Collection Essbase Integration Service

Metrics Calculation

Applications Release: Fusion V2.0

Author: Tony Wang

Creation Date: 24-Sep-12

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Functional Solution Approach Document(s):

Product Development Area:

Detailed Business Process:

Document Version: 1.0

Status: IN DRAFT | IN REVIEW | APPROVED

File URL: http://files.oraclecorp.com/…

Template Version: 2.0

1. **Applications Release**: Applications Release should be one of the following: Fusion V1, Fusion V1.1, Fusion V1.2, Fusion 2.0, Future, Other
2. **Creation Date**: The Creation Date and Last Updated dates are field codes. To update the dates (and all other field codes in this document), press CTRL-A followed by F9.
3. **Functional Solution Approach Document (s)**: Functional Solution Approach Document(s) should contain the name of the prerequisite FSA(s) for this document.
4. **Product Development Area**: Product Development Area is defined as a logical grouping of components within a product. Examples are Invoice, Payments, Purchase Orders, and Requisitions.
5. **Detailed Business Process**: Select the Detailed Business Process that is impacted by this document.
6. **Document Version**: Use A, A.1, A.2, B, C, etc for draft versions. Start published versions with 1.0. The version is incremented every time a change is published for the document. Only the digit after the decimal point is incremented: when you reach 1.9, continue to 1.10, 1.11, etc. There is no implied meaning to the version numbers.
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19. Ctrl-Shift-2 Heading 2
20. Crtl-Shift-3 Heading 3
21. Ctrl-Shift-4 Heading 4
22. Ctrl-Shift-5 Heading 5
23. Ctrl-Shift-N Body Text (N = Normal)
24. Ctrl-Shift-B Bullet (use this for Oracle standard bullets)
25. Ctrl-Shift-L Number List
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# Document Control

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## Change Record

1. The first change record should indicate that the document has been published for review. Keep track of all the changes made to the TSA after it has been published for review

| Date | Email | Version | Change Reference |
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|  |  |  |  |
| 24-Sep-12 | Tony Wang | 1.0 | First draft |
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## Contributors

1. Identify all contributors to the TSA. You can include details about each person’s contribution in the Content field.

| Email | Role | Content |
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## Document References

1. Include all references to documents that served as inputs into the TSA, or that are related to this TSA in the Document References table. For example, if the TSA refers to a Functional Solution Approach document, include the URL to this document here.

| Document Title | Author | Location | Comments |
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# Reviews and Approvals

1. **Every Technical Solution Approach must be approved by a minimum set of approver roles. These roles are pre-seeded and high-lighted into the template and cannot be modified.**

## Reviewers

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## Mandatory Approvers

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## Additional Approvers

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1. To update this table of contents, click on it and press F9.
2. To jump directly to a page, CTRL + click on the page number.

# Abstract

There is three metrics will be introduced into Essbase application, this document describe how we implement them.

1. Provide a brief abstract statement of your technical solution approach. The abstract should be a fully self-contained description of your design document, and in most cases would include the following:  
   1) Motivation (*Why do we care about the problem and the results?*)  
   2) Problem Statement *(What problem are you trying to solve?)*  
   3) Approach *(How did you go about solving or making progress on the problem?)*  
   4) Results *(What's the answer?)*  
   5) Conclusions *(What are the implications of your answer?)*  
   Each of the above is typically a single sentence, or may be merged in a set of sentences.

# Introduction

## Scope

1. Enter a short description of the technical solution approach and its scope.
2. An ERP system has many business processes that require importing financial data from external systems. Two examples are bank statements in Cash Management and payment acknowledgements in Payments. To support multiple trading partners (i.e. banking institutions or payment processors), the ERP system must be flexible to handle different forms of protocol and formats. The scope of this feature is to develop a scalable and flexible framework in order to process inbound financial messages in a consistent unified manner.
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**This document describes how we implement following three metrics:**

1. **Average Days Late**
2. **Weighted Average Days Paid**
3. **Weighted Average Days Late**

## Technology

1. Describe the technology stack that you will be using, including any 3rd party integration.
2. The framework will be built in Fusion using ADF, ESS and BI Publisher for the transformation of acknowledgement payment messages.
3. The framework will be built in Fusion using ADF, ESS and BI Publisher for the transformation of acknowledgement payment messages.
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The feature will be built in Fusion using PL/SQL, Essbase Cube, ADF and ESS.

## Design Assumptions

1. Describe any assumptions within your design.

## Design Constraints

1. Describe any factors that constrain or restrict the technical solution.

# Solution Approach

## Overview

We need to implement these metrics in Essbase Cube:

|  |  |
| --- | --- |
| **Metric** | **Description** |
| **Average Days Late** | **Average Days Late is calculated as sum (days late) / number of items.**  **Days late is calculated as the number of days between the due date and the accounting date of the entry that closed the item.** |
| **Weighted Average Days Paid** | **Weighted Average Days Paid (WAP) is the number of days a customer takes to make payments.**  **The average is weighted by the payment amount and assumes that a $10000 payment is more significant than $100. WAP is calculated by adding Weighted Average Terms and Weighted Average Days Late.** |
| **Weighted Average Days Late** | **Average number of days a payment was late.**  **Calculation: sum (item amount \* days late) / sum (item amount). The item amount is the payment amount. Days late is the number of days between the due date and the accounting date of the payment.** |
| **Weighted Average Terms** | **Calculates the average number of days allowed for a customer before payment is due, weighted according to the item amount.** |

Currently, we have calculated and stored the (invoice amount )\* (days allowed) for each invoice in the ‘Average Term’ dimension, so the ‘Weighted Average Terms’ can be calculated as sum(Average Term of each invoice)/sum(invoice amount).

Once we get the **Weighted Average Days Late and Weighted Average Terms, then the Weighted Average Days Paid can be calculated by adding them together simply.**

The implementation of **Average Days Late and Weighted Average Days Late will be described in following sections.**

1. Describe your technical solution overview within this development area. Capture any differentiators that would make this design “stand out” and potentially patentable.

## ****Average Days Late****

For this metrics, the key point is how do we calculate the days late for each invoice, and the days late for each invoice is calculated as (GL Closed Date) – (Due Date).

Here we have two solutions:

1. We have built GL Closed Date and Due Date in the cube structure, so it can be implemented using member formula.
2. Calculate the days late during the ETL program, add a new attribute dimension of payment schedule ID to store it.

Let’s compare these two solutions:

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|  | **Solution 1** | **Solution 2** |
| **Advantage** | **No need to change the outline structure and the ETL program.**  **No need to maintain the new dimension** | **No need to calculate in each request.** |
| **Disadvantage** | **Need to calculate it at the initial point** | **Data model change required.**  **ETL program change required.**  **Cube Outline change required.**  **Need to maintain the new dimension.** |

To get the better performance, we choose the solution 2 to implement this metrics. We only provide the meta data of this metrics in the cube for third-party to retrieve, and the calculation should be implemented by consumer.

## ****Weighted Average Days Late****

Days late of the payment is calculated as (GL Date of the payment) - (Due Date of invoice).

We have the GL Date of payment in the time dimension and the Due Date of the invoice in the current cube outline, so it can be calculated using formula.

We also can calculate the Days late during the ETL program, but in this approach, we have to add a new dimension to store it and change the ETL program to including this filed in the loading process.

# Planned Technical Designs

## Planned Technical Designs

1. List planned technical design documents (TDDs) supporting this technical solution approach.

| TDD Title | Location/URL | Scope |
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1. **TDD Title**: Enter the title of the TDD.
2. **Location/URL**: (Optional) If already available, provide the URL to this TDD.
3. **Scope**: Include any comments about the scope of this technical design. The design could be related to one or more feature or project.

## Additional Information

1. Provide any additional information here.

# Open and Closed Issues

## Open Issues

1. Enter new open issues in the Open Issues table below. When an issue is closed, move the issue to the Closed Issues section. Try to preserve the original issue number when transferring issues between the Open and Closed sections.
2. Issues that will remain open after the TSA approval is suggested to become a Managed Open Issue (MOI) by following the MOI processOpen Issues

| No. | Managed Open Issue # or Bug # | | Priority  (H= High; M=Medium; L=Low) | Raised By | Date Raised | Owner | Target Date | |
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## Closed Issues

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# Appendix: <Appendix Name>

1. Use this section as needed. Examples of appendices used may include examples illustrating how a particular TSA design will impact existing technology, or how a particular Service should be used.

# Template Version Log

## Version Log

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| --- | --- | --- |
| **Version** | **Date** | **Summary of Change (what & impact)** |
| 1.5 | 25-Jul-2007 | Baseline. No content change from prior version. (1.4 published July 5, 2007) |
| 1.6 | 16-Jan-2008 | Added new section for UI design and task flows. |
| 1.62 | 18-Feb-2008 | Added more information in unbounded task flow section per TA feedback. |
| 1.63 | 31-Mar-2008 | Updated Section 8 (Open and Closed Issues) per new MOI process. |
| 1.64 | 16-Jun-2008 | Removed Performance Team and Data Model Team from the approval list of the TSA. Performance Team now only approves PSR specs. |
| 2.0 | 09-Apr-2010 | Re-vamped based on feedback from post Fusion V1 development process assessment.  Dependencies and Impacts section removed – this section is replaced by the Dependency Tracking System. |
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