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Executive Summary

The enterprise application software landscape has changed dramatically in recent years. In this paper, we will explore the implications of the changes made by Oracle JD Edwards to the way it delivers enhancements to its EnterpriseOne ERP software (JDE E1). We conclude that organizations committed to JDE E1 probably need to revisit and maybe even redefine their approach to running and maintaining JDE E1.

Written with CIOs and senior IT executives in mind, this paper is also relevant to anyone with a stake in the value their organization gains from using JDE E1. It is designed to help users understand the change in software development methodology adopted by the JDE team within Oracle, and how the new approach offers greater agility and responsiveness as companies, markets and economies work to digitally transform themselves.

We will explore the new "Continuous Delivery" methodology from three different perspectives: the vendor (i.e. Oracle), a C-Suite executive and an IT Executive responsible for JD Edwards within their organization. Each perspective is materially different, but all share some common features; including an appreciation that Oracle's new approach will help companies committed to JDE E1 extract greater value from their continued investment.

Next, we look at how Continuous Delivery can be adopted by organizations and turned into a strategy where JDE E1 enhancements and improvements are more regularly and seamlessly introduced. It is this regular pace and rhythm of change that we refer to as "continuous adoption".

It is the combination of Continuous Delivery by Oracle and continuous adoption by companies that will ensure the future of JDE E1 remains bright within every organization that is committed to its success.

Finally, we explore how Oracle and DWS have developed a range of tools, products and services to ensure that continuous adoption becomes a reality.

This paper is part of a broader series of best practice guides published by DWS. If you would like more information about DWS's products or services, please visit www.dws-global.com.



Continuous Delivery

In April of 2017 Lyle Ekdahl announced a change in the way the Oracle JD Edwards team is delivering enhancements to its customers. The team has adopted a software engineering approach called Continuous Delivery. With Continuous Delivery they "produce software in short cycles, ensuring that the software can be released at any time.

It aims at building, testing, and delivering software faster and more frequently." The idea is to speed the rate at which enhancements can be released and to make it easier for organizations committed to JD Edwards EnterpriseOne to implement and take advantage of updates.

Continuous Delivery, Oracle's commitment to keep investing in the development and evolution of JD Edwards EnterpriseOne and Oracle's promise of support all help JD Edwards EnterpriseOne remain relevant in a world where people are increasingly exploring purpose-built, cloud-based enterprise solutions.

A Vendor Perspective

As a business within a business, the Oracle JD Edwards team can look across the wider Oracle landscape to see how different teams perceive the market and how those teams are tackling the opportunities in their respective markets.

Everywhere you look, it seems new cloud-based propositions are emerging. In the data centre space, we can choose from dedicated or shared facilities, private or public clouds. The original three-tiered cloud proposition of infrastructure-as-aservice, platform-as-a-service and software-as-a-service has evolved to be just about anything you can think of as-a-service.

Organizations faced with the option to deploy new services either on-premises or in the cloud are typically choosing a combination of both, giving rise to the hybrid infrastructure. By 2020, IDC predicts that public and private cloud investment will account for more than half (51.5%) of all infrastructure spending.

For the JD Edwards team, the world in which its solutions exist today is very different from the one in which it began, some forty-plus years ago. JD Edwards EnterpriseOne has a loyal customer base across the world, with around 3,000 organizations, large and small, continuing to invest in JDE E1. However, user expectations as to what EnterpriseOne can, and should, deliver have changed.

Organizations committed to JD Edwards EnterpriseOne are looking beyond the essential requirements of a feature-rich, on-premises ERP solution. In a world dominated by mobility, digital transformation and SaaS applications with automatic updates, JD Edwards has had to respond.

This response has seen a renewed commitment and tangible actions that make its solutions more relevant, responsive and consumable in today's market. Continuous Delivery is a key part of this, but it is only a part.

A pure-play cloud application, with updates pushed by the vendor out to its customers, can effectively drive the introduction (if not the adoption) of new capabilities, features and functions. To remain competitive in todays market, JD Edwards needs to not only embrace digital transformation, but also make adoption easier than ever before.

The new mantra for organizations running JDE E1 is "get current, stay current". Historically, is was not unusual for organizations to wait two, three or five years (and in some cases even longer) to adopt what JD Edwards was delivering in 12 to 18-month bundles.

The update roadmap featured both major and minor releases, critical and non-critical ESUs, upon which businesses would build their future strategies. The result was that most customers would "lurch" from one major upgrade project to another.

Oracle JD Edwards announced in April 2017 that following Release 9.2, companies will not be able to look for a Release 9.3 in 2 or 3 years around which to plan their next step-change.

Oracle is effectively hoping to enforce a new adoption strategy by changing the way it delivers software updates.

¹ JD EDWARDS PREMIER SUPPORT AND CONTINUOUS DELIVERY FAQ (APRIL 2017)



A C-Suite Perspective

For many senior executives, JD Edwards EnterpriseOne is just another cog in the machine that keeps the business running day-to-day. Whilst it contributes to their ability to meet their objectives, it may not be viewed as a strategic asset. We would argue that the truth is somewhat different.

Digital transformation is more than just an on-trend term for change. The pace of change for modern businesses is arguably greater than at any time in the past and with change comes uncertainty, and risk.

It is against this backdrop that C-Suite executives are approached and asked to formulate and/or respond to their organizations' plans for JDE E1. These same executives are bombarded with messages about the cloud and its transformative way of accessing, running and maintaining the systems that underpin their operations.

If an organization has been running JD Edwards for some time, executives may have become accustomed to infrequent, difficult and expensive upgrades. In some cases, the allure of agile, user-friendly, cloud-based solutions may turn some heads.

So, to offer a viable alternative (and deliver longer-term ROI to organizations already committed to EnterpriseOne) JD Edwards needed to evolve. To compete with cloud alternatives head-to-head and adopt a model of Continuous Delivery.

At the same time JD Edwards is having to persuade executives, including the Chief Information Officer (CIO) and other IT stakeholders, that there is a better way to adopt the new software enhancements being delivered by Oracle JD Edwards. One that results in the delivery of smaller, faster, smarter projects.

A CIO Perspective

If you are a CIO or IT Director in an organization that is committed to JD Edwards, you are no doubt aware of the significant investment you will have made over the years, its importance to your operations, or the alternatives (real or otherwise) in the market.

You will likely be in receipt of a plethora of marketing materials extolling the virtues of a competitor's product (or even an alternative within the Oracle portfolio). You may also find your peers are asking you to justify your continued investment in JDE E1 and why it is still the right solution for your business.

A key strength of JD Edwards EnterpriseOne has always been its ability to be configured, adapted and extended to meet very real and challenging business requirements around the globe. It is perhaps because of this strength that some implementations take considerable time and include a significant number of customizations and extensions.

JD Edwards EnterpriseOne also happens to excel in complex global multi-faceted, multi-company, multi-currency businesses. Again implementing, running and maintaining JD Edwards EnterpriseOne in these kinds of environments is challenging and every project forming part of a wider programme takes time.

When making the business case for continued investment in JDE E1, this can sometimes make it appear less appealing than a cloud-based alternative. It is into this landscape that the Oracle JD Edwards team has introduced Continuous Delivery.

Continuous Delivery for a CIO is something to be welcomed, as it is a trigger for talking to the business stakeholders that you serve about a different and more responsive way of running, maintaining and evolving JD Edwards EnterpriseOne.



Continuous Adoption

With no plans for JDE E1 Release 9.3, many organizations may be tempted to question Oracle's commitment to JDE E1, or to question whether they should remain committed to JDE E1 themselves.

Let us answer those questions now. Oracle remains committed to JDE E1. The change in strategy is in response to changing market conditions and user behaviour.

Organizations currently using JDE E1 should maintain their commitment but be prepared to adapt their upgrade strategy going forward. They need to upgrade to Release 9.2 then move from a strategy based on infrequent upgrades to one of continuous adoption.

From Release 9.2 companies will no longer be able to employ a strategy that simply responds to Oracle's release plans and published support timelines. This is because Premier Support is effective through at least October 2025 and Extended Support through at least October 2028.

Any company committed to JDE E1 that is on 9.2 should not wait for Oracle to start degrading its support before giving serious consideration to what it is going to do next.

So, when should you be assessing your options in a world where Release 9.2 may be your "forever" release? As you formulate your strategy, what is going to be the recurring prompt to consider whether you should be running a project or not?

The answer to the second question lies in the more frequent ASUs, ESUs, Feature Packs and Updates that are being made available by Oracle now that it has adopted a Continuous Delivery strategy:

- JD Edwards EnterpriseOne Applications Release 9.2 and JD Edwards EnterpriseOne Tools Release 9.2 (Announced 6 October, 2015)
- JD Edwards EnterpriseOne 9.2 Update 1 (Announced 14 November, 2016)
- JD Edwards EnterpriseOne 9.2 Update 2 (Announced 13 October, 2017 with fixes through 9/29/2017)

In addition to these updates, there is a long list of Baseline ESUs. (see appendix 1)

As for when you should be considering your overall JDE E1 strategy, the answer is now. Since the announcement by Oracle in April 2017, companies on or upgrading to Release 9.2 need to take advantage of Continuous Delivery and embrace the concept of continuous adoption.

The balance of this paper looks at continuous adoption in more detail and describes those concepts and principles that are fundamental to success.

"With no plans for JDE E1 Release 9.3, many organizations will need to re-evaluate their ERP strategy. Once they have moved to Release 9.2, businesses will look to change from an upgrade policy to one of continuous adoption."



Set a Cadence

Every business works to a calendar; something that is specific to its industry and operations. Similarly, all companies will be subject to a degree of seasonality that will inform a sales and marketing calendar, production calendar or supply chain management.

It is in support of activities driven by these calendars that businesses need to settle into a new cadence of continuous adoption for JD Edwards EnterpriseOne.

Any JD Edwards run/maintain/evolve calendar needs to include the regular and critical review of the ESUs and Updates that Oracle releases.

In the past, businesses may notionally have set aside time every two-to-five years to review where they are with JDE and to plan their next significant "upgrade" project. This large, infrequent upgrade approach needs to be consigned to history and replaced with a more modern, agile strategy.

If you go out and buy a cloud software-as-a-service offering today, you will typically be buying not only the software, but quarterly updates over which you have little or no control.

So, at one extreme, with the Continuous Delivery of value-adding updates from Oracle JDE, might you consider a quarterly review and the potential adoption of JDE E1 updates?

It is not our intent to advocate a quarterly review approach. However, with an appropriate mind set, the right tools and sufficient rigor in respect to minimising modifications to standard software, an annual review does not seem unreasonable.

Ultimately, the adoption time frame is not what is important. What is important is that businesses schedule regular codecurrent projects into their calendar of activities.

The first project may be a major upgrade to Release 9.2, but subsequent code-current projects can, and should, be more regular, much smaller and more manageable.

Stay Current

For code-current and continuous adoption to really work, organizations need to be running more frequent, smaller, faster and smarter projects.

For some, this may require a fundamental change in thinking. Particularly if the business is risk-averse, does not welcome change, or is wary of any JDE E1 project.

What is needed is a new regime for JDE E1. One where the systems run/maintain/evolve process more closely resembles an agile, as-a-service proposition.

This is achievable but requires that JDE customers become more adept at running code-current change event projects.

Be Predictable

Introducing more predictability is a core benefit of continuous adoption. Predictability not only in terms of the schedule of change events, but in the look and feel of each event.

- Figure out what is new and can be applied to your environment
- · Assess the business impact and value
- Assess the availability of resources (business and technical)
- Take a go/no-go decision in principle
- Plan the project from a business perspective
- Plan the project from a technical perspective
- · Take a final go/no-go decision
- · Run the project
- · Stay current



Deliver Value

For any JDE E1 change event project to gain support internally, it needs to add real value to the business. Value that outweighs any associated cost, disruption or risk.

If a code current change event project is light on real business value maybe it can slip beneath the radar with little or no impact on business as usual.

Either way JDE users, and the organization as a whole, need to be front and centre when it comes to evaluating any codecurrent change event projects.

What is the value to the business? If there is little or no immediate value to the business that does not mean you should not kick off and run a code-current change event project.

Code-current change event projects can deliver indirect benefits as they position the business to take advantage of the latest developments from Oracle and JD Edwards.

However, if you are to run a project that adds little obvious short-term value to the business, you need to ensure it causes minimal disruption and involves minimum risk.

Engage Everyone

Any change event project requires analysis, design, implementation, documentation, testing and training. One of the keys to the successful delivery of any project is stakeholder engagement across all these areas.

When preparing any change event project, it is possible to ease the burden placed on the business, or individual users:

- by thoroughly understanding exactly how the updates you will be applying into your environment impact the users
- by reducing the amount of testing you require of business users

You can also reduce the demands placed on constrained resources in IT by engaging external resources and employing products (tools) to ease analysis, planning, retrofitting and testing demands.

In the next section, we explore some of the tools available from Oracle and DWS to demonstrate how organizations can make staying code current (and the continuous adoption of new features/functions) an integral part of their JDE E1 strategy.

"Code-current change event projects can deliver indirect benefits as they position the business to take advantage of the latest developments from Oracle and JD Edwards."



Code-Current-as-a-Service

If you haven't already done so, you should start giving thought to your JDE E1 code-current strategy. A prerequisite to implementing any such plans is an upgrade to Release 9.2.

If you have upgraded already, or have plans in place to upgrade, you can shift your attention to life on Release 9.2. This should ideally see organizations leveraging a range of resources to deliver "code-current-as-a-service".

Oracle Resources

Over the years, Oracle has invested in the development and compilation of a range of resources, designed to help customers upgrade and stay code-current. Understandably, much of the Oracle content focusses on the modifications that customers make to their implementation of JDE E1.

Modifications are a particular challenge when running an upgrade or code-current change event project. A company's modified footprint is often at the root of the more technical elements of a change event project, so it is good to know that these resources are the best they have ever been.

At Release 9.2, Oracle resources include:

- UX One (Citizen Developer)
- Simplified Upgrade
- · Customization Workbench
- · Application Configuration Analyzer
- · Data Dictionary Compare Report
- · User Defined Code Compare Report
- · Version Compare Report
- · Customization Object Analyzer
- · Object Usage Tracking

When addressing the more technical components of a change event project, third-party resources, products and services can also add a lot of value.

DWS Resources

As a complement to the Oracle resources, DWS has developed a portfolio of unique products and software-led services. Among them is an innovative impact analysis tool that will identify objects affected by a potential change event, down to an unparalleled level of detail.

When coupled with Object Usage Tracking data from Oracle, this can ensure that the scope of every code-current change event project is forensically understood and kept as small as possible.

The pre-project analysis you undertake when evaluating a significant modification, an ESU or upgrade (i.e. a code-current change event project) will help inform the decision to go ahead with the project or not.

It is important to realize that the changes you are evaluating need to be assessed from a business impact as well as from a technical perspective.

- The DWS Dimension Focus[™] product supports business impact analysis, as well as project and test planning
- The DWS Dimension Tempo[™] service addresses technical project planning and execution
- The DWS Dimension SwifTest™ product eases the burden of testing by automating functional tests



Dimension Focus™

As a business impact analysis tool, Dimension Focus™ provides users with a unique perspective on potential change event project. Helping project planners and managers decide how, when and if a project should be undertaken.

When a change event project is undertaken, Dimension Focus can also be used to plan and manage the test components of the project.

The Dimension Focus product and the tools that underpin the DWS Dimension Analyze™ service are unique. By analyzing changes to standard objects, modifications and custom code, down to an unprecedented level of detail, Dimension Focus enables customers to identify exactly what will be impacted by the change event.





Dimension Tempo™

Most, if not all, JDE E1 customers will have modified standard objects or added their own custom objects to tailor the software to meet their specific business needs.

These modified and custom objects collectively form a modified footprint and this modified footprint needs to be addressed any time changes from Oracle JDE are applied.

Any objects impacted by a change event project need to be reconciled or retrofitted (uplifted). This work is technical and should be invisible to the business. However, it does require its own analysis and subsequent development.

Customers have a choice when it comes to this technical uplift. They can employ their own technical staff to carry out the work, they can employ contractors, or they can outsource the work to a 3rd party.

The DWS Dimension Tempo™ service leverages proprietary tools and methodologies to enable us to offer 3-year fixed price code-current retrofitting services. Companies that employ DWS to provide this service are effectively outsourcing the technical retrofitting part of their development.

This service helps companies committed to JDE E1 and continuous adoption deliver the consistency and predictability they demand. Furthermore, they do not need to scale up or divert technical resources to code-current change event projects.



Dimension SwifTest™

Testing on any project demands a considerable amount of time and energy; it can be challenging and is, by nature, highly repetitive. As a result, it can be difficult to test thoroughly and to maintain high quality standards.

The DWS Dimension SwifTest™ product has been written specifically for JDE E1 and is native to JDE E1.

Designed for use by business analysts and super-users, it leverages a user-defined and created catalogue of scripts that reflect (document) the way IDE 1E1 has been implemented.

The scripts in the catalogue can then be executed automatically to accelerate the testing process. This not only eases the overall workload but ensures consistency in respect to test execution and documentation.

With testing being carried out to a high standard by the project team, it allows project managers to consider a change to the demands they might place on business end-users during acceptance testing.

End-users can perform fewer, more specific tests in the knowledge that the system has been exhaustively tested. Importantly, this can help with advocacy and acceptance of the continuous adoption model, as users participate in smaller, faster and smarter projects.



Appendix 1. Baseline ESUs available for 9.2

ESU#	Major Systems Affected	Release Date
JN10019	Tools	October 2015
JN10023	Outbound Inventory	October 2015
JN10058	Advanced Job Forecasting	October 2015
JN10604	Sales	April 2016
JN10705	Advanced Job Forecasting	April 2016
JN10606	Affordable Care Act	April 2016
JN10595	Payroll Year End	April 2016
JN10875	Outbound Inventory	May 2016
JN11252	Brazil	June 2016
JN11564	Advanced Job Forecasting	August 2016
JN11543	Accounts Receivable	August 2016
JN12140	Sales	November 2016
JN12053	Project Costing	December 2016
JN12526	Procurement	January 2017
JN13261	Payroll	April 2017
JN13273	Payroll Year End ACA	April 2017
JN13244	Manufacturing	April 2017
JN13149	Payroll Year End	April 2017
JN13147	Blend	April 2017
JN13444	Manufacturing	May 2017
JN13443	Poland	May 2017
JN13397	Sales Orders	May 2017
JN13395	Accounts Receivable	May 2017
JN13564	Brazil	June 2017
JN13558	Distribution	June 2017
JN13495	Case Management	June 2017
JN13418	Australia/NZ Payroll	June 2017
JN13837	Distribution	July 2017
JN13776	Procurement	July 2017
JN13694	Health and Safety	July 2017
JN13844	Real Estate	August 2017
JN14477	India	October 2017
JN14473	Blend	October 2017
JN14472	Joint Venture Management	October 2017
JN14447	Tools	October 2017
JN14431	Equipment	October 2017
JN14381	Grower Blend	October 2017
JN14763	Sales	December 2017



"Smaller, more frequent updates will become the new standard for Oracle JD Edwards over the coming years. Moving to 9.2 sooner rather than later will enable digital businesses to make the most of the latest advances; including social collaboration, global revenue recognition, project forecasting and enhanced mobility applications."



About DWS

Since 1998, we have been providing development and technical services to organizations looking to customize, integrate, extend, upgrade or support implementations of EnterpriseOne. We also sell EnterpriseOne testing products that leverage our deep domain expertise and help customers run smaller, faster and smarter projects DWS serves a global client base using proven methodologies and proprietary DWS Dimension™ tools. Our best-practice approach and eye for detail help us deliver products and services that save time and money and continually drive down your TCO for JD Edwards.

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