Research Article   **ISSN: 2394 - 658X**

Automate Cloud Trial Balance to Legacy Trial Balance Reconciliation of Payables Invoices During the Data Migration Projects

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ABSTRACT

In the context of data migration projects, particularly when transitioning from Oracle E-Business Suite (EBS) to Oracle Fusion Cloud ERP, one of the most challenging tasks is the reconciliation of Accounts Payables (AP) invoices. This process is crucial to ensure that all eligible open payables invoices are accurately selected for migration. A key part of this task involves reconciling the Oracle Fusion Cloud Payables Trial Balance with the Oracle E-Business Suite Payables Trial Balance. The reconciliation must also account for any invoices that encountered errors during the cloud interface conversion process. Traditionally, this reconciliation is performed manually, which is both time-consuming and prone to human error. This article presents an innovative solution to automate the reconciliation of Payables Trial Balances between Oracle E-Business Suite and Oracle Fusion Cloud ERP during data migration. The proposed approach leverages automation tools and technologies to compare and reconcile trial balances efficiently. By automating this process, organizations can significantly reduce the time required for reconciliation and eliminate the risk of human error, ensuring a more accurate and reliable migration of payables data. The automation of the trial balance reconciliation process offers several benefits. It not only accelerates the overall data migration timeline but also enhances the accuracy of financial data, which is critical for maintaining the integrity of accounts payable records. Additionally, this solution reduces the manual effort required by finance teams, allowing them to focus on more strategic tasks. The article delves into the technical aspects of this automation process, outlining the steps involved, the challenges addressed, and the impact on the efficiency of data migration projects.

Keywords: Oracle Cloud Fusion, Oracle Cloud ERP, Enterprise Resource Planning, Financials, Accounts Payables, Data Migration, Invoices, Oracle E-Business Suite, EBS.
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INTRODUCTION

In the rapidly evolving landscape of highly complex enterprise resource planning (ERP) systems, the migration of Accounts Payables (AP) data from legacy systems such as Oracle E-Business Suite (EBS) to modern cloud-based solutions like Oracle Fusion Cloud ERP is a critical component of digital transformation initiatives within organizations. This process is often fraught with challenges, particularly when it comes to ensuring the accuracy and completeness of the data being transferred. One of the most vital aspects of this migration is the reconciliation of the Payables Trial Balances between the legacy system and the new cloud platform. This reconciliation is essential to verify that all open payables invoices have been correctly selected and migrated, thereby maintaining the integrity of financial records.

In a typical migration scenario, the reconciliation process involves a meticulous comparison of the trial balances from both the legacy and cloud systems. This task is traditionally performed manually by finance teams, requiring significant time and effort to ensure that every invoice is accounted for, including those that may have encountered errors during the data conversion process. Manual reconciliation, however, is not only labor-intensive but also prone to human error, which can lead to discrepancies in financial data and potential disruptions in business operations.

Recognizing the critical need for accuracy and efficiency in this process, there is a growing demand for automated solutions that can streamline the reconciliation of Payables Trial Balances during data migration projects. Automation offers a promising approach to overcoming the limitations of manual reconciliation by leveraging technology to handle the complexities of data comparison and validation. By automating the reconciliation process,

organizations can significantly reduce the time required to complete migrations while minimizing the risk of errors and ensuring a higher level of data integrity.
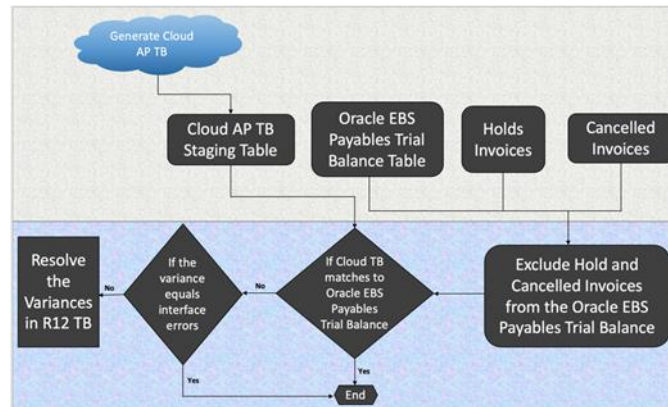

Fig. 1. *This figure represents the high level flow of reconciliation process from Cloud AP TB to R12 AP TB.*

The automation of trial balance reconciliation is particularly valuable in scenarios where large volumes of data are involved, as it allows for faster and more reliable processing. Additionally, automation can be designed to account for invoices that encountered errors during the cloud interface conversion, ensuring that these are correctly reconciled and addressed. This capability is crucial for maintaining a complete and accurate financial record in the new system, which is essential for ongoing business operations and compliance with financial reporting standards.

In this article, we will explore the solution approach to automating the reconciliation of Cloud Trial Balances with Legacy Trial Balances during the migration of Accounts Payables invoices from Oracle E-Business Suite to Oracle Fusion Cloud ERP. We will examine the key challenges associated with manual reconciliation, the benefits of automation, and the technical considerations for implementing an automated solution. By the end of this discussion, readers will have a comprehensive understanding of how automation can enhance the efficiency and accuracy of data migration projects, ultimately supporting a smoother transition to cloud-based ERP systems.

```
# Cloud TB to Legacy TB Reconciled
-------------------------------
SELECT <<...select all the required columns – invoice_number, vendor_number,
    vendor_site, invoice_amount,
    functional_amount, invoice_date, liability_account....>>,
        'Matched' R12TB_TO_CLOUD_TB_RECON_STATUS
FROM XX_AP_R12_APTB_STG  R12TB,
    XX_AP_CLOUD_TB_STG  CLOUD_TB
WHERE     1 = 1
AND R12TB.INVOICE_ID NOT IN
            (SELECT INVOICE_ID FROM XX_AP_HOLD_APTB_STG)
AND R12TB.INVOICE_ID NOT IN
            (SELECT INVOICE_ID FROM XX_AP_CANCEL_APTB_STG)
AND R12TB.INVOICE_ID = CLOUD_TB.INVOICE_ID
```

Fig. 2. *Code snippet for retrieving the Invoices reconciled between R12 AP TB and Cloud AP TB.*

CHALLENGES FACED BY ORGANIZATIONS TO RECONCILE DURING THE PAYABLES INVOICES DATA CONVERSION

The manual reconciliation of Oracle Cloud Payables Trial Balance with Oracle E-Business Suite (EBS) Payables Trial Balance during data migration projects presents a series of significant challenges that can complicate and delay the migration process. These challenges stem from the inherent complexity of managing large volumes of financial data across two different systems, each with its unique structures and operational nuances. Understanding these challenges is crucial to appreciating the necessity of an automated solution.

A. Data Volume Management

The reconciliation of payables invoices during data migration involves handling extensive volumes of financial data, often comprising thousands or even millions of transactions. Manually sifting through and comparing these vast datasets between Oracle E-Business Suite and Oracle Fusion Cloud ERP is not only labor-intensive but also significantly increases the likelihood of errors. The sheer volume of data can overwhelm finance teams, leading to potential oversights and inaccuracies that could disrupt the migration process.

B. Error Handling in Cloud Conversion

During the migration process, some invoices may encounter errors in the cloud interface, causing discrepancies between the Oracle E-Business Suite and Oracle Fusion Cloud ERP trial balances. Manually identifying, rectifying, and reconciling these errored invoices requires a detailed and time-consuming review of the data. The complexity of

this task is compounded by the need to ensure that corrections are accurately reflected in both systems without causing duplications or omissions, making the reconciliation process cumbersome and prone to mistakes.

C. Data Format Discrepancies

The migration from Oracle E-Business Suite to Oracle Fusion Cloud ERP often involves differences in data formats, such as varying structures, fields, and coding conventions. Manually aligning these formats during reconciliation demands a deep understanding of both systems and a meticulous approach to ensure that all data is accurately matched. Any inconsistencies in data interpretation or conversion can lead to incorrect reconciliations, potentially causing significant financial discrepancies that may require extensive rework to resolve.

D. Human Error Risk

Manual reconciliation is inherently susceptible to human error, particularly when dealing with repetitive and detailed tasks such as data comparison and validation. Simple mistakes, such as data entry errors, misinterpretation of financial information, or overlooking discrepancies, can result in significant inaccuracies in the trial balance reconciliation. These errors are often difficult to detect and may not surface until after the migration is complete, leading to costly corrections and potential disruptions to financial operations.

E. Time Consumption

The manual reconciliation process is extremely time-consuming, especially when dealing with large datasets and complex financial transactions. The need to meticulously compare trial balances, identify discrepancies, and ensure the accuracy of reconciled data can significantly slow down the overall migration project. This extended timeline not only delays the transition to the new cloud-based system but also ties up valuable resources, impacting the organization's ability to maintain continuous financial operations during the migration.

F. Skilled Resource Workload

The manual reconciliation process demands a considerable amount of human resources. Usually, a dedicated team is required to handle this task, which diverts skilled personnel away from other essential activities within the migration project. This resource-intensive process can place a strain on project teams and escalate costs, especially in large organizations with extensive payables records.
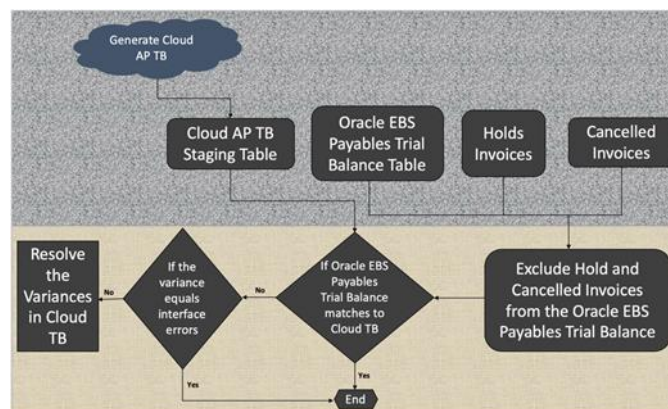

Fig. 3. This figure represents the high level flow of reconciliation process from R12 AP TB to Cloud AP TB.

G. Inconsistency in Results

The manual reconciliation process often results in inconsistencies, particularly when multiple team members are involved in the task. Variations in judgment, attention to detail, and methodology can lead to different outcomes, even when reconciling the same datasets. These inconsistencies complicate the reconciliation process, as they may require additional rounds of review and correction, further delaying the migration project and increasing the risk of errors in the final financial records.

H. Difficulty in Tracking Changes

During manual reconciliation, tracking changes, updates, or corrections to the trial balances is challenging. Without a clear and systematic approach to documenting each step of the reconciliation process, it becomes difficult to maintain an accurate audit trail. This lack of transparency can hinder the ability to verify the accuracy of the reconciliation, making it challenging to identify and address the root cause of any discrepancies that arise later in the migration process.

I. Limited Scalability

For big organizations, their financial data volumes are huge, the manual reconciliation process becomes increasingly unsustainable. The lack of scalability in manual methods makes it difficult to manage the expanding complexity and volume of data involved in migration projects. This limitation not only leads to inefficiencies and delays but also increases the risk of data integrity issues, as finance teams struggle to keep pace with the demands of large-scale data migration and reconciliation efforts.

SOLUTION APPROACH TO AUTOMATE THE PAYABLES CLOUD TRIAL BALANCE TO LEGACY TRIAL BALANCE RECONCILIATION DURING THE DATA MIGRATION

The challenges of manually performing Oracle Cloud Payables Trial Balance to Oracle E-Business Suite Payables Trial Balance reconciliation are multifaceted, encompassing data volume, error handling, the potential for human error, and time inefficiency. These challenges highlight the need for an automated solution that can streamline the reconciliation process, reduce the risk of errors, and accelerate the migration timeline, ensuring a more seamless transition to Oracle Fusion Cloud ERP.

```
# In Legacy R12 TB and Not In Cloud TB
-------------------------------------
SELECT <<...select all the required columns - invoice_number, vendor_number,
    vendor_site, invoice_amount,
    functional_amount, invoice_date, liability_account....>>,
         'In R12 TB' R12TB_TO_CLOUD_TB_RECON_STATUS
FROM XX_AP_R12_APTB_STG  R12TB
WHERE     1 = 1
AND R12TB.INVOICE_ID NOT IN
              (SELECT INVOICE_ID FROM XX_AP_HOLD_APTB_STG)
AND R12TB.INVOICE_ID NOT IN
              (SELECT INVOICE_ID FROM XX_AP_CANCEL_APTB_STG)
AND R12TB.INVOICE_ID NOT IN ( SELECT INVOICE_ID FROM XX_AP_CLOUD_TB_STG )
```

Fig. 4. *Code snippet for retrieving the Invoices present in R12 AP TB and not in Cloud AP TB.*

A. Load the Cloud AP TB to a Staging Table

First step in the reconciliation process is to generate the Cloud Payables Trial Balance from the Oracle Cloud ERP after the legacy invoices are imported and accounted in Cloud. The custom output generated in .csv format will be loaded to the staging table XX_AP_CLOUD_TB_STG in Oracle E-Business Suite database. Data from the table XX_AP_CLOUD_TB_STG will be used in the reconciliation process. Data sent from Cloud to Oracle E-Business Suite database will also contain the legacy INVOICE_ID, which was originally sent to Cloud from legacy using a Descriptive Flex Field Attribute. This will help as a link across the custom tables designed for the reconciliation process.

B. Identify the Interface Errors

During the data conversion process, due to multiple factors there can be a low percentage of failures while importing the legacy invoices to Oracle Cloud. Although this number can be low, it is vital in the overall framework of the reconciliation process. In the ideal scenario, the final variance obtained between the legacy system's Payables Trial Balance and Oracle Cloud Payables Trial Balance should be equal to the balance obtained from the Interface errors.

C. Store the Oracle EBS (Legacy) Payables Trial Balance

Generate the Oracle EBS Payables Trial Balance from the R12 instance where the invoices are extracted for the data migration. In general the data conversion process is performed after completing the month-end process. For example if the data is being migrated to 1-Jan-2021, the invoices data that will be extracted are those that are open as of 31-Dec-2020. The Payables Trial Balance will be generated as of 31-Dec-2020. This data will be programmatically inserted into the custom table XX_AP_R12_APTB_STG. This table will be used in the next steps of the reconciliation process discussed in the following sub sections.

D. Identify the Invoices on Hold in Legacy

The Payables Trial Balance data loaded in the table XX_AP_R12_APTB_STG will be inclusive of invoices on Hold. The invoices on hold will not be considered for conversion, hence it is essential to exclude these invoices on Hold from the Payables Trial Balance data in XX_AP_R12_APTB_STG. To facilitate this process all the invoices on Hold will be extracted and stored in the table XX_AP_HOLD_INV_R12_STG.

E. Identify the Cancelled Invoices in Legacy

The Payables Trial Balance data loaded in the table XX_AP_R12_APTB_STG will be inclusive 'Cancelled' invoices. The 'Cancelled' invoices will not be considered for conversion, hence it is critical to eliminate the 'Cancelled' invoices from the Payables Trial Balance data in XX_AP_R12_APTB_STG. To support this elimination all the 'Cancelled' invoices will be extracted and stored in the table XX_AP_CANCELLED_INV_R12_STG.

```
# In Cloud TB and Not In R12 TB
-------------------------------
SELECT <<...select all the required columns - invoice_number, vendor_number,
    vendor_site, invoice_amount,
    functional_amount, invoice_date, liability_account....>>,
         'In Cloud TB' R12TB_TO_CLOUD_TB_RECON_STATUS
FROM XX_AP_CLOUD_TB_STG  CLOUD_TB
WHERE     1 = 1
AND CLOUD_TB.INVOICE_ID NOT IN ( SELECT INVOICE_ID FROM XX_AP_R12_APTB_STG
                                 WHERE 1=1
                                 AND INVOICE_ID NOT IN (SELECT INVOICE_ID FROM XX_AP_HOLD_APTB_STG)
                                 AND INVOICE_ID NOT IN (SELECT INVOICE_ID FROM XX_AP_CANCEL_APTB_STG)
                               );
```

Fig. 5. *Code snippet for retrieving the Invoices present in Cloud AP TB and not in R12 AP TB.*

F. Compare Each Records in Cloud AP TB Table to Oracle EBS Payables Trial Balance

At this point the data preparations steps are complete. Fig. 1. represents the process flow of executing the reconciliation process. Using the INVOICE_ID as a link across the custom tables discussed in the above sub sections each record in the Cloud Trial Balance table XX_AP_CLOUD_TB_STG is compared to each record in the XX_AP_R12_APTB_STG by excluding the invoices on Hold (XX_AP_HOLD_INV_R12_STG) and Cancelled invoices (XX_AP_CANCELLED_INV_R12_STG). Fig. 2. shows the code snippet for getting the matched records. Fig. 5. shows the code snippet for find the list of invoices in the Cloud Trial Balance table XX_AP_CLOUD_TB_STG and not present in the Payables Trial Balance tables XX_AP_R12_APTB_STG. Ideally this comparison should not return any records.

G. Compare Each Records in Oracle EBS Payables Trial Balance to Cloud AP TB Table

To get the variance of data present in the Oracle EBS Payables Trial Balance and not present in the Cloud Trial Balance, each record in the table XX_AP_R12_APTB_STG is compared to   XX_AP_CLOUD_TB_STG after excluding the invoices on Hold and Cancelled invoices from XX_AP_R12_APTB_STG. Fig. 2. shows the code snippet for getting the matched records. Fig. 4. shows the code snippet to find the list of invoices in the Payables Trial Balance tables XX_AP_R12_APTB_STG and not in the Cloud Trial Balance table XX_AP_CLOUD_TB_STG. In the ideal scenario this process should not return any records. Fig. 3. shows the overall flow of this Payables Trial Balance to the Cloud Trial Balance reconciliation process.

H. Resolve the Variances

This will be the last step in the reconciliation process. The variances if any obtained from sub section [F] and [G] will need to be further analyzed to find the root cause. For the variance discussed in sub section [G], this balance should match to the value of invoices stuck in interface with errors, this will have to be later fixed by the technical team to import those invoices. Alternatively if there are any variance from the steps performed in the sub section [F], then the business team need to analyze those transactions to identify why they are missing from the Payables Trial Balance report.

IMPACT

Automating the reconciliation of Oracle Cloud Payables Trial Balance with Oracle E-Business Suite Payables Trial Balance during data migration projects has critical impacts on both the efficiency and accuracy of the migration process. By eliminating manual efforts, automation drastically reduces the time required to reconcile large volumes of data, allowing organizations to accelerate their migration timelines. It also minimizes the risk of human errors, ensuring that all eligible invoices are correctly identified and reconciled, even those that encountered errors during the cloud conversion process. This leads to more reliable financial data, reduces the likelihood of post-migration discrepancies, and ultimately supports a smoother and more successful transition to Oracle Fusion Cloud ERP.

SCOPE

The process of implementing the auto reconciliation process for the Payables Invoices data migration between the Payables Trial Balance and the Cloud AP Trial Balance is in the scope of this article. This article focuses solely on the advantages and the solution approach to successfully reconcile at a faster pace eliminating the need for manual efforts.

CONCLUSION

Automating the reconciliation of Oracle Cloud Payables Trial Balance with Oracle E-Business Suite Payables Trial Balance during data migration projects offers a transformative solution to a traditionally labor-intensive process. By implementing automation, organizations can dramatically improve the speed and accuracy of their reconciliation efforts, ensuring that all eligible payables invoices are properly migrated. This eliminates the need for manual data comparison, reducing human error and freeing up valuable resources for other critical tasks within the migration project. Automation, therefore, becomes a vital tool in achieving a smooth, efficient, and error-free migration from Oracle E-Business Suite to Oracle Fusion Cloud ERP.

One of the key benefits of automating the reconciliation process is the reduction in time and effort required to complete the task. Manual reconciliation is often slow and painstaking, especially when dealing with large volumes of data. Automation not only accelerates the process but also enables finance teams to reconcile payables data in real time, providing immediate visibility into any discrepancies between the Oracle Cloud and E-Business Suite trial balances. This rapid feedback loop allows organizations to address issues swiftly, preventing delays and ensuring that the migration project stays on track.

Moreover, automation helps to mitigate the risk of errors that are common in manual processes. The complexity of reconciling invoices, especially those that encountered errors during the cloud interface conversion, can lead to mistakes that compromise the integrity of financial data. Automated systems can handle these complexities with precision, automatically identifying and addressing discrepancies without the risk of human oversight. This level of

accuracy is critical in maintaining the integrity of payables data, particularly during large-scale migrations where even small errors can have significant financial implications.

Additionally, automating the reconciliation process enhances scalability, making it easier to manage migrations involving large datasets. For large organizations their financial operations are more complex, the ability to automate trial balance reconciliation ensures that migration projects can scale without compromising efficiency or accuracy. This scalability is particularly important for large enterprises with extensive payables records, where manual processes would be unsustainable. Automation allows organizations to handle increasing volumes of data with ease, ensuring that their migration projects can keep pace with business growth.

In conclusion, automating the Oracle Cloud Payables Trial Balance to Oracle E-Business Suite Payables Trial Balance reconciliation process is an essential step for organizations undergoing data migration projects. It not only streamlines the process and reduces manual effort but also improves accuracy, scalability, and speed. By eliminating the bottlenecks associated with manual reconciliation, organizations can ensure a smoother transition to Oracle Fusion Cloud ERP, allowing them to focus on leveraging their new cloud platform to drive operational efficiency and growth.

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