



Ndevr Integration Suite

For Integration with JD Edwards

System Overview





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Executive Summary

Organisations using JD Edwards as their ERP system are struggling to find answers to their JD Edwards Integration needs. Resources hired to build integration stop short when it comes to JD Edwards, because a deep understanding of JD Edwards is required to complete any JDE Integration. Conversely, JD Edwards consultants traditionally do not have the skill set to develop the necessary non-JDE components of any Integration solution.

The Ndevr Integration Suite is the answer.

The Ndevr Integration Suite (NIS) is a modern Service-Oriented Architecture (SOA) solution. It uses industry-standard “web services” purpose built for JD Edwards EnterpriseOne. With NIS, external systems can now easily integrate and communicate with JD Edwards, seamlessly and in real-time. Older versions of JD Edwards can also utilize NIS (compatible with XE onwards).

Service-Oriented Architecture (SOA) is a relatively new platform that is quickly making its way into the foundations of all ERP systems and enterprises. SOA enables disparate software systems to transparently communicate with each other in a way that has previously been unachievable. SOA achieves this by externally exposing logic and data that is otherwise embedded within systems such as JD Edwards. Web Pages, for example, can now easily perform tasks that have traditionally been accessible only from within JD Edwards, such as generating a Sales Order, or retrieving Stock Price and Availability.

Ndevr as a Company has many areas of expertise, and our JD Edwards knowledge is second to none. Combining this with our well researched knowledge of SOA, we have acquired a unique skill-set that encompasses not



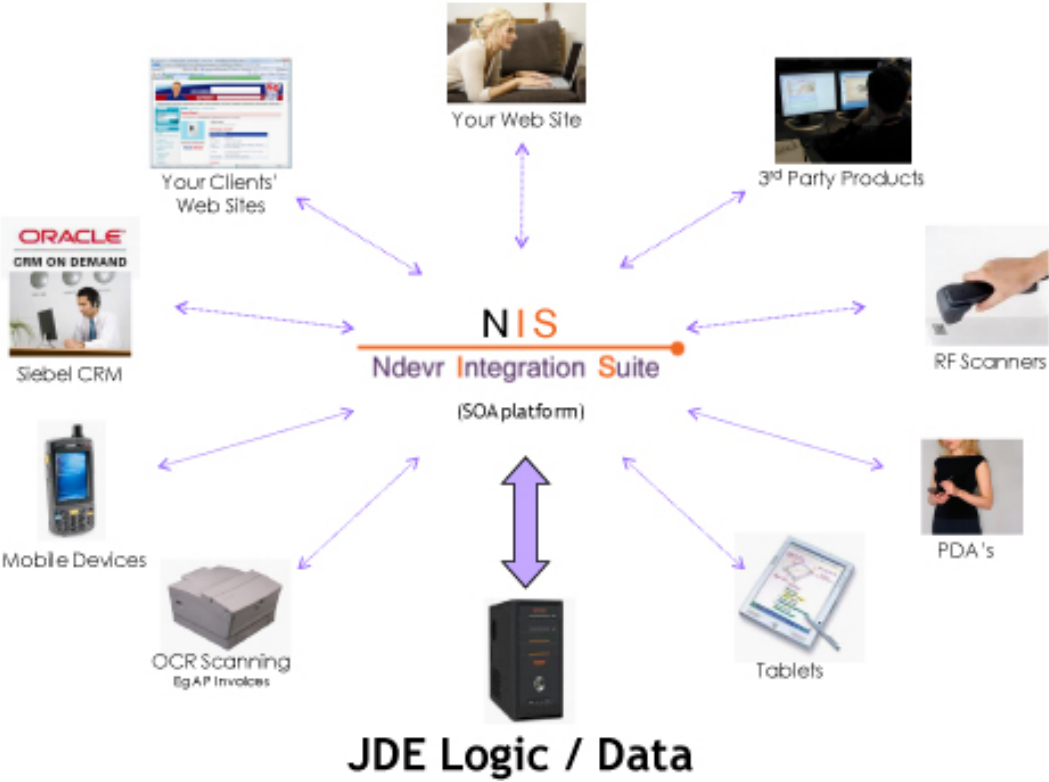
only a deep and complete understanding of the entire JD Edwards application suite, but also a specialized understanding of how to integrate JD Edwards with web pages and third-party products using modern SOA technologies. All of the Research and Development has culminated in a unique construct which Ndevr uses to build Web Services for JD Edwards, easily and effectively.

The result is the Ndevr Integration Suite (NIS).



NIS is a "SOA" Solution

The Ndevr Integration Suite (NIS) is a Service-Oriented Architecture (SOA) solution, an industry-standard platform through which disparate software systems can communicate with JD Edwards, seamlessly and in real-time.



NIS Web Services use a specialized construct developed by Ndevr to wrap and "expose" JD Edwards Business Functions. As a result, logic and data that is traditionally embedded within the boundaries of JD Edwards are now accessible from outside of JD Edwards. Web Pages, for example, can now easily and transparently perform tasks that have previously only been accessible from within JD Edwards, such as generating a Sales Order, retrieving Stock Price and Availability, or Adding a Customer.



Using NIS, non-JDE Developers are able to access JDE logic and data without needing to know “JDE-centric” technicalities, such as how JDE captures dates on file, or how JDE handles math numeric’s. The NIS Web Services simply access the JDE Business Functions, and the JDE Business Functions do all the work. Furthermore, where necessary, Web Services can also access JDE data directly without using Business Functions.

Enterprises are using SOA to extend the life of their ERP systems, by utilising specialised third party products to add value to their core systems, and integrating them through the seamless connectivity that a SOA solution provides.

Three Major Components

The Ndevr Integration Suite consists of three major components:

1. NIS JDE Interface

This is the JDE Integration layer, which interfaces between the Web Services (and other integration techniques) and the JDE System. It is specific to each version of JDE. NIS has been built to integrate with any version of JD Edwards EnterpriseOne from XE onwards.

2. NIS Web Services

NIS comes with a pre-built suite of Web Services that work exclusively with JDE EnterpriseOne functionality. NIS Web Services wrap and “expose” JD Edwards Business Functions, making logic and data available to systems outside of the traditional JD Edwards boundaries.

Any Web Service that does not already exist in our suite can be easily built from the NIS SOA platform. This is commonly required wherever tailored logic has been

created in JDE which needs to be accessed from another system. NIS can also wrap database access with a Web Service where no JDE Business Function exists.

NIS Web Services are delivered in modules relating to application domain. The list of existing web services included in these Modules continues to grow as we develop new web services or enhance existing ones. The current available Modules are:

- a. General Module
- b. Financials Module
- c. Distribution Module
- d. Purchasing Module
- e. CRM Module (built for integration with Oracle CRM OnDemand)

3. NIS Web Pages

It is most common for organisations to design and develop their own web pages, However, NIS comes with a suite of Web Pages which interact with JDE through the NIS Web Services and the NIS JDE Interface.

This component is not mandatory. Any Web Page or third party product can utilise NIS Web Services and the NIS JDE Interface.

NIS Web Pages include:

- a. Invoice Inquiry
- b. Item Inquiry
- c. Purchase Order Inquiry
- d. Serial Number Inquiry
- e. Create Purchase Order Requests
- f. Recommended Retail Price Inquiry
- g. Stock Availability Inquiry

Summary of Key Features

Through many years of Research and Development, Ndevr has created a construct through which Integration with JDE becomes easy and effective. Key features include the following:

- Purpose built for organisations looking to integrate other systems and/or web pages with JD Edwards EnterpriseOne
- Provides a suite of Web Services which “expose” JDE business functions (e.g. Get Stock Available, Get Price) to any 3rd party product that can “consume” a web service
- Aggregates JDE Business Functions for more complex processes (e.g. Purchase Orders, Sales Orders) ensuring easy integration with other systems
- Integrates with JDE Foundations, Financials, Distribution, Purchasing and now includes Oracle CRM OnDemand
- Implemented using WS-I industry standard web services, thus enabling the latest in web security, encryption, etc
- Enables Developers of 3rd party systems to easily perform a process or gather information from JDE without needing to understand the JDE system peculiarities such as JDE date structures, math numeric’s, business unit formats, etc
- Bypasses the need to use JDE “Z-tables”, since web services execute actual JDE business functions in much the same manner as native JDE Reports or Screens
- Can be tailored to work with your JDE modifications as well, by “exposing” tailored/modified business functions using the specialised NIS construct
- Compatible with JDE version XE onwards
- Can be implemented in both .Net and Java stacks
- NIS is *not* bound to any specific middleware platform
- Hardware can be scaled up and scaled out as required
- Easy to Install – or we can do it remotely if required



Examples of how NIS has been Implemented

1. An organization utilizing Oracle CRM OnDemand require on-line interactive transactions to occur between CRM and JDE. NIS has made various integration points possible. When Customer information is altered in CRM, JDE is automatically updated through NIS, and vice-versa. Also Product information held in JDE is automatically pushed through to CRM via NIS whenever changes occur. This makes the Sales Order workflow possible, where Leads and Opportunities entered in CRM can flow into Quotes and Sales Orders in JDE. Relevant Accounts Receivable and Credit information can be viewed from the CRM screens, all via NIS web services.
2. A Building Industry Supplier of Furnishings (such as taps, sinks, etc): have developed a sophisticated Web Portal through which Building Contractors can purchase their product from any internet connection. Through NIS, Sales Orders and Inventory transactions can be placed from the Web Portal to JD Edwards "on-line", where standard JD Edwards Order Processing rules are applied such as: stock availability; advanced pricing; discounting; shipping costs; zones for availability (which may result in special permissions); inventory filters (which ensure certain customers can only purchase from certain areas). The Corporate database integrity is maintained in real-time, and the complexities for ordering and error handling are all processed within standard JD Edwards and expressed via NIS to the web based ordering system. NIS eliminates the need for manual entry or batch processing.
3. A Property Facilities Management Firm: manages the facilities (such as cleaning/maintenance/etc) for commercial buildings using a web based product. Their clients can access this "Front-End" web portal, providing confined JD Edwards access via NIS, rather than granting full access to the vanilla JD Edwards screens. JD Edwards financials data, customer information, lease details, etc, are all seamlessly integrated with the Web Portal.
4. An Electronics and Telecommunications Retailer: have a sophisticated Retail System which is integrated to JD Edwards via NIS for many transactions such as: Sales Orders; Purchase Orders; Stock Receipts; Stock Adjustments; Stock Take; General Journals; Accounts Payable Transactions. They also use NIS to enable their Sales Reps to directly access JD Edwards "on-line" from their laptops or PDF's, via the internet, through NIS, into JD Edwards and back.



They can retrieve customer information such as credit history, etc, and they can also capture orders on-line. Emailed responses from JD Edwards are used to confirm the orders they have placed.

5. A Mining Company: uses a 3rd party product to manage the logistics of mining Coal, etc, and use JD Edwards for Financials. This 3rd party product was not web-service-enabled, so an integration hub was set up, and NIS was modified to integrate to it. The 3rd party product now sends transactions to JD Edwards via NIS, for example Work Order Requests, Payments to Suppliers, etc.
6. An Electrical Goods Manufacturer and Distributor: distributes white-goods/vacuums/cook tops/etc to their customers. Their customers are various Retail Stores around Australia. These Retail Stores often need to know stock availability by regularly contacting the Manufacturer via phone. In order to reduce the number of phone queries made to the Manufacturers Call Center, NIS has been installed, and an access point created which the Retailer can select from within their own internal software systems. When a customer walks into the store and decides upon a particular fridge (for example), the Retail Store enters the model number and clicks an icon on their internal web-service-enabled system which, via NIS, accesses the stock-availability formulas inside JD Edwards and returns the correct quantity back to the store.
7. A Health Products Manufacturer and Distributor: uses a 3rd party Warehousing product to manage all picking and dispatching in the warehouse. Order's are placed using JD Edwards, which creates pick suggestions in an XML file per the 3rd party required format (using tailored logic). These suggestions are dropped into a directory on the network where the NIS file watcher monitors the directory and transmits new XML files to the 3rd party product. Required statuses are transmitted back to JD Edwards to ensure valid data transfer. Container information; stock movements; physical picks and packs; shipped quantities ... all of these transactions are communicated back to JD Edwards via NIS.



Technical Requirements

The minimum technical requirements for an Ndevr Integration Suite Server are:

Hardware

- Intel based server running Windows 2003 Server Standard Edition
- 2 Gigabytes memory
- 2 Gigabytes disk space required for all the components related to Ndevr Web Services

Software

- Microsoft .NET Framework 2.0
- Microsoft .NET Framework 3.5
- Java SDK 1.6 update 5 or later
- An application server, either one of Oracle Application Server 10G and upwards or Sun Application Server 9 and upwards or Tomcat Version 5 and upwards
- A JDE Thick Client.

Operational

- VPN access to the Integration Server.



Conclusion

If your organization has a pressing need to proceed with developing Integration for JD Edwards, then NIS is the perfect solution. NIS enables immediate progress with developing your Integration Points now, without tying your systems to any specific middleware. It has been created using open standards, can be installed on any "stack", and comes with the necessary support to ensure your integration requirements are up and running quickly and effectively.

Integrating other products to JD Edwards becomes a simplified and cost-effective option when using the Ndevr Integration Suite.

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