



**Excellence in**  
Data and Process Integration

Bring together enterprise information with the right processes, for effective digital transformation

## Leading the Way Integrating Product Lifecycle Information

With so much data to keep on top of, product lifecycle management can be a serious headache. D-twin has the solution: Orchestrate.

Orchestrate brings together disparate sources of information to achieve timely, accurate, and comprehensive data views whenever they are required. With Orchestrate, companies can integrate data from a variety of sources and access this data within a single product lifecycle management eco-system.

There are three major barriers to data efficiency in product lifecycle management: complexity, compliance, and cost. Orchestrate eliminates all three of these obstacles.

Orchestrate was built from the ground up, providing a codeless configurable integration platform to simplify the process and reduce complexity. The simplified processes involved are designed to increase efficiency and bring down the costs associated with data management.

Orchestrate is a single, unified point of access for all of your business-critical product data enabling you to comply with your customers' or suppliers' data exchange standards.

### CODELESS CONFIGURABLE INTEGRATION

Before Orchestrate, digital transformation for product lifecycle management was a major headache. Businesses had to write new code, or make sweeping changes to existing legacy systems. With Orchestrate, D-twin set out to do things a little differently. Orchestrate provides a combination of configuration features, specific system adaptors, and web services.





All of this is designed to help businesses achieve the platform that best suits their organisational structure, and manage data across multiple enterprise applications.

### PROTECTING PAST AND FUTURE INVESTMENTS

One key benefit Orchestr8 offers businesses is the ability to reuse product data from legacy systems.

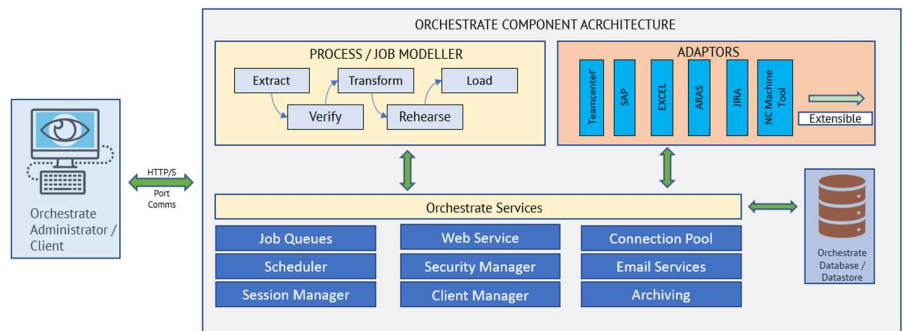
This means:

- No need for costly upgrades
- No need for expensive and difficult code re-writes
- No danger of falling behind or missing out on emerging technology
- Seamless, integrated digital transformation of the product lifecycle

### OPEN ARCHITECTURE

Orchestr8 is built on open-source architecture. This means it is compatible with a wide range of different enterprise applications via built-in APIs. This results in increased flexibility and capability.

Promoting  
Community and  
Providing  
Comprehensive  
Industry Support



The platform has been designed using a service-oriented architecture (SOA) methodology. This means that application native function calls can be easily consumed using;

- The Orchestr8 application API (.NET)
- The SOA API
- REST Web Service layer including Web Services API (The ability to access or create information remotely via a LAN or WAN)



The platform is also designed to comply with several commonly used standard data formats. This includes EIA-836, PLCS, S1000D as well customer-specific standards such as MDES (Maritime Data Exchange Standard) or LMDEF (Land Material Data Exchange Standard) used to import and export data between the Commonwealth of Australia and their suppliers.

Supported data input and output formats include CSV, XML, JSON and Excel.

Thanks to this open-source, format-agnostic design, no additional licensing or distribution restrictions apply when creating applications for the Orchestrated framework. Developers can build compatible applications using open-source programming tools with ease and efficiency. The platform is a secure, evolving solution which meets the changing needs of modern business.

### TIMELY DELIVERY OF DATA

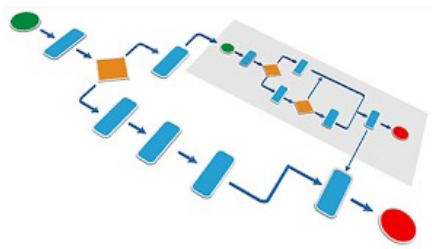
Orchestrated brings a new way of managing product lifecycle data in terms of its flexibility, capability, and compatibility with supported applications. But there is another element here: Time.

Businesses need the correct data delivered to the correct systems at the correct time, with no delay and no potential for error.

The Orchestrated solution is crafted with this core need in mind. With Orchestrated Web Services, PLM and ERP workflows can be synchronised. This means:

- Effective and immediate data transfers between enterprise applications or data warehouses
- Instant notifications of specific system events or changes, delivered to application systems or human users
- Triggering of external workflow processes, for example, in supplier or client systems
- Triggering workflow signoffs in external systems following task completion
- Scheduling of periodic system tasks, covering batch processing, data

## Process Integration





migration, and more

## ORCHESTRATE JOB DEFINITION EDITOR: Effective Configuration

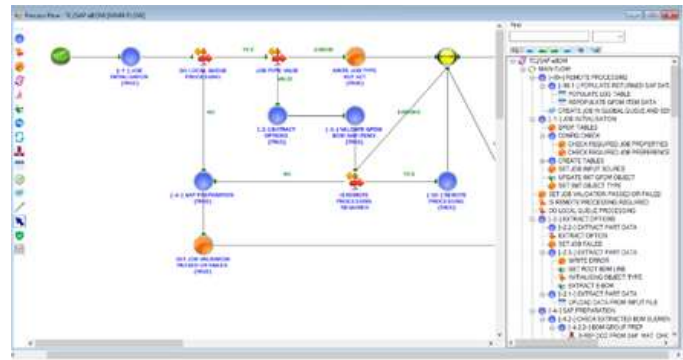
# Building Integrations

All process and job definitions within the solution are created using a built-in tool: the Orchestrate Job Definition Editor (JDE).

With JDE, you can set all the functional tasks required to execute your integration. This is a critical part of the solution, and enabling:

- Export/Import data from a PLM to an ERP system or vice-versa
- Load the data packet from a supplier into a PLM system
- Publish released documentation from PLM onto a website
- Retrieve data from multiple systems, validate, transform and load into a data lake
- Automate file translations from Word to PDF
- Extract, cleanse and transform into JSON or XML output file

Ready to build a job definition? Simply drag and drop the pre-defined handler and adaptor process steps. Then build successor and predecessor links to organise the job's flow progression.



With only a few touches of a button, build logical paths for workflows and jobs. Create alternate logical paths within a single flow -- a critical ability in modelling complex business processes effectively.

All job definitions are saved and managed into a centralised storage location, for easy access and management. All saved jobs include the



complete job business logic and system, making it easy to execute tasks in the future. This includes:

- Validation and transformation rules
- Data mapping of business objects
- Conditionals and regular expressions
- 3rd-party enterprise application and database vendor adaptors

### CONNECTING THE ENTERPRISE

Orchestrate effectively connects to enterprise systems using pre-existing system adaptors. These adaptors enable integration with world-class PLM and ERP enterprise systems, as well as products from commonly used database vendors. The result is a supremely capable platform with a formidable scope.

The platform's adaptor model enables configuration of third-party application services, thanks to a series of configurable modelling elements. These elements can be dragged directly into the Job Definition Editor for configuration by the administrator.

This high level of integration is extended across a whole host of enterprise systems. Systems that have SOA REST capability can be integrated directly with Orchestrate on a plug-and-play basis. Some of these services can be utilised to configure and receive external data.

### CONNECTING ENTERPRISES THROUGH EXCEL

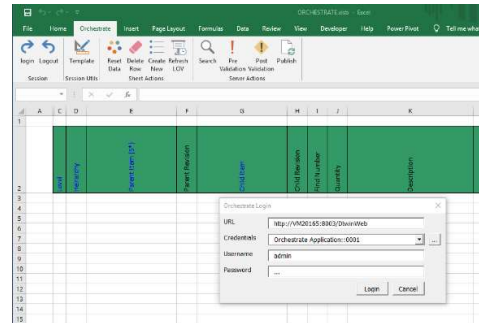
Microsoft Office is widely used to support business operations, and compatibility is critical. Orchestrate achieves bi-directional integration with Excel, enabling users to carry out several actions.

For example, if infrequent PLM and ERP users need to view and change system information, this is achievable through Excel.

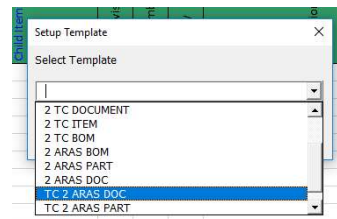
Users can also create dashboard reports from multiple data sources, log subcontractor and supplier data, perform data migration tasks, and much more, right from Excel.

## Enterprise System Connectivity

## Microsoft Office Connectivity



Functionality is delivered through Orchestrate Excel templates, which are used to configure sheet rules and data columns. The Search, Pre-Validate, Post Validate and Publish buttons are linked to pre-defined job definitions. Clicking the button executes a defined command.



## CORE ARCHITECTURAL COMPONENTS

## Scalability and Performance

A key outcome of digital transformation is scalability, and Orchestrate achieves this with ease. Queue management and connection pooling services are geared towards supporting businesses as they grow, especially across environments with multiple PLM and ERP systems. Connection Pooling also ensures endpoints are available as soon as resource connections are requested.



Multi-Queue Management



Connection Pooling

Centralised Queues control the management and processing of Jobs. Queues can be further configured in the system, and can automatically handle single or multiple Job Definition types. They can also be set to run on a 24-hour cycle to optimise the use of system resources.

System Handshaking is deployed to confirm and validate message receipts. This means all components of the system remain in communication 100% of the time.

Process tuning, system monitoring, and configurable features enable users to set the optimal performance levels for the platform at all times.



# System Monitoring



Performance Monitoring



Notifications



Reporting

## SYSTEM MONITORING

Performance monitoring is key to continuous process improvement and tuning. This allows the swift identification of bottlenecks during job processing and rapid error repair.

Email notifications alert end-users of critical system information, while automated reports keep our development team informed.

Configure your job reports via the Orchestrated XSLT Report framework, and attach these reports to email notifications when the jobs are complete.

### About D-TWIN

We are PDM, PLM and enterprise integration industry experts with global experience across a range of domains and platforms – Teamcenter, Aras, Metaphase and more. We have breadth and depth in our end-to-end product lifecycle experience and deep technical knowledge in major PLM platforms. Our purpose is to make PLM work for Australian Industry.

We understand PLM is just as much about people, culture and process as it is about technology. We support our customers' digital transformations by extracting maximum value from their existing PLM and legacy investments whilst positioning them for the new wave of IoT and cloud.

We offer independent advice that is solely focused on your business outcomes. Although we love the challenging technology stuff, our focus is always on solving business problems.

We are Australian based and focused, with Defence security cleared resources. We have worked with blue chip organisations globally and have strategic partnership with Australia's best manufacturers.

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