Ottap Auto-Id Data Collection System Ver. 1.0.0

OADCS®

Commonsense Solutions for Complex Problems!

Data Collection Solution from Ottap Applications

2012

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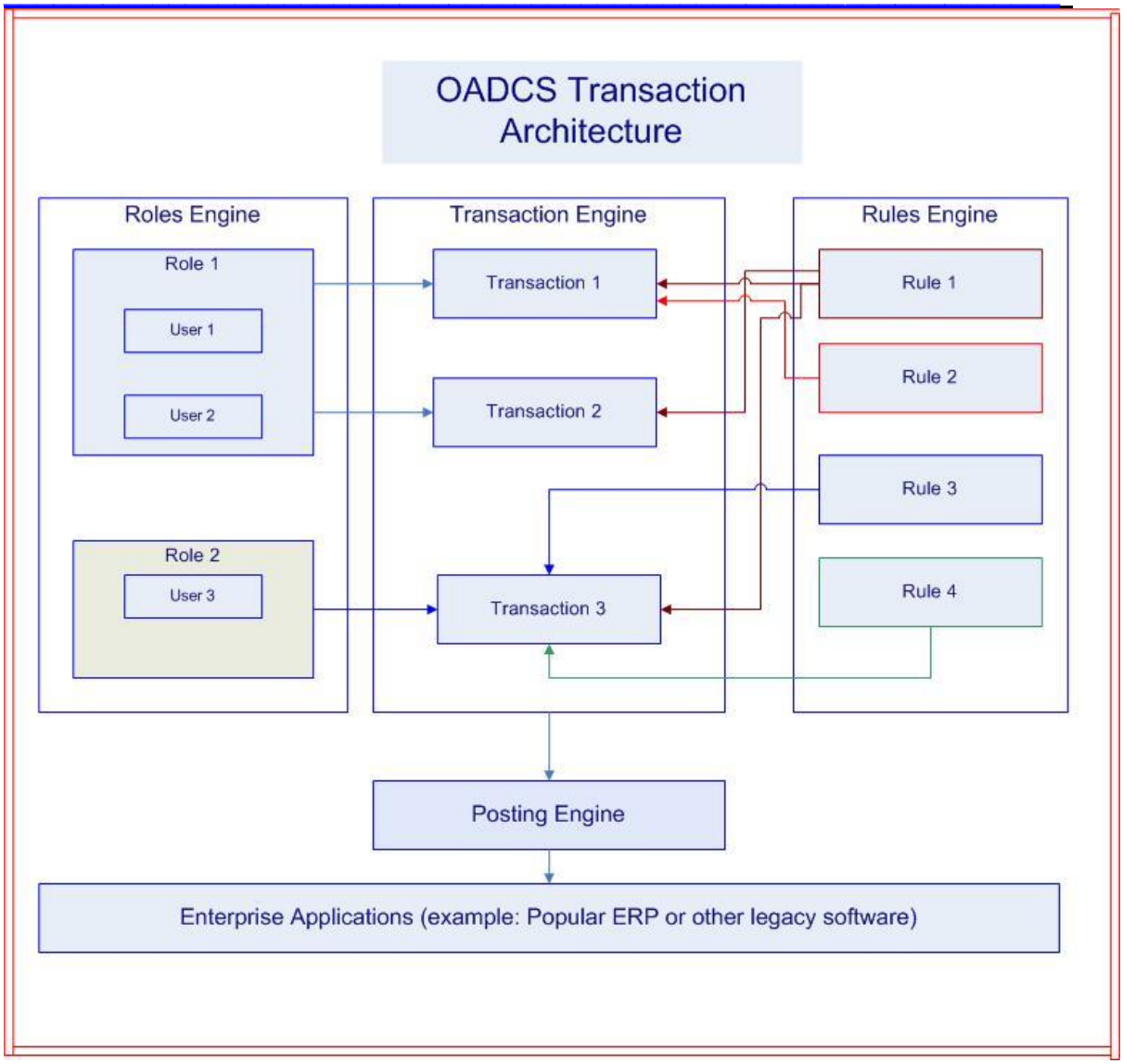

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1.0 Introduction

Ottap Auto-ID Data Collection System (OADCS®) is the result of an endeavor to create a product that is free from the perennial problems encountered by various data collection products offered by several vendors world wide.

OADCS® is a product that will enable a business analyst to easily translate a business requirement into a working data collection system to suite the requirements of the business. This tool's uniqueness lies in the fact that with this product, BAs (Business Analysts) will be able to develop most portions of a data collection transaction by themselves and leave the portion where some validation rules with SQL or SQL Procedures or other external programs may need to be built, to a programmer. BAs, in a more involved role, will be able to collaboratively develop solutions with programmers with OADCS®. That is, BAs need not totally depend on programmers for the development of the entire solution. This will greatly reduce the potential for gaps in the understanding of requirements which in turn will save lot of time, effort and of course, money during system development and make maintenance of the system much easier.

OADCS® is a product from Ottap Applications that is built by a team of professionals who have vast technical and business knowledge with a proven track record. The team's average experience in the field is over 25 years. Members of this team have first hand experience in developing software and business solutions for several clients in a wide variety of verticals around the world over the past couple of decades. The team is comprised of certified professionals in the technical arena as well as Project Management (PMP) from PMI.

The team from Ottap aims to help their clients achieve a competitive edge, reduce operational costs and improve efficiency with automatic data capture solutions built using OADCS®. We have taken extreme care to build a system that will be easy to use and at the same time have all the functionality required for your business.

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2.0 Overview of OADCS®

The Ottap Auto-ID Data Collection system has a flexible architecture to easily interface with any Enterprise business systems such as legacy systems, ERP Application systems such as BPCS 6x – ERP LX (8.3.2), Oracle Applications, SAP/R3, JDE, MapPoint, Open source ERP such as Openbravo running on any of the popular platforms such as Windows, Unix, Linux, AS/400 iseries or Mainframe systems as long as they can run Java environment. It can run using databases such as MYSQL, MS SQL Server, Oracle 8i +, DB2, PostgreSQL and any other database which can interact with a JDBC interface.

OADCS®is a tool that will enable you to quickly create a data collection system with prompts in the sequence you need and with the validation it needs to be accompanied with. It is created primarily for mobile systems (these can be used on regular terminals as well). It gives you the ability to embed SQLs or call stored procedures or external programs with parameters. Any data capture device such as hand-held scanners or touch-screens that can run a browser and connected via TCP/IP to the main server can be used. It is not necessarily dependant on any single brand of device. Unlike a typical data collection system used only in Supply Chain or logistics applications, OADCS® can be used for any suitable application as per a business requirement.

Listed below are the features currently available with OADCS®:

- It can run on any platform that can run Java, such as Windows, Linux, iseries OS/400, UNIX, cloud environments such as AWS, Azure etc.,
- It can interact with any database that can interact with JDBC such as MYSQL, PostgreSQL, Oracle, DB2 on windows or OS/400 etc.,
- It has configurable Screen prompts.
- It has configurable Validation criteria. If the customer wants to use their custom programs for validation, it can be called from within an OADCS® transaction.
- Making changes to Screen prompts or validation will be very easy.
- The software can be run from any mobile device that can be connected to a network using TCP/IP and can run a browser , typically like Windows Mobile running a mobile explorer.
- The data collection in a facility can have 24/7 availability. That is, when the back-end systems on platforms such as iseries AS/400 are down for maintenance or for some unforeseen reason, the data collection front-end can continue. The data collected during this down-time will be queued up on the server and will be posted when the back-end system becomes available.

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- If records error out during posting, they can be re-submitted for posting after making necessary corrections.
- An audit trail will be maintained for all events of the data collection. So it gives us complete traceability by user.
- Easy printing output for barcode labels and commissioning of RFID tags.
- Integrated security and user authentication.
- Easy PLC /Scale input and output through integration programs which can be developed based on the type of PLC being used at the customer site.
- Multi-lingual support based on user login. User will have to maintain the label data to implement multi-lingual support. The software comes with English as the default.?
- It has the capability to embed SQLs with ease and with parameter input/output criteria to either incorporate a validation or to update or retrieve data for display
- It has the capability to call stored procedures with parameters to either incorporate a validation or to update or retrieve data for display.
- Switching from a current data collection system will have minimum risk. That is, this product can co-exist with the customer's current data collection system during the migration process, in most cases. The switch can be gradual and can run in parallel when the old system is still in use.
- **The front-end can be interfaced with any existing back-end with ease, if the customer does not want to disturb the back-end posting adapters.** For example, if the customer intends to switch from their current data collection system, but want to retain the back-end posting adapters to the ERP or other back-end legacy systems, they will be able to use **OADCS** with their old back-end posting adapters such as iwork/IDVelocity ADC or Transitionworks or RTCIM. We will need to modify a middle-ware integration component to make it work. We can provide ready-made back-end posting adapters for BPCS 6x – ERP LX (8.3.2) For other ERP solutions such as Oracle Applications, JDE or SAP/R3, integration components can be easily built as per the client's requirement- we provide a generic integration framework for these. If you already have integration/back-end posting components for your current data collection systems, you may be able to use the same.
- A server program runs on Tomcat web server.
- If the back-end ERP system is either ERP LX or one of the older BPCS versions, we have readily available posting adapters for inventory transactions such as PO Receipts, INV500 transaction effects, Material Transfers, Order fulfillment-Order Picking/Shipping, back-flushing, cycle count and physical inventory tags. Additional transactions can be easily built.
- Similarly, external call feature makes the interface to any back-end system easy.

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- Easily incorporate SSL into the web server if the businesses obtain their certificates.
- Thorough logging of the transaction to enable roll-back or recover from disaster to minimize any loss of data.
- Since the proven Tomcat web server is used, server crash scenarios are virtually nil save for any hard-ware issues.
- Load-balancing can be easily incorporated if the customer wishes by including an additional web server.
- Since the solution is browser based, if access to the server is available on the internet, data can be collected virtually from anywhere around the globe if the device has access to the internet.
- User's imagination can extend the capability of the product to the demands of the requirements.
- If we can keep the server up 24 x 7, 24 x 7 Operation is possible.
- Since the software can easily accommodate external API calls, compatibility with multiple bar-code devices-readers and printers and RFID devices will not be a problem.
- Building bar-code applications or RFID applications is easy with **OADCS**. The external API call feature makes printing or reading bar-codes or RFID tags a breeze.
- A business analyst can build his design with the screen builder and mark the validations from where a developer can take it up to incorporate either an SQL or stored procedure or external program calls to complete the task. This can greatly reduce the requirement gaps and can make prototyping and eventual development quick and easy.
- The ability to call external programs with ease make several tasks like sending a mail or fax for a particular condition is a breeze. The user can choose to invoke the API of the email or fax software they are using. This will protect the customer's current investment on email or fax software if it can allow any external program call interfaces.
- Built-in security helps to protect the customer's system from accidental or intentional mishaps. Building systems with transactions to comply with audit requirements such as Sarbanes-Oxley will be less hassle.
- Helps to keep the core application independent of the devices and external programs used. For example, to keep bar-code or RFID devices independant of the software application, is the dream of almost all businesses.
- Helps protect the investment of the company when they decide to move to a different operating system (with Java of course!).

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- If only the back-end applications migrate to a new ERP system, the transition can be done without disturbing the front-end and only taking care of the changes required for the back-end for almost all situations.
- The tool can be used to build any new application to implement a paperless process to replace any currently implemented inefficient application.

OADCS® Server is recommended to be run on a Tomcat server on a separate server running Windows 2000, XP, 2003 or Linux and interfaces can be tied to back-end systems such as iseries AS/400 or even Windows or Linux servers. This can help the system to be up and running and available for the users even when the back-end system is down for maintenance or any other reason. The built-in components will take care to queue the transactions for posting when the back-end system is down and proceed with posting as soon as the back-end system becomes available.

Next page shows the core architecture of the product.

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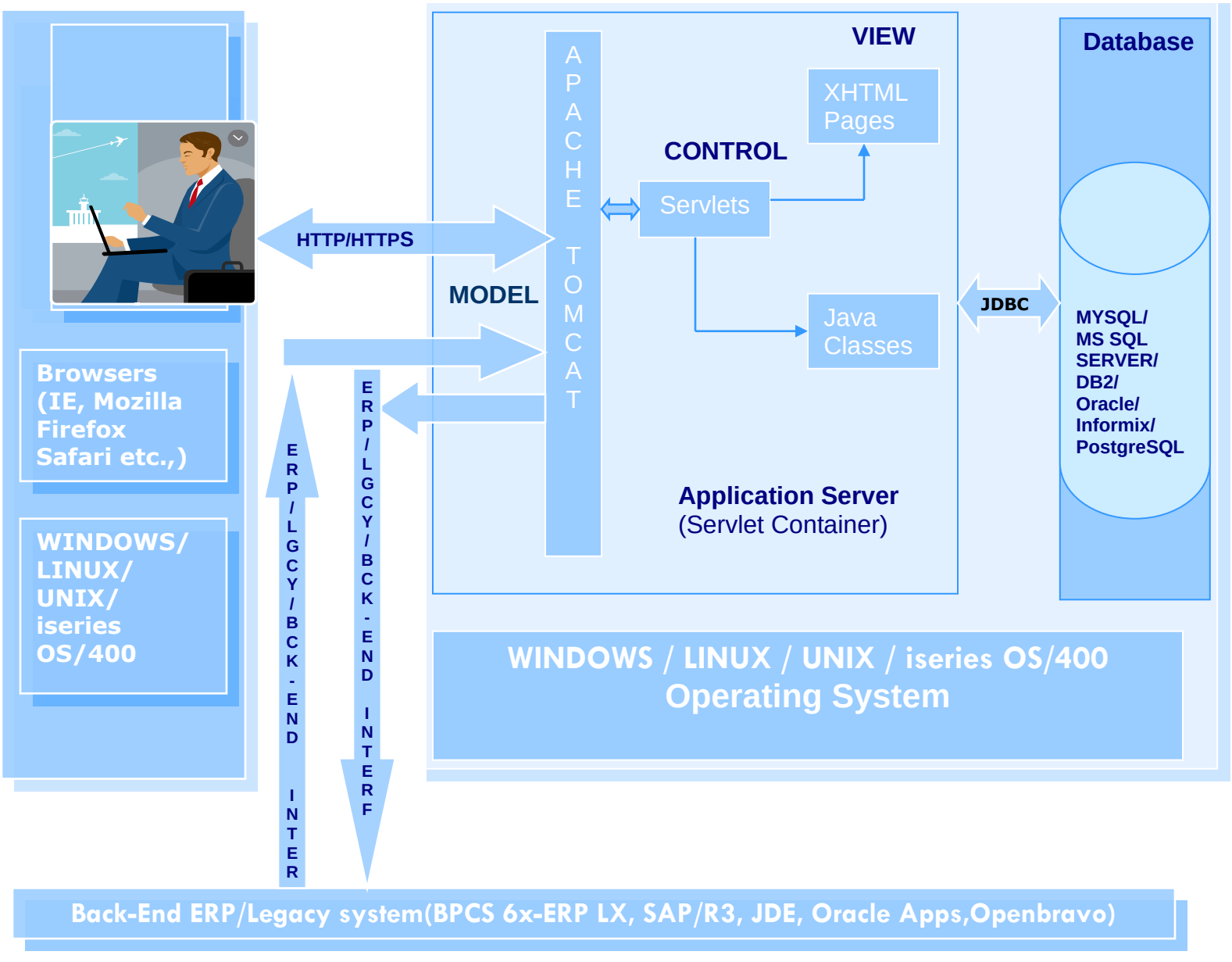
3.0 OADCS® Product Architecture



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Secure Multi-Layer Architecture

Iseries AS/400/Unix/ Linux/Windows/ERP /Legacy or any other jdbc compatible back-end Software

OADCS® Server

Wireless Router

OADCS®

Devices

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5.0 Minimum System Requirements

Supported Server Platforms

- Any Server or PC running NT,2000,2003,XP,Linux,Unix ,iseries AS/400 or any other server that can run java environment and can support a JDBC compatible database.

Hardware Requirements

The following hardware is required to run OADCS®:

- Production Server with any of the above mentioned platforms and
- Data collection devices that can connect to a TCP/IP network and can run a web browser.
- Label printers for bar-code printing / RFID- tag commissioning.

  The following optional hardware is recommended:
- Test/Development Server similar to the above mentioned server, and
- A management console for the server.

Recommended Software Requirements

Any database that can run on the above mentioned platforms and can interface with jdbc. Some of the suggested ones are listed below. If you own one of these, you may be able to use the same for OADCS®. It can co-exist with other software.

- MySQL Ver 1.2. or above (open source , so available at no cost)
- MS SQL Server 2000, 2005 (Windows 2000,2003 etc.,).
- IBM DB2/400 (AS/400) V5R2 or above
- Oracle 7.3.3., 8.0, 8.0a or above (Windows 2000,2003, Unix)
- PostgrSQL (latest version from the website) (open source , so available at no cost)
- Label formatting software for printing labels with bar-code and to commission RFID tags

  We recommend bartender software from Seagull Scientific.

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Apache-Tomcat 5.5.23 webserver or any latest version of the same. This is from open source as well and so comes at no cost and it is widely used in many thousands of websites. This has a proven track record for reliability.

Optional Third Party Software

Any of the following third party software is required optionally for remote support:

- Team Viewer
- Any VPN connectivity software. Where a dynamic key is required, it should be provided for support.
- Remote Desk Support (on MS Windows platforms)
- Webex ,Goto Meeting or similar web conferencing software.

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In Appendix 1.0, we will show a diagram to demonstrate the user-role-rule-transaction relationship in OADCS.

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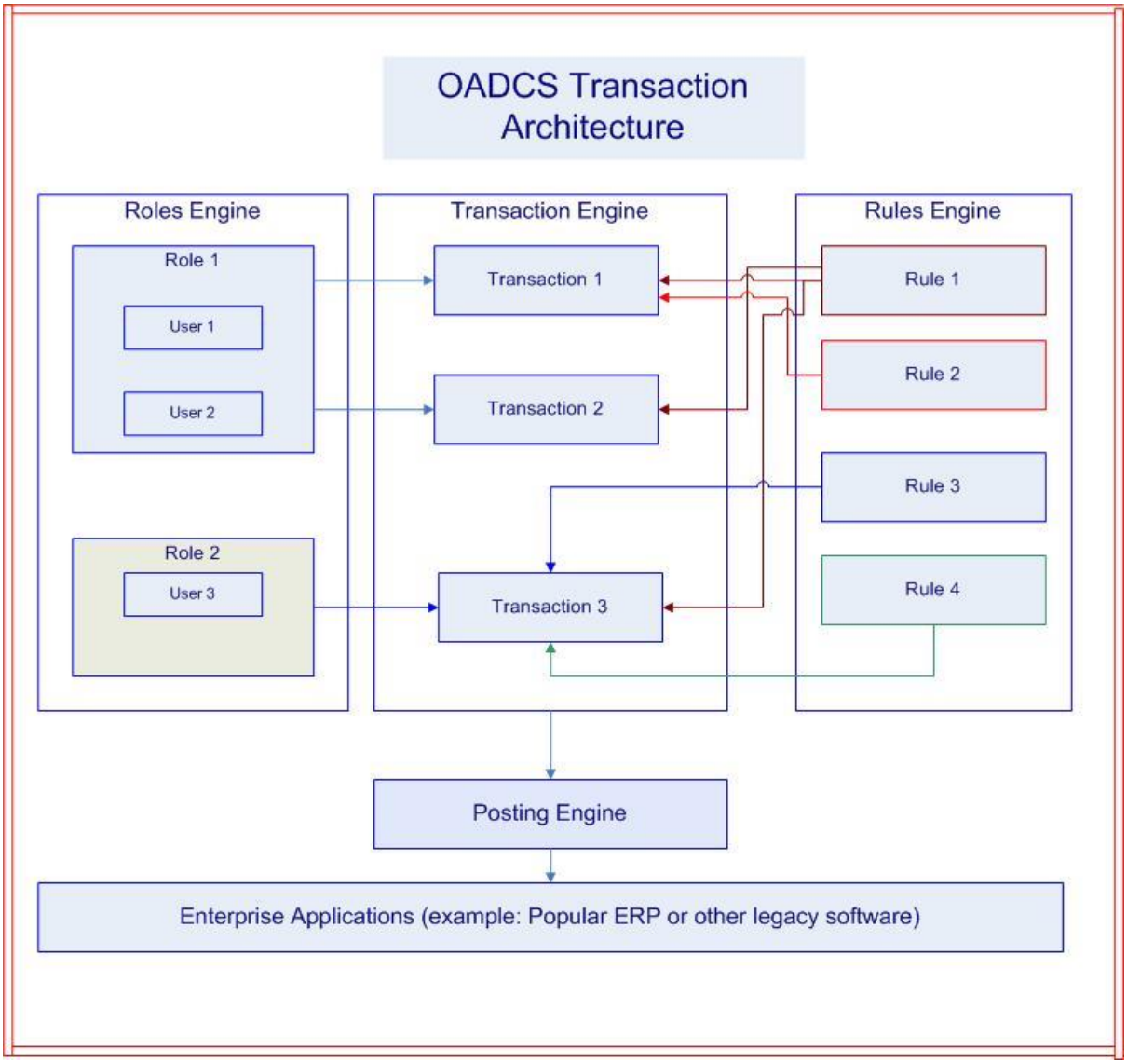
Appendix 1.0



- *Transactions 1,2 or 3 refer to transactions like PO Receipt to Stock, Material Transfer, Customer Order Pick etc.,*
- *Roles decide what transactions a user will have access to.*
- *A set of rules can be created and shared by multiple transactions.*
- *A System/Business Analyst can create users, roles and transactions and leave the rules to be built by the developers.*
- *Rules can be made up of SQLs, Stored Procedures, PL SQLs in case of oracles or any external programs that can run in a java compatible platform The external calls in the rules can send and receive parameters..*

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