



# High Volumes at High Velocity



Oracle ERP Cloud scales to process  
millions of transactions every minute

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## INTRODUCTION

Oracle has conducted controlled tests designed to measure the scalability of Oracle ERP Cloud against high-volume business activities. The tests demonstrated that Oracle's SaaS cloud exceeded expected processing capabilities for very large volumes of transactions and easily surpassed scalability expectations.

**Bottom line:** The tests demonstrated that Oracle ERP Cloud scale to process millions of transactions for key business flows in just a few minutes.

## What is Cloud Scalability?

Cloud scalability for SaaS applications is defined as how well the underlying infrastructure handles transaction volumes, including periodic surges in business activities. Scalability is important because most organizations require fast processing of their data to promote operational efficiency and timely insight.

## HEAVY TRAFFIC

### Multipliers Create Millions of Additional Transactions

Financial transactions are usually not singular activities. Rather, a single transaction is only a step in the lifecycle of a particular business flow and usually leads to several additional transactions. **In fact, a single initial transaction can lead to 20-50 additional transactions<sup>1</sup>.**

These “transaction multipliers” drive up the volume of financial transactions at increasingly higher velocities, so it is important that scalability tests take multipliers into account.

Depending on an organization's business model and accounting rules – which may vary from company to company and even industry to industry – a single transactional event such as creating an invoice or sales order can result in as few as two lines or more than a thousand lines. As a result, many large enterprises generate millions of financial transactions every day.

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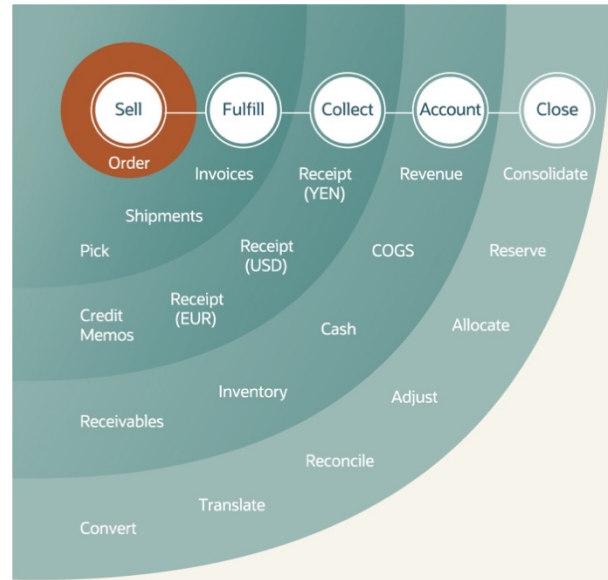
<sup>1</sup> Strategies for e-Volume, Competitive Impact of Transaction Processing in e-Business”, prepared by International Technology Group for IBM Corporation.

# Common Transaction Multipliers for a Sales Order

## Understanding Multipliers

Consider the additional transactions that result from common business activities, such as a sales order. Processing the order lines creates new transactions at each stage of the business flow.

- During fulfillment, there are several transactions to pick inventory, ship goods, and submit invoices to one or more customer sites.
- As customers process their orders, the organization receives remittances from the customers' financial institutions or may issue credit memos for errors or other adjustments.
- The organization iteratively collects subledger transaction lines to post journals. This set of transactions drives the financial accounting related to the business activities.
- Finally, during the close process, the organization creates additional transactions to determine the financial performance for a particular business period.



## MILLIONS OF TRANSACTIONS IN MINUTES

### Unparalleled Performance

Oracle modeled the Oracle ERP Cloud performance tests to simulate the real-world demands of a large enterprise for key business flows. The tests were based on three scenarios that every company encounters: processing receivables transactions, processing payables transactions, and financial accounting in the general ledger.

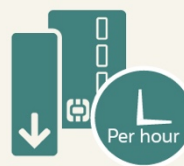
In each of these scenarios, Oracle ERP Cloud processed millions of transaction lines in just a few minutes.

#### Payables Transactions

Payables in Oracle ERP Cloud supports scalability by delivering modern optical character recognition (OCR) imaging technology and automated processing for payables transactions, including invoice validation and disbursements.

For this scalability test, Oracle modeled transaction activity from 1,000 suppliers. Test invoices included a varying number of lines – averaging 25 lines per invoice – that generated between 10 and 1,000 journal lines.

#### Processing Payables



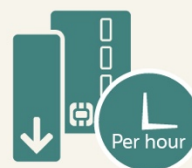
**7,000,000**  
Imported invoice lines  
**1,000,000**  
Payments created

#### Receivables Transactions

Likewise, receivables in Oracle ERP Cloud supports scalability by automating customer billing, receipt application, revenue recognition, and reconciliation to the general ledger. For example, receivables in Oracle ERP Cloud automates cash application using SmartReceipts to match receipts to invoices based upon system-generated recommendations.

For this scalability test, Oracle modeled transaction activity from 1,000 customers. Test invoices included a varying number of lines – averaging 25 lines per invoice – that generated between 10 and 1,000 journal lines.

#### Processing Receivables



**4,000,000**  
Imported invoice lines  
**200,000**  
Imported lockbox receipts  
**900,000**  
Applied receipts

## Financial Accounting

Within Oracle Financials Cloud, the general ledger supports scalability by automating subledger data collection and validation, foreign currency conversion, and posting. Further, all financial accounting balances are stored in an advanced, multidimensional data model to speed reporting and analysis.

For this scalability test, several subledger transactions were specified in foreign currencies and journal lines were posted across five separate ledgers using over 100,000 account combinations.

## Posting Journals



**363,000,000**  
Posted journals





## TEST METHOD

### Approach and Assumptions

In designing the test, Oracle selected a realistic financial structure derived from a typical large enterprise based on more than 25 years experience with ERP deployments.

The business and accounting model was designed to simulate process variability since throughput is impacted by the complexity of the accounting. Elements such as the chart of accounts structure, accounting rules, and the number of reporting currencies greatly impact the processing duration and volume of data generated within the represented financial systems.

### Business and Accounting Model for Scalability Test

	Customers	1000
	Suppliers	1000
	Ledgers	5
	Account Combinations	>100,000

### CHART OF ACCOUNTS (8 SEGMENTS)

	Values	Hierarchy Levels
Company	627	10
Lines of Business	24	2
Cost Center	57,822	13
Account	6,941	15
Sub-Account	18	2
Sales Channel	14	2
Location	12	2
External Reporting	20	2

### Additional assumptions and parameters

- Transactional events were modeled to generate a variable number of subledger journal lines ranging from 10 to 1,000 with an average of 25 lines per event
- Transactions were denominated in multiple currencies
- Testing was limited to throughput of backend batch processes
- Testing did not cover user interface performance or scalability of users
- The scalability test was performed using an Oracle ERP Cloud pod and Oracle 11g database that best simulates an ideal cloud environment for financial transactional activities.

## FROM TEST TO REALITY

### Plan Today to Support Tomorrow's Business Growth

Any large enterprise that is reviewing their ERP strategy must consider scalability. Large enterprises generate high volumes of transactions during day-to-day operations and the need for scalability will only increase as the business expands and diversifies.

Consider also the possibilities offered by a scalable ERP solution: What if operations could process customer orders more quickly? What if cash managers and payables personnel could process supplier invoices faster? What if the finance department could cut one or more days off the month-end close?

The efficiency enabled by a scalable ERP solution delivers improved insight across the business, more time to analyze results and make better decisions. Scalability also reduces the cost of running your business by improving accuracy and increasing flexibility to react to changing business conditions.

With Oracle ERP Cloud, large enterprises don't have to worry about scalability: the tests prove that Oracle handle large transaction volumes to meet the needs of your business: today and tomorrow.



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Author: Rudy Lukez

