
Customer Billing using Oracle Projects with Oracle Receivables

G. R. Kinra, C.P.A.

Electronic Data Systems Corporation

Synopsis

This paper addresses Customer Billing for “contract” projects, using Oracle Projects with Oracle Receivables. It includes a review of the interface between Oracle Projects and Oracle Receivables, a discussion of the accounting treatment for revenue and receivable accounts, and relevant Oracle Projects and Receivables setup options.

Introduction

Oracle Receivables functionality includes the ability to create customer invoices, receive payments against outstanding receivables, track and report on aging of receivables, and to record collections activity including customer calls and follow-up activities for unpaid invoices.

Oracle Projects extends this functionality by providing a project management capability, including the ability to track the tasks required to complete a project, and to accumulate charges for the resources used to perform these tasks.

In order to bill the charges for a project it is necessary to complete certain setup requirements within Oracle Projects and Receivables, and to subsequently follow a carefully constructed sequence of operations to transfer a summary of the charges for a project from Oracle Projects into Oracle Receivables.

It is important to note that this transfer of costs and expenditures from Oracle Projects to Oracle Receivables can only be performed for “contract” projects. In its native form, Oracle Projects does not support the creation of “hybrid” capital/contract projects. Manual procedures must be developed in order to capitalize a portion of the expenses for a “capital” project, and to bill certain other expenses for the same project. Customizations and extensions to Oracle Projects can also be developed to provide this functionality. These customizations are beyond the scope of this paper.

Oracle Projects Invoice Flow

Before a “contract” project can be billed using Oracle Receivables, the following sequence of operations must be completed within Oracle Projects:

Step-1: Create a “contract” project and identify the customer for this project.

Create a “task” breakdown structure for the project. Identify the “project manager” for this project. Customer data is shared between Oracle Projects and Receivables. In order to bill a customer for a project the customer must have a “Bill To” address. It is also desirable to specify a “contact” for the “Bill To” address, and to specify a “Ship To” address for the Customer.

Step-2: Create a “funding agreement” with the customer and “fund” the project.

If there is a previous funding agreement with the same customer, it may be used to fund more than one project. It will be necessary to specify whether “hard limits” will be imposed on the agreement for revenue accrual and billing. If a hard limit is used it will not be possible to accrue revenue or to bill past the funded amount.

Step-3: Create an “approved revenue budget” for the project.

The budget must be prepared at the same level at which the project has been funded. If the project has been funded at the “task” level then the budget must also be prepared at this level. If the project has been funded at the “project” level, then the budget should not reference any “tasks”, even though it may be possible to do so.

Step-4: “Submit”, and “baseline” the budget against the project funding.

Baselining the budget ensures that the revenue budget equals the project funding.

In certain situations, steps 1-4 may be automated using a special process called “Quick

Agreement/Funding”. For example, when there is a fixed dollar amount for the funding agreement and revenue budget, and when there is a single primary customer for the project.

Quick Agreement/Funding projects are created using a project template that is linked to a template customer. There is an agreement template for this customer, and an “Approved Revenue Budget” which has been baselined against this agreement. When an actual project is created using the template project, the template customer is substituted for a real customer and funding agreements and baselined revenue budgets are created automatically.

Step-5: Review charges to be billed. Generate revenue for expenditure items.

Review all “billable” tasks for the projects for which invoices need to be prepared, and the expenditures associated with these project tasks. Each task has a “billable” field specification which can be used to control the selection of billable charges.

Expenditures may be created automatically against a project task when feeder systems (such as Oracle Materials, Oracle Payables etc.) input their charges against specified project tasks within Oracle Projects. It is necessary to generate revenue for expenditure items if the project uses a billing method that is based on “as work occurs”. This may be performed by running the process “PRC: Generate Draft Revenue for a Single Project”, or “PRC: Generate Draft Revenue for a Range of Projects”.

Step-6: Prepare a draft invoice for the project.

A draft invoice may be created by running the process “PRC: Generate Draft Invoices for a Single Project”, or “PRC: Generate Draft Invoices for a Range of Projects”.

When running the process “PRC: Generate Draft Invoices for a Range of Projects” the projects that are selected are based on a set of pre-defined criteria. This may preclude generation of a draft invoice for projects that do not meet these criteria. These criteria are not employed when running the process “PRC: Generate Draft Invoices for a Single Project”

Step-7: Approve the draft invoice.

Projects that have been approved are “frozen” and must be billed. An approved draft invoice cannot be changed or deleted. It may be adjusted through the creation of credit invoice transactions against it.

Canceling an approved invoice causes the creation of a credit memo for the entire amount of the invoice.

Step-8: Release the draft invoice.

This makes the draft invoice eligible for interface from Projects to Receivables.

Step-9: Transfer draft invoices from Oracle Projects to Oracle Receivables

Extract the released draft invoices from Oracle Projects using the process “PRC: Interface Invoices to Receivables”. This creates an intermediate interface file of the exported draft invoices that must subsequently be imported into Oracle Receivables using the Receivables “AutoInvoice Master Program”.

When an invoice is imported successfully into Oracle Receivables it contains a transaction flexfield that identifies the project being billed.

Step-10: Tieback the transferred draft invoices within Oracle Projects.

Tieback the transferred draft invoices within Oracle Projects by running the process “PRC: Tieback Invoices from Receivables”. This process marks the draft invoices in Oracle Projects as being either “rejected” or “accepted” during the attempt to import the invoices into Oracle Receivables. Data within the interface file that has not been processed successfully is removed.

Steps 9-10 may be combined by running the process “PRC: Submit Interface Streamline Processes”, with the streamline option “XI: Interface Draft Invoice to AR”. This is the preferred approach for interfacing draft invoices from Oracle Projects to Receivables. Although the “Streamline” process is rumored to be less error-prone than running the interface, AutoInvoice, and tieback processes separately, there do not appear to be any documented instances where the results obtained using one approach differ from the other.

One benefit of the separate process approach is that it provides more control in selecting the projects for which draft invoices are to be transferred from Oracle Projects to Oracle Receivables. In contrast, the “Streamline” approach ports all draft invoices that have been approved and released for processing, including any previously rejected draft invoices that are still awaiting correction. These draft invoices will

simply make another iteration through the interface processes without any adverse impact.

Oracle Receivables Invoice Flow

Draft invoices that are imported successfully into Oracle Receivables, will be placed into a “complete” status by the AutoInvoice import program. These invoices are ready for review, and for billing to the customer. Any changes to the generated invoices require setting the invoice into an “incomplete” status. It is now possible to make any changes that are desired. These changes will not be reflected within Oracle Projects, and this is not a recommended practice.

After a customer billing has been performed, the normal flow will consist of applying the receipt of payments to outstanding invoices, tracking uncollected invoices, and running the Receivables interface to General Ledger.

Receivables Invoice FlexField Data

Each Receivables invoice that has been imported from Oracle Projects includes information about the project within certain invoice transaction flexfields, and this can be used as a cross-reference to the information within Oracle Projects. There is no automated cross-reference between Oracle Receivables and Oracle Projects.

If automatic invoice numbering is in effect, the invoice number within Oracle Receivables will not be the same as the draft invoice number within Oracle Projects. The invoice “reference” field will contain the project number. In addition, each Receivables invoice contains a “transaction” flexfield that includes the following information: Batch Source Context Value (PA INVOICES), Project Number, Draft Invoice Number, Agreement Number, Project Organization, and Project Manager.

In addition, each line item within the Receivables invoice will contain each of these fields within a line transaction flexfield. If this information is not needed it can be suppressed from display by making the necessary change and re-compiling the descriptive flexfield. Do not disable or remove any one of these flexfield segments from the invoice record itself.

Oracle Projects Draft Invoice Status

The status of a draft invoice within Oracle Projects determines its eligibility for selection when running the “PRC: Interface Invoices to Receivables”.

Un-approved

After a draft invoice has been created it is initially placed in an Un-approved status, and may be deleted if needed. A change to the dollar amounts of billing events, followed by regeneration of the draft invoice automatically replaces the draft invoice with the updated values.

Approved

Once a draft invoice has been approved it is “frozen” and cannot be changed or deleted. The billing events that have been included in the preparation of this draft invoice are tagged as “billed”. These events cannot be altered, and will not be included if a new draft invoice is requested for this project.

Released

A released draft invoice is eligible for transfer from Oracle Projects to Oracle Receivables.

Transferred

A draft invoice that has been placed within the intermediate interface file awaiting the import into Oracle Receivables is conferred the “transferred” status. Running the tieback process without running AutoInvoice at this point will remove the draft invoice from the interface file and place it in a “released” status.

Rejected

A “rejected” draft invoice is one that has not been interfaced successfully into Oracle Receivables after attempting to run the AutoInvoice process. It is still treated as an “approved” draft invoice based on its earlier approval, and still cannot be changed, updated, or deleted.

The Receivables “AutoInvoice Master Program” updates the contents of the Interface tables, and AutoInvoice cannot be re-run without completely refreshing the data within the interface tables. If the Receivables “AutoInvoice Master Program” fails to import a draft invoice successfully into the Receivables system, it is essential to run the tieback process, resolve the cause of the errors, and re-run the

Invoice Interface from Oracle Projects to Oracle Receivables.

The Receivables “AutoInvoice Purge Program” only deletes data that has been validated and transferred successfully into Oracle Receivables. In order to remove data associated with the rejected transactions from the interface tables it is necessary to run the tieback process within Oracle Projects. This removes any invoices that have not been transferred successfully into Receivables from the interface tables, and resets the status of the draft invoices to “rejected” within Oracle Projects.

Rejected draft invoices may be re-transferred to the interface tables by running the “PRC: Interface Invoices to Receivables”. It is necessary to resolve the errors that caused the draft invoice to fail before it will interface successfully with Oracle Receivables. “Canceling” a rejected draft invoice creates a credit memo transaction that reverses the original draft invoice. Billable charges that were included on the original invoice are now marked as un-billed so that they may be included on a new draft invoice.

Accepted

Draft Invoices that have been accepted into Oracle Receivables following the “AutoInvoice Master Program” import are placed in an “accepted” status following the execution of the tieback process.

Financial Accounting Flow

Revenue journal entry

The expenditures recorded within Oracle Projects for a given project/task represent revenue to the enterprise. The journal entry to record an expenditure results in a credit to the Revenue account, and a debit to either Un-billed Receivable account, or the Un-earned Revenue account. The determination of whether to debit the Un-billed Receivables account, and/or the Un-earned Revenue account depends on whether revenue accrual precedes or follows invoicing. If revenue accrual follows invoicing then the debit will be to Un-earned Revenue. However, if revenue accrual precedes invoicing then the debit is to the Un-billed Receivable account. The journal entry that is created to record an expenditure of 1000\$ is shown below.

Draft Invoice Revenue JE	Debit	Credit
Un-billed Receivable, and/or Un Earned Revenue	1000	
➤ Revenue		1000

The timing of this revenue recognition is based on the revenue distribution rule selected for the project (examples include Cost/Cost, Work/Work, Event/Event, or some other hybrid combination, such as Work/Event). The amount of revenue recognized can include a certain mark-up percentage over and above the actual expenditure. The information related to this journal entry is transferred from Oracle Projects to Oracle General Ledger when running the Revenue Interface to Oracle General Ledger.

Receivable journal entry

A related journal entry is the entry to record the transfer of charges from an Un-billed Receivable account to a Receivable account, as shown below.

Invoice Receivable JE	Debit	Credit
Receivable	1000	
➤ Un-billed Receivable, and/or Unearned Revenue		1000

In a manner similar to the Revenue journal entry, the information related to this Receivable journal entry is transferred from Oracle Projects to Oracle Receivables when running the Invoice Interface to Oracle Receivables. This entry will subsequently be transferred to the Oracle General Ledger when running the General Ledger Interface from Oracle Receivables.

Invoice Payment Receipt journal entry

The Receivable account is credited following the receipt of cash from the customer for an outstanding invoice. This entry is made within the Oracle Receivables system, as shown below.

Payment on Invoice JE	Debit	Credit
Cash Receipts	1000	
➤ Receivable		1000

This entry will subsequently be transferred to the Oracle General Ledger when running the General Ledger Interface from Oracle Receivables.

Setup Requirements in Oracle Projects and Oracle Receivables

Centralized vs. Decentralized Billing

The first decision that one faces in performing the setup for billing within Oracle Projects is whether to use centralized or decentralized billing.

Centralized billing refers to a situation where all the invoices that are interfaced from Oracle Projects to Oracle Receivables are to be imported with the pre-defined transaction type "PA Invoice". To perform centralized billing the value of the "Invoice Processing Organization Level" in the system setup implementation options for billing must be left blank. It may be necessary to directly edit the Oracle database tables in order to input a blank value into this field. The presence of any value in this field other than a blank implies that decentralized billing is to be performed.

Decentralized Billing provides a set of transaction types for invoices and credit memo's for each invoice processing organization within the organization hierarchy. Each project within Oracle Projects is associated with a project managing organization, that is selected from one of the leaf level organizations within the organization hierarchy. A typical organization hierarchy is structured into a defined hierarchy of levels. With decentralized billing one must specify the desired "Invoice Processing Organization Level" in the system setup implementation options for billing. When invoices are interfaced from Oracle Projects to Receivables they are imported with a transaction type that is set to the "Organization Name" of the invoice processing organization for the project. This organization is the parent organization at the invoice processing organization level for the project's managing organization.

Batch Source

The system setup implementation options for billing provide a critical specification value for the "Batch Source" that will be used to interface the desired invoices from Oracle Projects into Oracle Receivables. The default value for the batch source is "PA INVOICES". The definition of this batch source is provided within the seed data within the Oracle Receivables transactions setup. The PA INVOICES default batch source identifies "PA Invoice" as the Standard Transaction Type.

A change to the default batch source of PA INVOICES is not permitted when using centralized billing. A change to the default value is strongly discouraged for decentralized billing since it involves several related setup changes within Projects and Receivables, including the specifications of context sensitive flexfield definitions for the Receivables "Invoice Transaction", and the "Invoice Line Transaction" descriptive flexfields.

Automatic invoice numbering for PA INVOICES may be turned off since invoice numbers are assigned from Project Billing.

The "AutoInvoice" options settings for PA INVOICES must specify the grouping rule "PA GROUPING RULE" which references the line ordering rule "PA LINE ORDER". The grouping rule determines how Projects invoice lines are to be grouped during the creation of a Receivables invoice line. Line Ordering rules determine how to order Projects invoice lines when applying a grouping rule. Do not change the grouping and line ordering settings from the values provided by Oracle.

AutoAccounting:

The AutoAccounting setup for Oracle Projects is critical to the implementation since it determines which accounting codes are used to charge revenue, receivable, and the un-billed receivable accounts. AutoAccounting comprises the creation of rules for the assignment of segment values within the Chart of Accounts (COA) structure, and the subsequent assignment of these rules to the segments within the COA structure. The AutoAccounting treatment in Oracle Projects overrides the specifications in Oracle Receivables for all transactions that originate in Oracle Projects and are interfaced into Oracle Receivables.

The simplest type of AutoAccounting rule specifies a constant value, that can be assigned to a segment in the COA structure.

Look-up sets can be established to map the value of a selected project field to a desired value for a selected segment within the COA structure. For example, if one of the segments within the COA structure is "location", then it may be possible to map the project managing organization value to a desired location code. This mapping may be referenced in a rule, and the rule may be assigned to the AutoAccounting treatment for a selected segment in the COA structure.

Among the most robust rule specifications are those that determine the value to be assigned to a segment in the COA structure based on an SQL statement. For example, this type of rule could be used to set the value for a segment in the COA structure based on the value of a given flexfield for the project.

Create Invoice Organization Transaction Types within Oracle Receivables.

If decentralized billing is to be used, it will be necessary to run the process “IMP: Create Invoice Organization Transaction Types” from Oracle Projects to create transaction types within Oracle Receivables for each invoice organization within the organization hierarchy. Before running this process please ensure that a standard transaction type has been defined for the Receivables Batch Source identified in the Project Billing Setup System Implementation Options.

The Receivables Batch Source “PA INVOICES” has a Standard Transaction Type of “PA Invoice”. The Project Billing system setup should identify “PA INVOICES” as the “Invoice Batch Source” and specify a desired “Start Organization” and “Invoice Processing Level”. Running the job “IMP: Create Invoice Organization Transaction Types” from Oracle Projects will create an invoice and a credit memo transaction type within Oracle Receivables for each organization at the specified invoice processing level within the Organization Hierarchy, up to and including the “Start Organization”.

The output from the job provides a summary of update statistics and a typical Oracle job completion message. Examine the counts in the report and ensure that the expected number of updates were performed. It is probably a good idea to sign on to Oracle Receivables and query the system to determine if the expected transaction types have been created.

AutoAccounting specifications for the transaction types created will be based on the AutoAccounting specifications for the “Standard Transaction Type” for the Batch Source. However, the AutoAccounting for all Receivables invoices that originate from Oracle Projects is determined by the AutoAccounting setup in Oracle Projects, not the AutoAccounting setup in Oracle Receivables.

Budget Control

In order to permit the creation of a revenue budget for a project, the “budget control” for the “project type”

must permit the creation of a “revenue budget” within the Oracle Projects setup. This specification designates a “budget entry method” such as “Budget by Project” for the selected project type.

Lessons Learned:

The following points highlight some key areas within Oracle Receivables and Oracle Projects. These observations are based on experience using the GUI version of these products during a “big-bang” implementation project of the Oracle Financials and Materials applications suite.

- ◆ Setting up the organization hierarchy for the implementation, establishing the invoice processing organization, and creating organization transaction types within Oracle Receivables requires a substantial investment of time and energy during the implementation. Use the Project Billing DEMO database provided by Oracle as an immediate test area to review the implications of making certain setup selections.
- ◆ All AutoAccounting values for “Revenue and Invoice accounts” should be defined before attempting to push a draft invoice from Oracle Projects to Oracle Receivables.
- ◆ It will not be possible to use Quick Agreement/Funding for invoices related to damage claims, if the customer to be invoiced is not known at the time when a contract project must be created.
- ◆ There is no interface going from Oracle Receivables back to Oracle Projects. It is not possible to determine which projects have been paid based solely on the information within Oracle Projects. It is necessary to refer to Oracle Receivables for all information pertaining to payment of outstanding invoices.
- ◆ Oracle Projects is not a “financial” application, and the product makes no provision to track the charges that are being accumulated within Oracle Projects based on G/L account number. If it is necessary to use the information in Projects as a subsidiary ledger for the General Ledger, then balancing requirements between the General Ledger and Oracle Projects may require customizations and extensions to Oracle Projects.

- ◆ Credit memos that are created directly in Oracle Receivables for Oracle Projects invoices will not be reflected within Oracle Projects.
- ◆ Customization of Oracle Projects and/or Receivables using descriptive flexfields implies that any reporting requirements against the custom flexfields will need to be processed using custom reports.
- ◆ In order to meet customer billing requirements, it may be necessary to customize the standard landscape format invoice generated by Oracle Receivables, replacing it with a more traditional portrait format. If the project start date or project description must be printed on the invoice, then this information may be obtained by accessing the project for a given invoice using the information in the interface header attribute fields for the invoice.
- ◆ Performance using the GUI client-server version of Oracle Projects and Receivables leaves a little to be desired. Load times of forms such as the Receivables Transactions form consistently exceeded 10-15 seconds. Access to data varies, and depends on the information being retrieved. It is probably not wise to make routine requests for information using non-indexed retrievals.

About the Author

Mr. G. R. Kinra, C.P.A is an Enterprise Systems Consultant within the Oracle Practice at Electronic Data Systems Corporation, with expertise in the implementation of three-tier client-server application systems.