Sales Pipeline Management)
3. Party Update
4. Approval Workflows (for Digital Custody release)
5. Business Planning

The Bank creates a Prospect (prospective customer) in CX. Once all approvals are received in CX, Prospects are converted into Customers and onboarded in the UBS application.

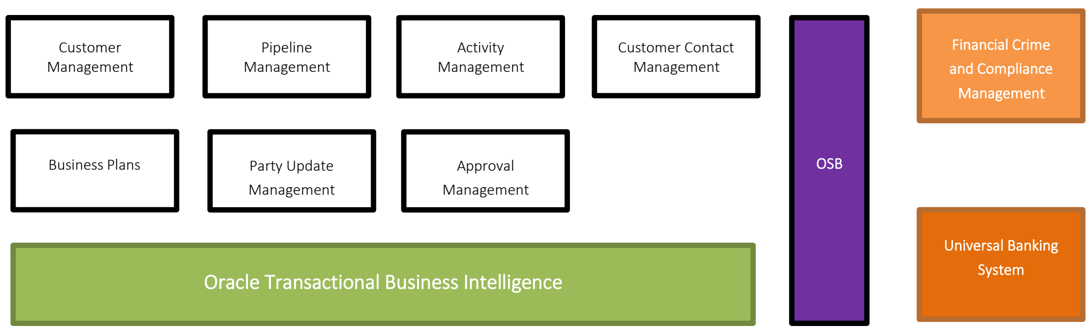
For customer updates, CX manages approvals, including any FCCM approvals. Data flows to UBS after all approvals are received.

CX can be used for the following:

1. Account Management
2. Contact Management
3. Opportunity Management (Pipeline Management)
4. Activity Management
5. Approvals
6. Business Plans

Figure 1 provides a high-level overview of the overall solution architecture and other third-party applications (i.e., FCCM and UBS).

Figure 1: High-Level Overview of Overall Solution Architecture



The application's enterprise structure includes:

1. LANGUAGE - English
2. CURRENCY - US Dollar
3. LEGAL ENTITY - One Legal Entity
4. BUSINESS UNIT - One Business Unit
5. CALENDAR - 01 January to 31 December

2.2. "To Be" Processes Design

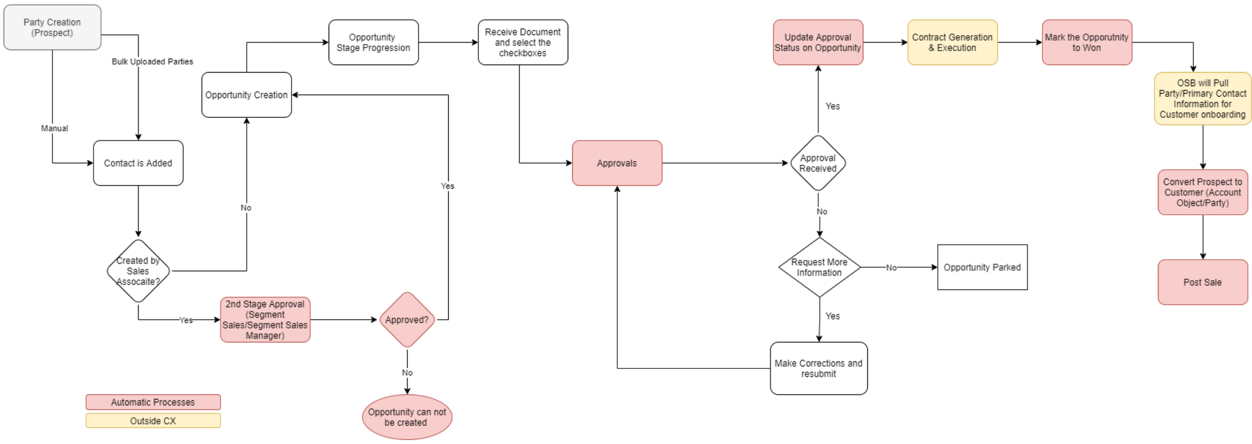
2.2.1. New Customer Onboarding

Figure 2 illustrates the full customer transformation journey (i.e., lead generation, demonstrations, proposals, document collection, approvals, customer onboarding). The customer transformation journey includes the creation/linking of contacts to the customer, logging the interactions (activities) with the contacts, and managing the approvals required for the customer. Opportunity progress is captured at each built-in sales stage.

CX will be used to capture activities and opportunities related to clients using our custody, staking, trading, and issuance services.

The Bank shall capture key information associated with the customer, related contacts, and contact interactions during the new customer onboarding process.

Figure 2: New Customer Onboarding Processes and Steps



2.2.1.1. Process Design Flow

Table 1: New Customer Onboarding Processes and Steps

Process Step	High Level Process Step Overview	Process Type
PTB.CX.UC1-1	Search for the Prospect	Manual
PTB.CX.UC1-2	Account of type 'Prospect' is created by filling in all the available information for the Prospect.	Manual
PTB.CX.UC1-3	Contact(s) is/are created or added. UBO will be marked if the contact is a UBO.	Manual
PTB.CX.UC1-4	The Account is sent for 2nd Stage Approval (if created by a Sales Associate/Business Analyst).	Automatic
PTB.CX.UC1-5	Opportunity is created, and products are associated with the Opportunity.	Manual
PTB.CX.UC1-6	Opportunity is sent for 2nd Stage Approval (if created by a Sales Associate/Business Analyst)	Automatic
PTB.CX.UC1-7	Sales Users log all meetings with Prospects in CX	Manual
PTB.CX.UC1-8	Opportunity advances through several stages.	Manual

Process Step	High Level Process Step Overview	Process Type
PTB.CX.UC1-9	The Sales Department requests and receives documents required for sales progression. Users can use checkboxes to select desired documents and add the link in the attachment section under type as ‘URL’ (if required).	Manual
PTB.CX.UC1-10	Opportunity is sent for Approval to various departments.	Automatic
PTB.CX.UC1-11	Approval Status is updated per the information received from various teams. Approval Status changes to ‘Approved’ once all department approvals are obtained. The opportunity stage changes automatically to ‘Contract Negotiation.’	Automatic
PTB.CX.UC1-12	Once the Contract Executed Checkbox is selected, the Stage is changed to ‘Onboarding Post Sale’ NOTE: The Contract creation and execution are outside the CX application.	Automatic
PTB.CX.UC1-13	Opportunity status is changed to Won.	Manual
PTB.CX.UC1-15	OSB pulls the data for Client creation in UBS and sends the successful onboarding response back to CX.	Integration
PTB.CX.UC1-14	Client Type is changed to ‘Client’ from ‘Prospect.’	Automatic

2.2.1.2. Gaps and Key Design Decisions

Table 2: New Customer Onboarding Requirements

Requirement/Description	Resolution Type	Process Name	Agreed Solution
Add any contact involved in the customer transformation journey as a contact.	Standard Feature	Contact Creation	Every contact in the customer journey is created in the application by linking it to the Prospect.
Ensure Legal Approval is obtained to start the Customer Onboarding process, followed by Risk, Compliance, Information Security, and Trust team approvals.	Configuration	Approvals	The customer onboarding process starts once all approvals are received from all teams.
Ensure Customer onboarding occurs outside CX and is managed by the Operations and Trust Departments. Note: For Customer Onboarding, Trust Approval and Signed Copy of Contract are mandatory.	Configuration	Opportunity Details	Validation for customer onboarding occurs in the CX. Note: The contract/link of the contact is added manually by Sales Associates.
OSB/ESB pulls the customer data when the Opportunity stage is WON.	Integration	Opportunity	This requirement is addressed in the current design.
Allow designated users to create accounts/prospects in CX.	Configuration	Roles and Access	This requirement is governed by Roles and Access. Note: Only designated users can create accounts.

Requirement/Description	Resolution Type	Process Name	Agreed Solution
Allow CX to store opportunity source information.	Standard Feature	Opportunity Details	The 'Sales Channel' field is provided to capture the source of the Opportunity.
Allow Sales Associates working on the Opportunity to change or skip the sales stage (except for movement from 8 to 9).	Standard Feature	Opportunity Details	System design allows for Opportunities by Sales Associates. For movement between stages, dependencies are the approval process and the contract execution ahead of onboarding. Skipping stages is allowed.
Enable automatic movement from Stage 8 to 9 (without human intervention).	Configuration	Opportunity Details	Stage 8 to 9 movement can be changed only if all approvals are in place (including Trust approval).
Ensure that if the Opportunity is marked as 'parked' and has been in parked status for more than 6 months, all approvals shall be re-done. Note: Opportunities may be parked because: Approvals are not given; and Opportunities are created by a junior person, or Leads are not mature.	Configuration	Opportunity Details	Users shall obtain all approvals again if the Opportunity is in the parked Stage for more than 6 months.
Allow manual assignment of the Account based on segments and subsegments.	Standard	Accounts Team	Accounts will be manually assigned by the Team Lead to the Sales Executives.

Requirement/Description	Resolution Type	Process Name	Agreed Solution
Ensure all stakeholders are notified once the client is onboarded.	Configuration	Notifications	Notification about successful customer onboarding in UBS is sent to Sales Associates.
Tag all interactions to an account object for prospects.	Standard Functionality	Log a Call	Sales Associates shall log all information in the 'Log a Call' section or capture it as Minutes of Meeting in Appointment.
Manage and store documents in a document management system.	Standard Functionality	Attachments	CX shall store the external links to the documents in the document management system.
Manage Account Duplication instances by reviewing the Name, Address, and Client Segment.	Standard Functionality	Managing Accounts	CX shall suggest an exact match or matches with similar spelling.
Manage Contact Duplication instances.	Standard Functionality	Managing Contacts	CX shall suggest an exact match or matches with similar spelling.
Make Bulk Upload for Prospects available.	Standard Functionality	Import Management	For Go Live, all prospects shall be uploaded into CX. Prospects shall be uploaded through the seeded Import functionality.
Define Customer addresses.	Standard Functionality	Account Management	The Basic Address format for the Country shall be enabled to capture details (e.g., Address Line1, Address Line 2, City, State, Postal Code).
Enable Multiple Addresses on a Customer.	Standard Functionality	Account Management	CX can store multiple addresses for the Account.

Requirement/Description	Resolution Type	Process Name	Agreed Solution
Associate Multiple Contacts to an Account.	Standard Functionality	Account Management	CX can store multiple contacts for an account.
Establish Parent-Child Hierarchy.	Standard Functionality	Account Management	CX has the functionality to manage the parent-child hierarchy with the help of the "Parent Account" field.
Manage Relationships for an account.	Standard Functionality	Account Management	CX has the functionality to manage the relationships of the Accounts with another Account or Contacts under the Relationship Tab.
Manage Competitor Information.	Standard Functionality	Opportunity Management – Competitors	All relevant information associated with the Competitor is stored.
Name the Opportunity based on segments.	Configuration	Opportunity Management	Consider using the Segment Name in Opportunity Name.
Log all client interactions during the entire Customer Sales lifecycle. CX is the single source of truth for all information for one customer. Interactions are captured for all Lost Opportunities.	Standard Functionality	Activity Management	CX can capture appointments, Tasks, and Merchandising Operations Management (MoMs) status against the account/opportunity at any stage.
Enable Updates/Changes to the Primary Owner by the Manager/Sales Leader.	Configuration	Account Management	Updates/Changes are handled based on roles and layouts.

Requirement/Description	Resolution Type	Process Name	Agreed Solution
Track documents received (using checkboxes). Note: Tracking is done by Sales Associates or Account Managers. The use of checkboxes is not mandatory.	Configuration	Opportunity Management	Checkboxes shall be provided for all document categories and attachments.

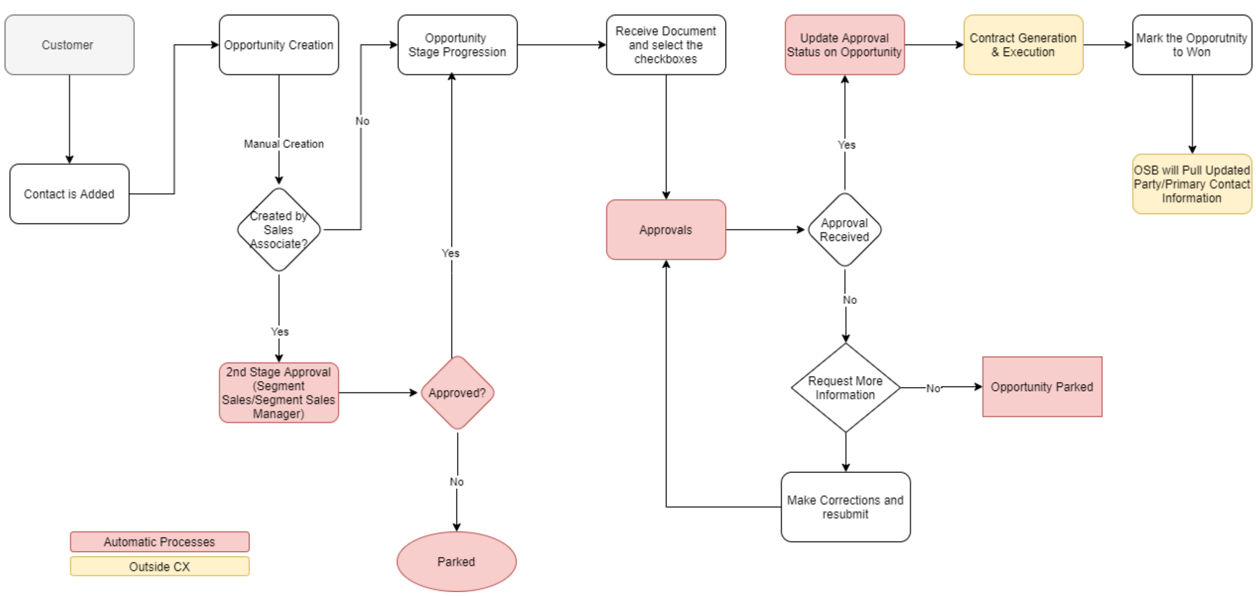
2.2.2. Existing Customers (Sales Pipeline Management)

The Bank's business processes rely on multiple pipelines (e.g., Sales Account Management, Business Development, etc.). In addition, each Bank department has its own independent pipeline.

Figure 3 shows how Sales Users track and manage their business pipeline with existing customers. This process addresses the needs of existing customers who may wish to expand to new products or those customers who would benefit from an upselling opportunity. This process requires all relevant Bank departmental approvals.

Data-driven pipeline management supports account intelligence and historical sales analysis so that Sales Associates can increase their win rates.

Figure 3: Existing Customer Processes and Steps



2.2.2.1. Process Design Flow

Table 3: Existing Customer Process Design Flow

Process Step	Process Description	Process Type
PTB.CX.UC2-1	Opportunity is created.	Manual
PTB.CX.UC2-2	Opportunity is associated with an existing customer	Manual
PTB.CX.UC1-3	Contact(s) is/are added or created.	Manual
PTB.CX.UC2-3	Opportunity is sent for 2nd Stage Approval (if created by a Sales Associate).	Automatic
PTB.CX.UC2-4	User logs all meetings with the customer in CX.	Manual
PTB.CX.UC2-5	Opportunity to advance through several stages.	Manual
PTB.CX.UC2-6	Sales team requests and obtains documents required for sales progress.	Manual
PTB.CX.UC2-7	Opportunity is sent for Approval to relevant departments.	Automatic
PTB.CX.UC2-8	Approvals Status is reflected per various department approvals. Approval Status changes to 'Approved' once all department approvals is/are obtained. Opportunity Stage changes automatically to 'Contract Negotiation'	Automatic
PTB.CX.UC2-9	Contract Executed Checkbox is selected once the contract creation and execution is complete. NOTE - Contract creation and execution are outside CX.	Automatic
PTB.CX.UC2-10	Opportunity Status is changed to Won/Lost/Parked, and Stage is changed to 'Onboarding Post Sale.'	Manual

2.2.2.2. Gaps and Key Design Decisions

Table 4: Existing Customer Requirements

Requirement	Resolution Type	Process Name	Agreed Solution
New opportunities are driven by Sales Associates associated with the Account.	Configuration	Roles and Security	New opportunities are handled through defined roles and access.
One customer can have multiple opportunities that capture different customer interests.	Standard Functionality	Opportunity Mgt.	CX is designed to have one or multiple products for one single Opportunity. For upselling opportunities, a new opportunity needs to be created and approved.
For existing customers, all interactions are tagged to the opportunity object.	Standard Functionality	Activity Management	Sales Associates can log all interactions against opportunities (not against the Account).

2.2.3. Party Update Flow

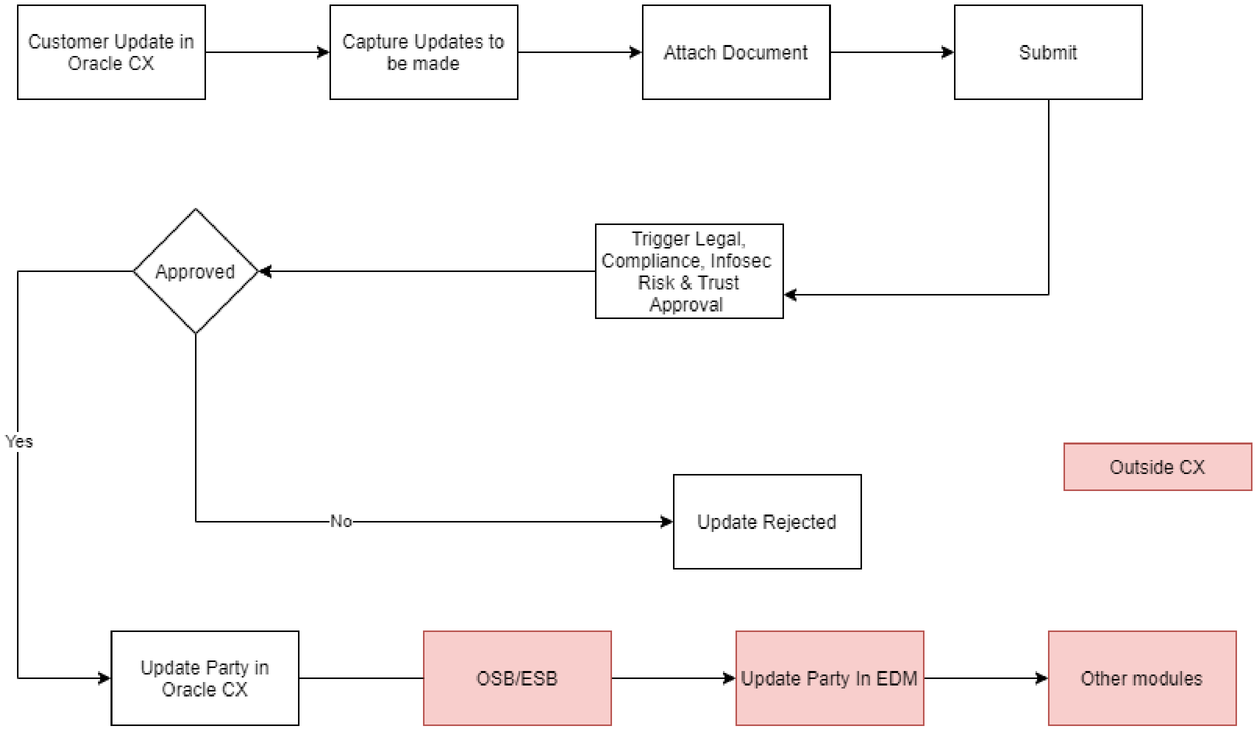
There are many business scenarios where existing customer information needs to be updated (Figure 4).

Party Update allows users to update the details of an onboarded customer through an automated approval workflow that allows only certain information (e.g., Legal Customer Name, Primary Address Details, and TIN Number) to be updated.

The Update Request goes through an approval cycle (from Legal Approval to Risk, to Compliance to Information Security, to Compliance, and Trust).

Notifications are enabled for instant communication of status updates to the involved stakeholders and are aligned with UBS. In addition, logs are stored for a detailed update history on an account. Finally, the Update Page captures attachments of documents related to the update activity.

Figure 4: Party Update Processes and Steps



2.2.3.1. Process Design Flow

Table 5: Party Update Process Design Flow

Process Step	Process Description	Process Type
PTB.CX.UC3-1	Capture the customer/party level updates in the update subtab in CX.	Manual
PTB.CX.UC3-2	Attach documents (if needed).	Manual
PTB.CX.UC3-3	Submit the update request.	Manual
PTB.CX.UC3-4	Send update details for approval.	Automatic
PTB.CX.UC3-5	Update the field records on Customer/Party Level in CX once all the approvals are obtained.	Automatic
PTB.CX.UC3-6	Enable OSB/ESB to pull the updated details and synchronize with Enterprise Data Management (EDM) to update the Master record.	Automatic

2.2.3.2. Gaps and Key Design Decisions

Table 6: Party Update Design Decisions

Requirement	Resolution	Type Process Name	Agreed Solution
Approve any changes to the account object once the customer is onboarded.	Configurations	Customer Update Request	Users shall not be able to make any changes to the customer once onboarded. Information fields may be updated by users if approved.
Update the primary contact at any stage	Configurations	Customer Update Request	CX is designed to allow users to update primary or secondary contacts at any stage.
Update changes to the primary contact for an existing customer in UBS.	Configurations	Customer Update Request	Changes to the primary contact will be pushed via integration in the UBS application. Changes to the secondary contacts do not need to be managed in the UBS.

2.2.4. Approval Workflows

Approval workflows arise from the following business scenarios:

1. Approval in case of New Customers
2. Approvals in case of Existing Customers
3. Approvals in case of Updating the Customer

Approval workflows shall involve various departments at different stages:

1. Legal Department
2. Risk Department
3. Compliance Department
4. Information Security Department

2.2.5. Trust Department

All approvals occur in CX except for FCCM (its own application). Integration with FCCM shall be via OSB/ESB. Once the Trust Department provides Approval, the remaining department approvals can occur simultaneously.

In certain cases, departments may request additional information if the documents or information is not satisfactory. In these cases, the entire approval mechanism shall take place again.

2.2.5.1. Process Design Flow

Table 7: Approval Workflow Processes and Steps

Process Step	Process Description	Process Type
PTB.CX.UC4-1	Trigger approval to the Legal Department.	Automatic
PTB.CX.UC4-2	The Legal Department logs in to CX and provides approvals and/or comments.	Manual
PTB.CX.UC4-3	Once approved by the Legal Department, the remaining approvals are triggered.	Automatic
PTB.CX.UC4-4	Resources from all remaining departments log in and provide approval.	FCCM – Integration Risk, Compliance, and Information Security - Manual (in CX)
PTB.CX.UC4-5	Once approved by all departments, Trust Approval is triggered.	Automatic
PTB.CX.UC4-6	Trust Department resources log in to CX and provide approval.	Manual
PTB.CX.UC4-7	Approval Status changes to “Approved.” Once the status is approved for the Party Update Approval process, the requested Party update details are updated on the header level.	Automatic

Process Step	Process Description	Process Type
	For Opportunity Approval, once the status is approved, the stages move from Review and Approval to Contract Negotiation (in the case of New Customer Onboarding) and from Review and Approval to Addendum/Schedule negotiation (in case of Existing Sales Management).	
PTB.CX.UC4-8	In case of rejection by any department: The Opportunity is marked as Parked/Lost on Opportunity for the Opportunity Sales Process. The Approval Status is marked as Rejected on Update Request for the Party Update Process.	Automatic

2.2.5.2. Gaps and Key Design Decisions

Table 8: Approval Workflow Requirements

Requirement	Resolution	Type Process Name	Agreed Solution
Approval by the Legal Department is a prerequisite for all other approvals for New Customer creation.	Configuration	Approvals	Legal Approval is triggered. Once received, the remaining approvals are triggered.
All approvals need to be in place before Trust approval (as this is the final Stage for Customer Onboarding).	Configuration	Approvals	Trust approval is triggered after all approvals have been received from all departments.
All approvals have a single level of approval.	Configuration	Approvals	No multiple approval levels are provided in the current CX design.
All approvals are re-done if there are any account changes.	Configuration	Approvals	Once the Prospect is changed to Customer, no changes are

Requirement	Resolution	Type Process Name	Agreed Solution
			allowed to the customer level without re-approval.
Notifications are sent to stakeholders.	Configuration	Approvals	Email and system notifications are triggered to stakeholders for approvals.
Users may resubmit requested/updated information if 'Request for More Information' is requested by any departments.	Configuration	Approvals	CX shall allow all department users to resubmit approvals if any additional information is requested during the onboarding/party update process.

2.2.6. Business Planning Process

Sales representatives and sales managers perform Account planning to achieve specific goals and support business plans.

In an account business plan, Sales Associates collaborate to discuss the sales of a specific account and analyze business plan needs. A business plan allows for:

- Analysis of the strengths, weaknesses, opportunities, and threats of the business plan for the Account.
- Collaboration with team members to discuss prospective plans.
- Additional team members to work on a business plan to share information, identify objectives, and increase sales per quarter.
- Creation of notes while working on a business plan and to enable continued discussions.

CX analytics provides information about the performance of the plan and actual results.

2.2.6.1. Process Design

Table 9: Business Planning Process Design

Process Step	Process Description	Process Type
PTB.CX.UC5-1	Create the Business Plan by adding basic details.	Manual
PTB.CX.UC5-2	Add one or more objectives .	Manual
PTB.CX.UC5-3	Add activities to the defined objectives.	Manual
PTB.CX.UC5-4	Perform a SWOT Analysis on the plan.	Manual
PTB.CX.UC5-5	Add team members to the plan.	Manual

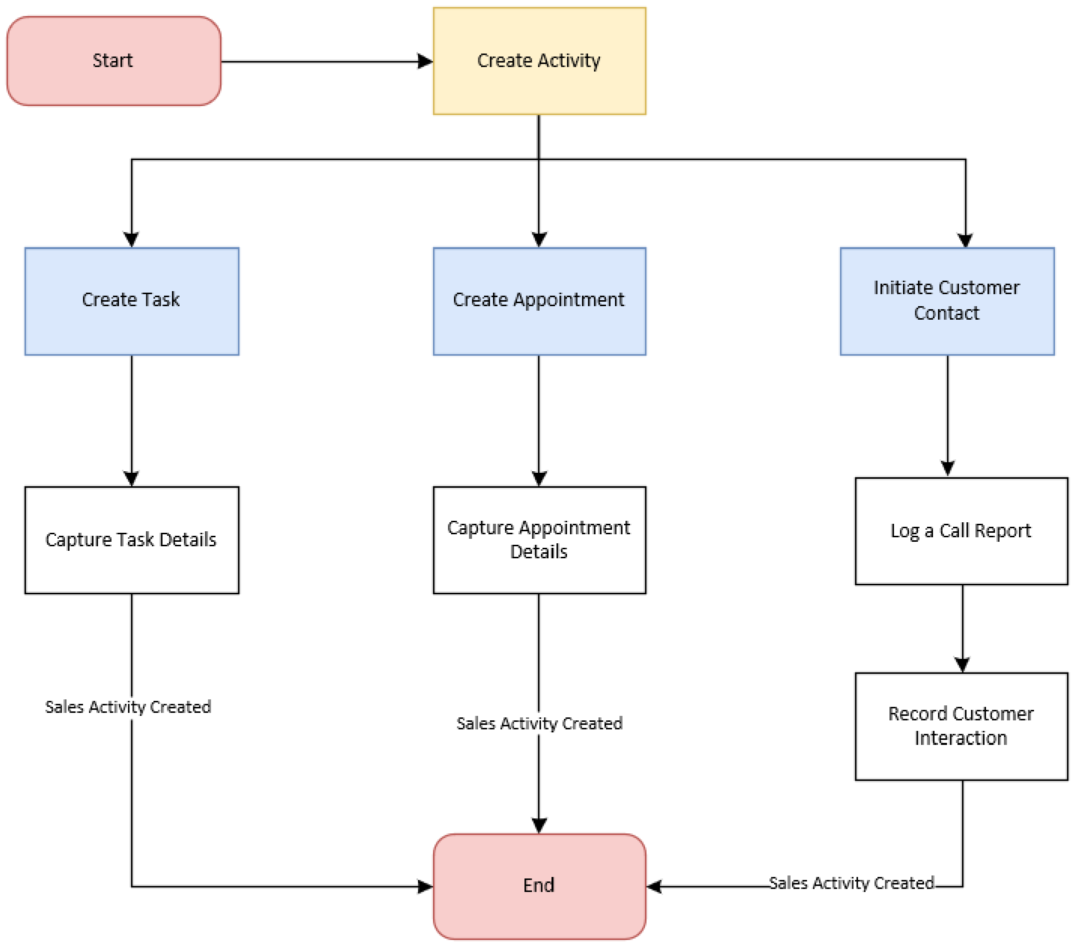
2.2.7. Activity Management

Activity Management allows the users to create three (3) different types of activities to support sales team effectiveness:

1. Task
2. Appointment
3. Log a Call Report

Tasks are assigned to people or groups and record completed customer interactions not scheduled in the calendar as appointments. Appointments are calendar events, such as a meeting with another person or a scheduled phone call. Call reports summarize calls.

Figure 5: Activity Management Flow



2.2.7.1. Process Design Flow

Table 10: Activity Management Processes and Steps

Process Step	Process Description	Process Type
PTB.CX.UC6-1	Click on the desired Account.	Manual
PTB.CX.UC6-2	Create an Appointment for the contact.	Manual
PTB.CX.UC6-3	Create a Task for the Customer/Contact/Opportunities.	Manual
PTB.CX.UC6-4	Create a call log to record all the call details for the interaction with the contact.	Manual

3. Security, Authorization, and Controls

Many predefined job and abstract roles are available as part of the security reference implementation for CX. Personas in Table 11 are mapped to the standard Roles within the CX application. Data is secured using a Role-Based Access Control (RBAC) security model.

Table 11: Roles and Role Management

Personas	Description / Responsibility	Account	Contact	Opportunity	Activity
Chief Business Officer	Responsible for Leading Sales and Execution Services	All	All	All	All
Segment Sales Manager	Sales with visibility of opportunities of their team members. Create and approve new Parties and opportunities	For their segments: Create Update Approve	For their segments: Create Update	For their segments: Create Update Approve	For their segments: Create Update
Segment Sales	Inside Sales with rights to create new opportunities	For their segments: Create Update Approve	For their segments: Create Update Approve	For their segments: Create Update Approve	For their segments: Create Update Approve
Business Analysts/Sales Associates	Create contacts, call logs, activities reminders for assigned legal	Update	Create Update	Update assigned Opportunity	Create Update

Personas	Description / Responsibility	Account	Contact	Opportunity	Activity
	entities and opportunities Not able to delete data once saved Requests new Party or Opportunity	Request New Party Creation		Request New Opportunity Creation	
Client Coverage Manager	Create contacts, call logs, activities reminders for assigned legal entities and opportunities Not able to delete data once saved Requests new Party or Opportunity	For their segments: Create Update Approve	For their segments: Create Update Approve	For their segments: Create Update Approve	For their segments: Create Update Approve
System Administration User	Perform administrative functions in the CRM system Create new users Change user type Assign roles to users	All	All	All	All

Personas	Description / Responsibility	Account	Contact	Opportunity	Activity
Executive	Executive Management	View Only (All)	View Only (All)	View Only (All)	View Only (All)
Chief Executive Officer (CEO)	CEO	All	All	All	All
Investor Relations	Track potential Bank investors	Read and Update	Read and Update	Read and Update	Read and Update
Compliance	Ensure visibility of all legal entities and opportunities Assign BSA risk rating Provide or deny Compliance approval (in FCCM)	View all approvals for Compliance	View Only	View all approvals for Compliance	View Only
Risk	Ensure visibility of all legal entities and opportunities Provide risk approval Enter BSA rating into CRM	View all approvals for Risk	View Only	View all approvals for Risk	View Only
Legal	Ensure visibility of all legal	View All Approval for Legal	View Only	View All Approval for Legal	View Only

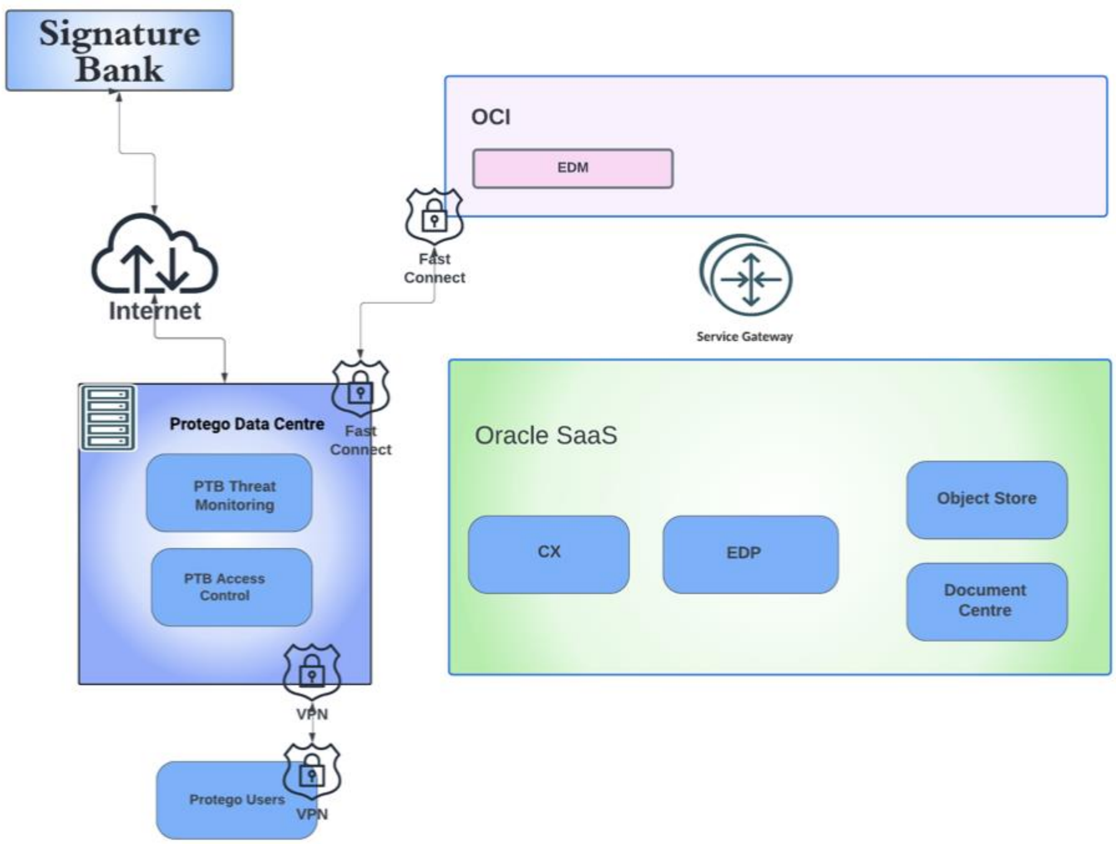
Personas	Description / Responsibility	Account	Contact	Opportunity	Activity
	entities and opportunities Provides legal Approval				
Information Security	Ensure visibility of all legal entities and opportunities Provides Information Security approval	View All Approval for Information Security	View Only	View All Approval for Information Security	View Only
Trust	Ensure visibility of all legal entities and opportunities Provides Trust approval	View All Approval for Trust	View Only	View All Approval for Trust	View Only
Head of Execution Services	Leader for Client Trading and Lending Service	View Only (All)	View Only (All)	View Only(All)	View Only (All)
Execution Services Analyst	Analysis of Client trading and lending markets	Update Request New Party Creation	Create Update	Update assigned Opportunity Request New Opportunity Creation	Create Update

Personas	Description / Responsibility	Account	Contact	Opportunity	Activity
Execution Services	Responsible for Client Trading and Lending Service	View Only (All)	View Only (All)	View Only (All)	View Only (All)
Client Service Manager	All Marketing related activities and other External Communications	Update Request New Party Creation	Create Update	Update assigned Opportunity Request New Opportunity Creation	Create Update
Marketing	Responsible for all marketing activities	View Only (All)	View Only (All)	View Only (All)	View Only (All)
Communications	Responsible for Treasury Board External Communications	View Only (All)	View Only (All)	View Only (All)	View Only (All)
Head of Product Management	Responsible for all Bank Products and related Strategies	All	All	All	All
Product Lead	Responsible for Business Line Products	View Only (All)	View Only (All)	View Only (All)	View Only (All)
Head of Client Service	Responsible for Managing Existing Clients	Update Request	Create Update	Create Update	Create Update

Personas	Description / Responsibility	Account	Contact	Opportunity	Activity
		New Party Creation			
BSA Officer	Overall responsibility of the Bank's BSA/AML/Fraud Program	View Only(All)	View Only(All)	View Only(All)	View Only(All)
Finance	Responsible for the Bank's Financial activities	View Only (All)	View Only (All)	View Only (All)	View Only (All)
Chief Data Officer		View Only (All)	View Only (All)	View Only (All)	View Only (All)
Chief Fiduciary Officer	Leads Trust Department	View All Approval for Trust	View Only	View All Approval for Trust	View Only

4. Threat Mitigation

Figure 6: Migration



4.1. VPN Mitigation

CX SaaS access directly through the internet does not align with PTB's Security Framework. Access is constrained to PTB FTEs and equivalent through the PTB VPN Gateway enabled in PTB's Data Centre. Virtual Private Networking is enabled in the Oracle SaaS Fusion layer.

4.2. Access Monitoring

Access log files are captured in the PTB SIEM to monitor for suspicious access activity.

5. Integration Requirements

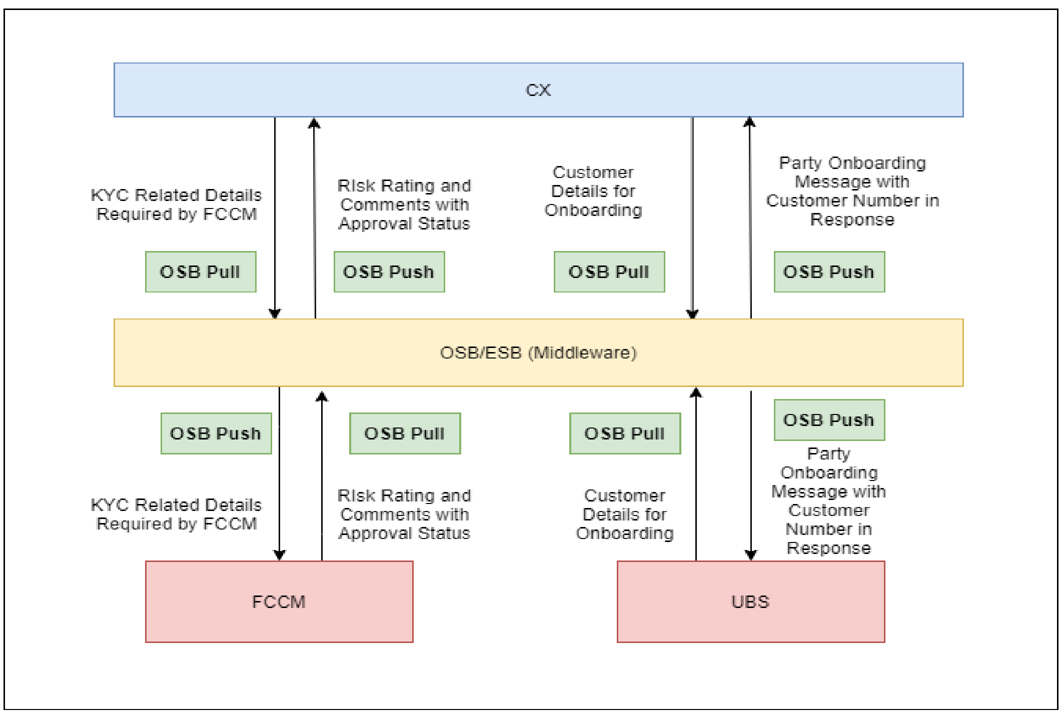
5.1. Cross-functional dependencies and application impacts

Table 12: Source and Target Systems

Source System	Target System	Description	Direction
Oracle CX	FCCM	This integration would be used for Know Your Customer (KYC) and Compliance check processes	Through OSB Bi-directional
Oracle CX	UBS	This integration would be leveraged for a seamless customer onboarding process	Through OSB Bi-directional

5.2. Data Flow Process

Figure 7: Integration Data Flow Process



Note: Figure 7 is a high-level flow diagram only. All the technical specifications are incorporated in the "Oracle CX – FCCM/UBS Integrations HLD" document

6. Reporting Requirements

Table 13: List of Business Intelligence Reports

Reports List
Weighted pipeline report (entire pipeline, by team, by Sales Associates, sorted by size and weighting by segment)
Report showing clients in different sales stages (entire pipeline, by team, by Sales Associates by segment)
Report showing new entries into the pipeline (last months, last quarter, YTD)
Report showing wins, losses parked (last months, last quarter, YTD)
Report showing production (wins - sales closed) by Sales Associates against their targets
Report showing opportunities that have moved backwards in the pipeline
Report showing all activity by submarket segments/universes
Reports showing activity and sales of new and existing clients
Report showing lost business linked to accounting
Canned management reporting/dashboards showing daily, monthly, quarterly, YOY sales, volumes, etc.
Report showing all active pipelines and the risk ratings assigned (if assigned) by the Risk and Compliance Departments
Report showing all active pipelines and the risk ratings assigned (if assigned) by the Risk and Compliance Departments
Client revenue by product against a target on a monthly, quarterly, annual basis by segment
Revenue by Sales Associates, by product against their target on a monthly, quarterly, annual basis
Report for different departments that are interacting with clients (sales, trust, account management, client coverage, product, etc.)

Reports List
Report for data/activity against all related client and Bank metrics
Days in Stage by the client. Or a trigger showing clients above a certain number of days in a stage (e.g., 15 or 30 days)
Days since last contact or change. It could also have a trigger number of days (e.g. 15 or 30 days.

7. Open Issues for Follow up

Table 14: Open Issues

#	Open issue/item description	Assigned to	Status
1	Solution to be finalized for the Sales Management, i.e. Target Attainment (Customer wise and Person Level). Based on the requirements received. Reports related to Targets part	PwC CX Team	Solution finalization in progress
2	Sales Associates should be able to share or capture the conversations automatically with named contacts as an activity in the application	PwC CX Team	Not supported with the current application features
3	Year on Year reports	PwC	

APPENDICES

Appendix A - List of Custom and Standard Attributes for Account/Contact/Opportunity

Table 15: Field Labels - Account/Contact/Opportunity

Field Label	Field Type	Custom/Std.	Object	Values of the Field
Address Line 1, Line 2 (Address)	Text	Standard	Account	N/A
State (Address)	Lookup	Standard	Account	N/A
City (Address)	Lookup	Standard	Account	N/A
Postal Code (Address)	Text	Standard	Account	N/A
Country (Address)	Lookup	Standard	Account	N/A
Comments	Text	Standard	Account	N/A
Contact Email	Formula	Standard	Account	N/A
Created By (System Information)	Text	Standard	Account	N/A
Last Updated By (System Information)	Text	Standard	Account	N/A
Last Updated Date (System Information)	Date	Standard	Account	N/A
Creation Date (System Information)	Date	Standard	Account	N/A
Description	Text	Standard	Account	N/A
Key Account	Checkbox	Standard	Account	N/A
Name	Text	Standard	Account	N/A
Organization Size	Picklist	Standard	Account	Small Medium

Field Label	Field Type	Custom/Std.	Object	Values of the Field
				Large
Parent Account	Picklist	Standard	Account	N/A
Phone	Formula	Standard	Account	N/A
Primary Contact	Lookup	Standard	Account	N/A
Primary Email	Text	Standard	Account	N/A
Primary Phone	Formula	Standard	Account	N/A
Status	Picklist	Standard	Account	Active Inactive
Stock Symbol	Text	Standard	Account	N/A
Taxpayer Identification Number	Text	Standard	Account	N/A
Type	Picklist	Standard	Account	Client Prospect
Ultimate Parent	Formula	Standard	Account	N/A
URL	Text	Standard	Account	N/A
Year Established	Number	Standard	Account	N/A
Crypto Assets Under Management (Financial Profile)	Text	Custom	Account	N/A
Segment	Picklist	Custom	Account	Asset Owner Bank Corporate Exchange

Field Label	Field Type	Custom/Std.	Object	Values of the Field
				Family Office Fintech/Technology Provider Hedge Funds/Alternative Insurance Investment Manager Protocol RIA
Blacklisted (Financial Profile)	Checkbox	Custom	Account	N/A
Affiliates (Financial Profile)	Text	Custom	Account	N/A
Risk Score (Financial Profile)	Number	Custom	Account	N/A
Annual Revenue (Financial Profile)	Number	Custom	Account	N/A
Risk Profile (Financial Profile)	Picklist	Custom	Account	High Medium Low
Client Since	Date	Custom	Account	N/A
Client's Total Crypto/Digital AUM (Financial Profile)	Number	Custom	Account	N/A
KYC Date (Financial Profile)	Date	Custom	Account	N/A
Private ownership	Checkbox	Custom	Account	N/A
Domicile	Dropdown	Custom	Account	List of all Countries

Field Label	Field Type	Custom/Std.	Object	Values of the Field
Regulated By	Dropdown	Custom	Account	CFTC FINRA SEC OCC NFA STATE CHARTER NONE
Account	Text	Standard	Contact	N/A
Address Line 1, Line 2 (Address)	Text	Standard	Contact	N/A
Buying Role	Picklist	Standard	Contact	Head of Operations Head of Custody Head of Trading Head of Lending Head of Finance Chief Operating Officer Chief Financial Officer Other
City (Address)	Text	Standard	Contact	N/A
Comments	Text	Standard	Contact	N/A
Contact Email	Formula	Standard	Contact	N/A

Field Label	Field Type	Custom/Std.	Object	Values of the Field
Contact Phone	Formula	Standard	Contact	N/A
Contact URL	Formula	Standard	Contact	N/A
Country (Address)	Lookup	Standard	Contact	N/A
Created By (System Information)	Text	Standard	Contact	N/A
Creation Date (System Information)	Date	Standard	Contact	N/A
Last Updated By (System Information)	Text	Standard	Contact	N/A
Last Updated Date (System Information)	Date	Standard	Contact	N/A
Department Code	Picklist	Standard	Contact	N/A
Do not call	Checkbox	Standard	Contact	N/A
Do not contact	Checkbox	Standard	Contact	N/A
Do not email	Checkbox	Standard	Contact	N/A
Do not mail	Checkbox	Standard	Contact	N/A
Favorite	Formula	Standard	Contact	N/A
First Name	Text	Standard	Contact	N/A
Gender	Picklist	Standard	Contact	Male Female Other
Initials	Text	Standard	Contact	N/A

Field Label	Field Type	Custom/Std.	Object	Values of the Field
Job Title Code	Picklist	Standard	Contact	Chief Operating Officer Chief Technology Officer Owner Partner Planner President, etc. (lengthy list)
Last Name	Text	Standard	Contact	N/A
Middle Name	Text	Standard	Contact	N/A
Owner	Text	Standard	Contact	N/A
Prefix	Picklist	Standard	Contact	Mr. Mrs. Ms.
Time Zone	Picklist	Standard	Contact	List of standard time zones
Name Suffix	Text	Standard	Contact	N/A
Signatory	Checkbox	Custom	Contact	N/A
Responsible for P & L	Checkbox	Custom	Contact	N/A
Account Name	Lookup	Standard	Opportunity	N/A
Amount	Number	Standard	Opportunity	N/A

Field Label	Field Type	Custom/Std.	Object	Values of the Field
Expected Close Date	Date	Standard	Opportunity	N/A
Actual Close Date	Date	Custom	Opportunity	N/A
Comments	Text	Standard	Opportunity	N/A
Created By (System Info.)	Text	Standard	Opportunity	N/A
Creation Date (System Info.)	Date	Standard	Opportunity	N/A
Currency	Lookup	Standard	Opportunity	N/A
Description	Text	Standard	Opportunity	N/A
Last Updated By (System Info.)	Text	Standard	Opportunity	N/A
Last Updated Date (System Info.)	Date	Standard	Opportunity	N/A
Name	Text	Standard	Opportunity	N/A
Account	Lookup	Standard	Opportunity	N/A
Campaign Name	Text	Custom	Opportunity	N/A
Primary Competitor	Text	Standard	Opportunity	N/A
Primary Contact	Lookup	Standard	Opportunity	N/A
Sales Channel	Picklist	Standard	Opportunity	Partner Investors Direct Marketing Campaigns Sales Visits

Field Label	Field Type	Custom/Std.	Object	Values of the Field
				Bulk Uploads Board members Employees Cold Calls Events and Conferences Bank Website Other
Sales Method	Text	Standard	Opportunity	N/A
Sales Stage	Text	Standard	Opportunity	N/A
Status	Picklist	Standard	Opportunity	Lost Open Parked Won
Win Probability	Number	Standard	Opportunity	N/A
Win/Loss Reason	Picklist	Standard	Opportunity	Customer not ready Good lead Lost to competition Lost to internal development Lost to no decision No bandwidth No budget

Field Label	Field Type	Custom/Std.	Object	Values of the Field
				Other Price Product Relationship Track record
Parked Reason	Text	Custom	Opportunity	N/A
Compliance Approved (Approvals)	Checkbox	Custom	Opportunity	N/A
Infosec Approved (Approvals)	Checkbox	Custom	Opportunity	N/A
Segment	Picklist	Custom	Opportunity	Asset Owners Banks Corporates Exchanges Family Offices Fintech/Technology Providers Hedge Funds/Alternative Insurance Investment Managers Protocols RIA
Trust Approved (Approvals)	Checkbox	Custom	Opportunity	N/A

Field Label	Field Type	Custom/Std.	Object	Values of the Field
Risk Approved (Approvals)	Checkbox	Custom	Opportunity	N/A
Legal Approved (Approvals)	Checkbox	Custom	Opportunity	N/A
Approval Status	Picklist	Custom	Opportunity	Approved Rejected Pending for Approval
Parked Reason	Text	Custom	Opportunity	N/A
Contract Executed	Checkbox	Custom	Opportunity	N/A
Contract Execution Date	Date	Custom	Opportunity	N/A
Entity Information (Documentation Checklist	Checkbox	Custom	Opportunity	Document Checklist
Formation Documents	Checkbox	Custom	Opportunity	Document Checklist
Customer Due Diligence	Checkbox	Custom	Opportunity	Document Checklist
BSA Program	Checkbox	Custom	Opportunity	Document Checklist
Financial Statement	Checkbox	Custom	Opportunity	Document Checklist
Beneficial Ownership	Checkbox	Custom	Opportunity	Document Checklist

Appendix B - List of Custom and Standard Attributes for Approvals

Table 16: Field Labels - Approvals

Field Label	Field Type	Custom/Std.	Object	Values of the Field
Record Number	Number(Autogenerated)	Standard	Approval	N/A
Last Update Date	Date	Standard	Approval	N/A
Last Updated By	Text (Autogenerated)	Standard	Approval	N/A
Customer Approvals Name	Text (Autogenerated)	Standard	Approval	N/A
Opportunity Number	Number	Custom	Approval	N/A
Creation Date	Date	Standard	Approval	N/A
Approval Type	Picklist	Custom	Approval	N/A
Owner	Lookup	Custom	Approval	N/A
Created By	Lookup	Standard	Approval	N/A
Approval Status	Picklist	Custom	Approval	Approval Rejected Pending for Approval
Approval For?	Picklist	Custom	Approval	New Customer Existing Customer Party Update
Comments	Long Text	Custom	Approval	N/A
Attachments	Add Attachment	Std	Approval	N/A

Appendix C - List of Custom and Standard Attributes for Party Update Flow

Table 17: Field Labels - Party Flow

Field Label	Field Type	Custom/Std.	Object	Values of the Field
Record Number	Number (Autogenerated)	Standard	Account Update Request	N/A
Customer Name	Text	Custom	Account Update Request	N/A
Legal Approved	Checkbox	Custom	Account Update Request	N/A
Risk Approved	Checkbox	Custom	Account Update Request	N/A
Owner	Lookup	Custom	Account Update Request	N/A
Address Line 1	Text	Custom	Account Update Request	N/A
Last Update Date	Date	Standard	Account Update Request	N/A
Infosec Approved	Checkbox	Custom	Account Update Request	N/A
Last Updated By	Text (Autogenerated)	Standard	Account Update Request	N/A
Creation Date	Date	Standard	Account Update Request	N/A
Owner	Lookup	Custom	Account Update Request	N/A

Field Label	Field Type	Custom/Std.	Object	Values of the Field
Address Line 2	Text	Custom	Account Update Request	N/A
Compliance Approved	Checkbox	Custom	Account Update Request	N/A
Created By	Text (Autogenerated)	Standard	Account Update Request	N/A
Approval Status	Picklist	Custom	Account Update Request	Pending Approved Rejected Request for more Info
Record ID	Text (Autogenerated)	Standard	Account Update Request	N/A
Trust Approved	Checkbox	Custom	Account Update Request	N/A

Appendix D - Key Opportunity Features

Note: The Bank's implementation of CX is an Opportunity Management process.

Table 18: Key Features and Details

Feature	Details
Support the sales life cycle	Create, manage, and close opportunities, supporting the entire sales life cycle. Post-sale, take advantage of supplied business intelligence reports related to sales.
Maintain opportunity information	Following are some of the data that sales teams can capture for an opportunity: **Accounts:** Associate an account (for example, a customer or Prospect) with an opportunity. **Opportunity owner:** The person who creates an opportunity is automatically assigned ownership. The owner can be changed if needed. **Contacts**: Associate contacts with an opportunity. Specify a contact's role, affinity, and influence level on an opportunity. A single contact can be marked as primary. **Currency:** The application supports multiple currencies at the opportunity header and revenue-line levels. **Competitors:** Associate competitors with opportunities at both opportunity and revenue line levels. **Close Date:** The date on which the Opportunity was closed. **Loss/Win Reason:** Capturing the Win/Loss reasons enables the business to track trends. **Parked Reason:** Analyze the reasons for which the opportunities are parked. **Sales Stages:** Track the progress of the sales lifecycle. **Win Probability:** The win probability percentage is automatically populated.

Feature	Details
	Products: The products proposed to be sold to the customer. **Revenue:** The dollar value for the Opportunity (total of all the revenue lines added on the Opportunity).
Sales methodology and its associated sales stages	The Bank shall use a standard sales methodology for its different segments of customers. A default win probability percentage for each sales stage is set. **Sales stages and respective win probabilities for New Customers:** Stage 1: Lead Stage 2: New prospect opportunity identified (10%) Stage 3: Demo (20%) Stage 4: Letter of Intent (optional) (50%) Stage 5: Proposal (25%) Stage 6: Verbal Commitment from Prospect (50%) Stage 7: Obtain necessary documents from Prospect (50%) Stage 8: Review by Legal, Risk, Compliance, InfoSec and Trust (60%) Stage 9: Contract negotiation (75%) Stage 10: Contract execution (100%) Stage 11: Onboarding post-sale **Sales stages and respective win probabilities for Existing Customers:** Stage 1 Identified lead with existing client Stage 2: Identified opportunity with existing client (10%) Stage 3: Demo (20%) Stage 4: Proposal (25%) Stage 5: Verbal Commitment from Prospect (50%)

Feature	Details
	Stage 6: Obtain necessary documents from Prospect if required (50%) Stage 7: Review & Approve (60%) Stage 8: Addendum/Schedule negotiation (75%) Stage 9: Addendum/Schedule execution (100%) Stage 10: Onboarding post-sale
Leverage the product revenue model	Opportunities support a product revenue model that features products, volume, and revenue data captured at the line level.
Assign sales team	A team can be assigned to Opportunity manually directly on the Opportunity page.
Assess opportunities and their products, contacts, and competitors	Use assessments to evaluate the health of an opportunity or an opportunity product, contact, or Competitor.
Opportunity Notes	Any relevant notes associated with the Opportunity can be captured for future reference
Opportunity Approvals	A place to see the status and history of all the approvals associated with the Opportunity.

Appendix E - Threat Modeling Worksheet

Service Name:	CX
Service Owner:	
Date of Threat Model:	March 20, 2022
Link to DFD:	https://drive.google.com/file/d/12SJcpwQGmQs6gvmNzzo9kniKyWsOaKYm/view?usp=sharing

Instructions

Use this worksheet to record the results of threat modeling sessions.
1) Decompose a Data Flow Diagram into individual components or threat targets. List the Threat targets in the column below.
2) Brainstorm threats using STRIDE and corresponding mitigations to each threat target, record the results below.
3) Create JIRA tasks to plan work to address threats

Threat	Security Attribute	Definition
Spoofing	Authentication	If the hacker is able to access victim credentials by using brute force or social engineering technique, he/she can communicate to others by impersonating the victim's account. The simple example is attacker send messages from the victim account. It can be mitigated by using the appropriate authentication mechanism for login in an application.
Tampering	Integrity	Tampering is a term defined to unauthorize change of data or code while at rest or in transit. It can be mitigated by using various cryptographic algorithms to secure data.

Threat	Security Attribute	Definition
Repudiation	Non-Repudiation	Here the user can dispute regarding sending messages. He or she can claim the messages not sent by them. It can be mitigated by using the digital signature for authentication and also create audit logs for activities.
Information Disclosure	Confidentiality	If credit card information or personal details is disclosed on the internet, are some examples of information disclosure. It can be mitigated by using strong cryptographic algorithms for storing secret data, implementation of proper authorization mechanisms etc.
Denial of Service	Availability	A web application is not available to end users because of the cyber attacker attempts to drain all server's resources. The simple example of Denial of Service attack is the non-availability of the website due to any reason. It can be mitigated by using network filtering and throttling techniques.
Elevation of Privilege	Authorization	A normal user able to delete the account of an administrator" is a perfect example of elevation of privilege. It can be mitigated by using the principle of run users with least privilege.

Threat Target	Identified Threats	Mitigation Strategy
CX App	The App is exposed to the internet.	The app will be brought behind VPN.
REST API	Insecure Auth Method - OBS connection currently using basic auth	Use more secure OAuth/SAML method. AppSec to follow up with Oracle Integration
App Database	An attacker gains to the application database.	Fusion data is encrypted at Rest using Oracle Transparent Encryption.

Service Description
Oracle Advertising and Customer Experience (CX) - Auth supported: basic, SAML, OAuth
Assumptions - CX can support oauth but will need to confirm on oracle side if the same can be done
Connecting Threat Models/Services/Actors
OBS
Any other important information
Remaining Open Questions