ISO 20022 Reconciler for Agentforce

Solution Architecture & Usage Guide

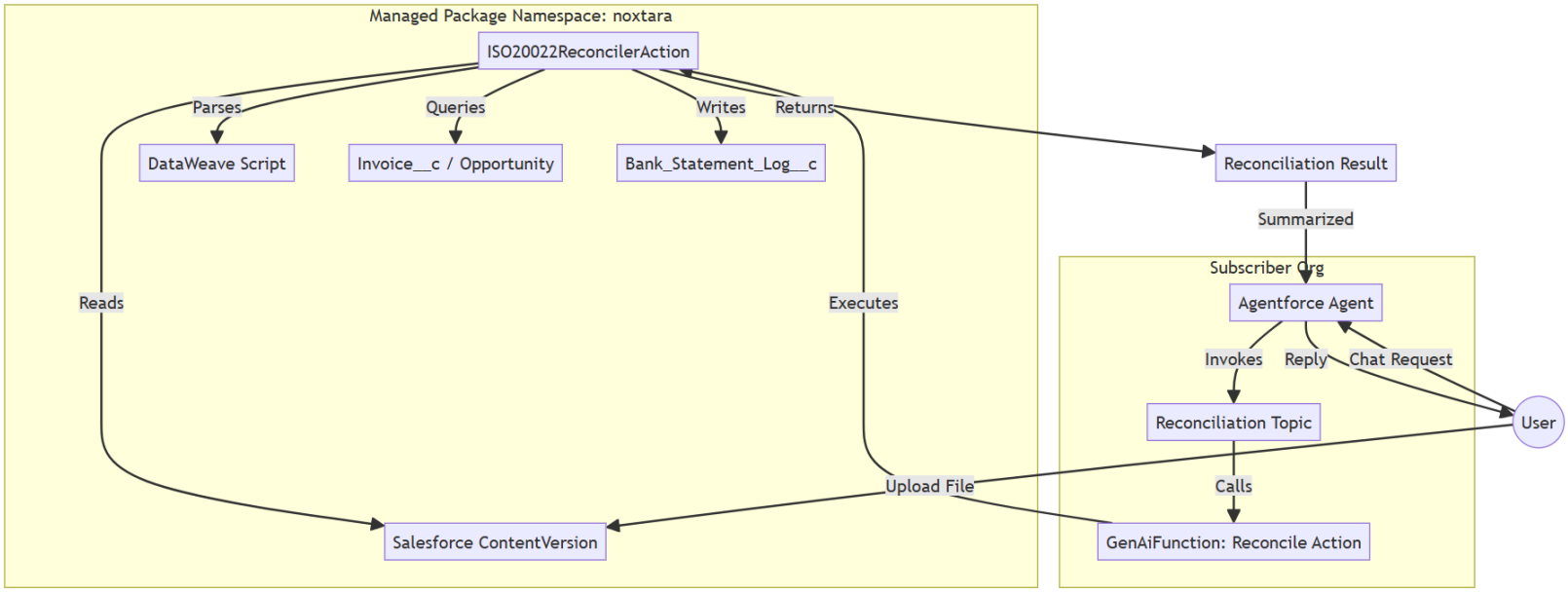
1. Solution Overview

The **ISO 20022 Reconciler** is a native Salesforce application designed to function as an Agent Action within the **Agentforce** platform. It allows users to reconcile ISO 20022 bank statement files (XML format camt.053 or camt.052) against existing Salesforce records (Invoices or Opportunities).

The solution utilizes a **Hybrid Architecture**:

- **Managed Package (2GP):** Contains the core business logic (Apex), DataWeave parsing scripts, and data model.
- **Subscriber Configuration:** The Agentforce Agent, Topic, and Action bindings are configured in the subscriber's org to allow for customized instructions.

2. Information Flow



The application processes data entirely within the Salesforce platform boundary.

1. **File Input:** The user uploads a bank statement file to Salesforce Files (ContentVersion) via standard Salesforce UI and provides the ID to the Agent.
2. **Action Invocation:** The Agentforce Agent invokes the ISO20022ReconcilerAction Apex

class, passing the file ID and target object type.
3. **Secure Parsing:** The Apex action retrieves the file content (Blob) and processes it using a DataWeave script (camt053_parsing.dwl). This parsing occurs natively on the platform; **no data leaves the Salesforce trust boundary**.
4. **Query & Reconciliation:**
    - The system extracts transaction references (e.g., "INV-1001").
    - It queries the Target Object (Invoice__c or Opportunity) to find matches.
    - It compares the Transaction Amount against the Record Amount.
5. **Logging:** A Bank_Statement_Log__c record is created to track the transaction for audit purposes and to enforce idempotency (preventing duplicate processing).
6. **Response:** The discrepancies and status are returned to the Agent as structured text, which the LLM summarizes for the user.

3. Security Architecture

Authentication & Authorization

- **Native Execution:** All code runs natively within the Salesforce platform. No external authentication is required as no external services are called.
- **Permission Sets:** Access to the Apex classes and Custom Objects is strictly controlled via the ISO_Reconciler_Permissions Permission Set.
- **User Context:** All SOQL queries and DML operations execute in **User Mode** (WITH USER_MODE) to strictly enforce the running user's Field Level Security (FLS) and Object Permissions.
- **Record Sharing:** All Apex classes are explicitly declared with sharing to enforce Record-Level Sharing rules. Users can only reconcile records they have visibility to.

Encryption on Data Transfer

- **Data in Transit:** All user interactions (file upload, chat) occur over standard Salesforce HTTPS (TLS 1.2+) connections.
- **No External Transfer:** This application is 100% native. It does not transmit data to any third-party endpoints or external APIs.

Input Validation

- **XML Security:** DataWeave handles XML parsing securely, preventing XXE (XML External Entity) injection attacks.
- **Sanitization:** All inputs provided by the Agent (File ID, Date Ranges) are validated before processing.

4. Data Touchpoints

The application interacts with the following objects:

Object	Type	Sensitivity	Purpose
Invoice__c	Custom	Low/Med	Stores invoice details (amount, status) used for reconciliation.
Opportunity	Standard	Med	Optional target object for reconciliation.
Bank_Statement_Log__c	Custom	Low	Audit log of reconciliation attempts.
ISO20022_Settings__c	Custom Setting	Protected	Stores tenant-specific regex configs.

5. Usage Instructions

Invoking the Action

The action is designed to be invoked by Agentforce during a conversation. The easiest way to open the agent is to click on the Agentforce icon on the top right corner of any App.

Example Prompt:

> "Reconcile the bank statement XXXXXXXXXXXXX against our invoices."

Example Prompts for Security Review testing:

> "Reconcile file 069gL000007fhD3QAI against invoices." (camt.053)

> "Reconcile file 069gL000007mfODQAY" (camt.052)

Example SOQL queries for checking logs:

Bank Statement Log

```
SELECT Id, Name, noxtara__Content_Document_Id__c, noxtara__Status__c,
noxtara__Matched_Count__c, noxtara__Unmatched_Count__c,
noxtara__Transaction_Count__c, noxtara__Message_Id__c,
noxtara__Processed_Date__c, CreatedDate FROM
noxtara__Bank_Statement_Log__c ORDER BY CreatedDate DESC
```

Discrepancy Log

```
SELECT Id, Name, noxtara__Bank_Statement_Log__c, noxtara__Details__c,
noxtara__Bank_Amount__c, noxtara__Ledger_Amount__c, noxtara__Reason__c,
noxtara__Transaction_Reference__c, CreatedDate FROM
noxtara__Discrepancy_Log__c ORDER BY CreatedDate DESC
```

Input Parameters

The Agent automatically extracts these parameters from the conversation context:

- **contentDocumentId (Required):** The Salesforce File ID of the uploaded XML.
- **targetObject:** "Invoice" (default) or "Opportunity".
- **dateRangeStart / dateRangeEnd:** Optional filters for transactions.

Output

The Agent will return a summary of the results, including:

- **Status:** SUCCESS, PARTIAL, or ERROR.
- **Discrepancy Report:** A detailed list of mismatches (e.g., "Amount Mismatch: Bank 100.00, Ledger 150.00").
- **Statistics:** Total processed, matched count, and unmatched count.