

TECHNOLOGY AUDIT

# Intelledox Enterprise









Intelledox


## OVUM BUTLER GROUP VIEW

### ABSTRACT

*Intelledox Enterprise is a rich Web-based e-forms solution for document composition and document-lifecycle management. The highly scalable product offers large-volume template-based design generation for the delivery of business documents. The solution uses Microsoft Word as the basis of its document template development approach. It is equipped with Wizard-driven tools for designing document layouts and managing the supporting infrastructure that provides the ability to deliver data from corporate business applications and databases with data population based on applicable business rules. Intelledox Enterprise offers the business benefits of user-created document templates with only limited reliance on IT. It provides centralised lifecycle management of document content, images, layouts, and templates using an enterprise-wide version-control approach. Documents can be generated in a variety of formats including Word, PDF, XML, Postscript, and e-mail. In Ovum's opinion, any organisation with significant numbers of outgoing documents that are subject to compliance requirements and require consistency of format and structure would be well advised evaluate the Intelledox Enterprise offering.*

### KEY FINDINGS

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|--|---|
|  Based on Microsoft Word Intelledox offers a Wizard-driven solution that enables business users to create documents.  |  A rules-based system supported by a question-and-answer format to populate documents with recipient-specific data.                                |
|  Provides centralised role management of templates and documents and can be easily integrated with existing data stores.                                      |  Delivers proven scalability to over 100,000 documents per hour.   |
|  Integrates with document-management systems from Microsoft and HP and can be called by third-party applications that are not capable of document generation. |  Lacks a native workflow system for automating approval processes and process audits. This functionality can be delivered via partner integration. |
|  Intelledox Enterprise was first released in 2005. Version 6.0 is the latest release.   |  Platforms supported include: Windows, AIX, z/OS, Linux, Solaris, HP/UX and Mac OS.  |

Key:  Product Strength  Product Weakness  Point of Information

### LOOK AHEAD

The future focus for Intelledox is on product integration, the increased use of Web services, the provision of automatic links to SharePoint, enhanced support for Oracle environments, and the building of workflow capabilities.

## FUNCTIONALITY

In organisations that do not have a structured approach to document creation and management, the resulting lack of control can cause significant business inefficiency and exposure to compliance or disclosure risk. For example, lack of central control can result in multiple copies of the same documents being maintained across the business, and the use of an informal copy and management approach could be prone to errors.

For organisations that recognise the importance of their brand image and the need for document consistency, the lack of a formal approach to document composition and management can cause non-compliance issues, a shortfall in the ability to leverage and align corporate data, and additional cost overheads associated with ad hoc document generation.

### *Product Analysis*

Intelledox Enterprise was first released in 2005. It is an enterprise-wide Web-based document-creation and management solution. The system is designed to be highly scalable, easy for business users to work with, fast to deploy, and cost-effective.

It is typically used for areas such as:

- **Agile marketing** to provide an ability to leverage known attributes of a customer to dynamically generate documents or correspondence that contains additional information or offers specifically relevant to that customer.
- **Outward-facing forms** to enable the dynamic publication of a document as an outward-facing Web form, allowing customers or citizens to maintain electronic relationships with an enterprise or agency. This is particularly relevant for the public sector, and it supports constituent self-service strategies.
- **Template migration** to deliver the ability to future-proof document templates against software upgrades. Typical internally managed macro-based approaches can be compromised by software version upgrades.
- **Leveraging of data silos** to provide the ability to use internal data sources to automate business processes.

The solution is available as a Web-based application. It is capable of creating Word, PDF, XML, Postscript, and e-mail formatted documents, and works with most formats that can be used to generate an electronic form. Using its rules-based approach to achieve consistent document branding as well as approved customisation and personalisation, Intelledox Enterprise provides a scalable dynamic server-side engine for high-volume document generation, with proven scalability of over 100,000 documents per hour.

The core components of Intelledox are:

**Intelledox Designer**, which enables content owners and/or IT administrators to formulate business rules for document creation, and to create sets of questions and options that drive the personalisation of documents.

**Intelledox Director**, the solution's administration portal where user management, a content library, and connections to existing data stores are managed.

**Intelledox Producer**, an end-user portal used to generate business documents based on responses to e-form questions.

**Intelledox eforms**, a comprehensive Web-form front end for collecting data and interacting with the user.

As might be expected of a solution of this type, the business usage scenarios are plentiful. Any company that needs to generate documents, such as bills, contracts, agreements, or periodic documents, on a large scale and needs to ensure that output conforms to pre-defined standards, such as text, layout, and branding common and consistent to all recipients, has service requirements that could be usefully provided by Intelledox Enterprise. Not only can the product be used to generate, update, and manage the integrity of business forms, it can also be engineered to manage the delivery of document content.

It can be used to control the use of data items that relate directly to a billing amount or payment plan along with the personal customer details of recipients. Aligned with the direct data-management approach, the fields within a set of data items for a specific recipient are interrelated. For example, the billing amount depends on the billing plan the customer subscribes to, and the itemised components within the bill could also depend on the specific parameters of the billing plan. Therefore, an Intelledox document template contains rule sets that govern the interrelationships between the data items and the document-management components that define layout and common usage scenarios.

The sets of rules that define the interrelationships across the data items are presented as a series of questions formulated at the time of design using a Wizard-based system in the Intelledox Designer component. When authorised users have a requirement to make use of an existing Intelledox template, they can use a series of questions and responses to populate the document and confirm the attributes that will define the document's form factor, such as whether it should be published as a PDF or Word document, or whether it should be routed via a printer or e-mail channel. The layout and content of documents can be managed for any business-authorised level, and it is this level of flexibility that is one of the factors that Ovum believes sums up what the Intelledox Enterprise solution is capable of.

The data items that populate a document can come from a wide range of sources, often from line-of-business applications and databases, and Intelledox provides API facilities to ease data access and integration.

The solution's core objective is to make the document-template-creation process flexible and easy to use at the point of delivery at the same time as providing a consistent, secure, and safe business offering. To achieve this, business users can formulate and use rules without having specific knowledge of programming. In addition, a number of aspects of the solution make Intelledox appropriate for across-enterprise usage. For example, all the documents and templates created through Intelledox are version-controlled and saved in a common central repository with appropriate access controls, using existing LDAP access-management technology. Intelledox integrates with common document and records-management solutions, in particular Microsoft SharePoint environments.

By creating and storing content in XML, Intelledox Enterprise enables the delivery of content through multiple channels including a print format such as Word or PostScript, e-mail, the Web, PDF, Web services, and RSS. Intelledox Enterprise is an open standards-based solution that provides its own Web Service API suite through which Intelledox document services can be integrated with the client organisation's existing applications.

Secure access to the solution is provided using three authentication models including one that involves an Intelledox user name and password, one that involves authentication based on the Windows password (authorisations are created within Intelledox), and a Windows-based authentication and authorisation system where access is set up automatically based on the user's Windows group membership with Intelledox Enterprise utilising Active Directory (AD) to automatically authenticate users' assigned permissions. Once the appropriate authentication model is set, all user access is controlled according to role-based permissions.

Created documents and templates are stored and managed from within the same repository. Where appropriate, for example when working with partners, they can also be stored in documents and records-management systems. Intelledox has a partnership with HP for its TRIM solution, and with Microsoft for its SharePoint offering.

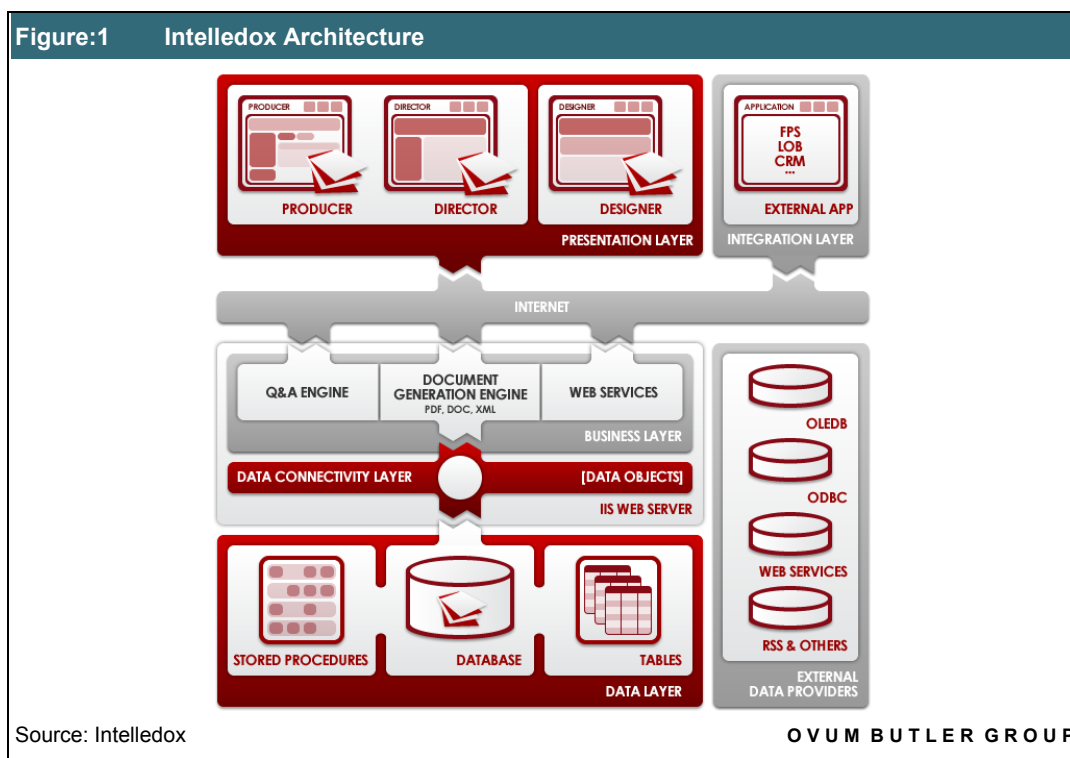
Generated documents come with metadata, such as who created the document, when, and details about the client and the circumstances, that can be defined and added to the document-management solution. This approach adds substance and richness to the document and the Relational Database Management System (RDMS) without added burden for the user.

However, the solution operates only on Microsoft SQL Server, which could be seen as limiting its applicability for large enterprise environments. Also the product does not yet natively support workflow for automating the review and approval of templates, although development activities are already under way in both areas. The solution has strong integration with a range of workflow solutions such as Compuware Changepoint and Microsoft SharePoint, which are capable of providing workflow for document approval, content management, and event generation.

Operating across most business sectors this is a solution that Ovum recognises as relevant to any enterprise aiming to streamline and improve the efficiency of document creation and associated whole-of-life management requirements. It offers the benefits of formalising the process of creating corporate and personalised versions of business correspondence that is consistent in terms of its message and branding. While achieving these objectives, it also gives process and content owners a high level of independence from IT.

### Product Operation

Intelledox has the capacity to process over 100,000 documents per hour, with authorised users having access to a range of easy-to-use bulk-generation facilities. Intelledox is an n-tiered application built on a Microsoft .NET Framework, XML, Internet Information Server (IIS), and the use of MSFT SQL Server technology (see Figure 1). It comprises three main logical tiers: a data layer, an application/business connectivity layer, and a presentation/client layer. The data and business tiers can run either on the same server or on multiple business servers, and the connectivity layer was built using an extensible provider model that supports connectivity through third-party data stores and line-of-business applications.



The data tier consists of the Intelledox Database that acts as a centralised repository for storing and managing all of the components required for documents and their templates. This includes template content, business rules, layouts, style-sheets, and the templates themselves. The database stores a complete transactional history of all of the documents and communications created and forms the foundation for its analytical capabilities. It maintains dashboard-deliverable views of all user/project-related details, as well as maintaining version-control capabilities.

Another feature of the functional role of the data tier are integration capabilities that enable Intelledox Enterprise to interact with a variety of external data sources to retrieve data. Data sources supported include OLEDB/ODBC, RSS Feeds, XML, and Web Services. Intelledox achieves connectivity to these external resources by using connection strings. Access can be configured using tables or views that are exposed, and can be filtered down to the user layer according to what is relevant or appropriate to the user's role.

The application/business connectivity layer consists of the core Intelledox Process Engine where all business rules are managed. Based on these rules, the assembly of documents and associated data takes place. The process engine handles document-generation services and question-and-answer logic processing. This approach makes certain that all document components, data, and design layers are accurately assembled in order to ensure that they yield well-formatted business-quality output. The Intelledox platform can also be used to process data in parallel with document generation. For example, it can pass any data collected from users or enterprise data sources to a third-party system. As an XML rules-based tool, Intelledox can also run a series of predefined data processes or rules before any integration (with say a CRM system or line-of-business system) is triggered.

The presentation/client layer hosts three key modules of the Intelledox Enterprise solution: Intelledox Designer, Intelledox Director, and Intelledox Producer, all of which are accessed via a Web client.

**Intelledox Designer** is a Wizard-driven document-creation tool. It is available as a desktop application downloaded to the user's computer using Microsoft ClickOnce technology. It provides an administrator (template creator) with an easy-to-use interface that controls the definition of document rules, relationships, properties, and other document elements such as images and logos. Intelledox Designer supports separation of content from presentation to allow different users to develop their own templates and create and manage the content. The main advantage of managing both content and layout templates separately is that while a layout template manages a document's style attributes and formatting options, the content template maintains a document's content and the logic surrounding how it is generated. The approach allows various styles to be applied to the same content template and vice-versa. The module also enables template creators to define metadata attributes for documents.

Ovum believes the Wizard-driven drag-and-drop approach, which Intelledox Enterprise applies to the screen facilities used to deliver its template and document-creation services, forms a core strength of the solution because it obviates the need for template and document creators to have IT-level technical skills. The user interface allows segments of a communication to be simply dropped into the template to allow business-focused formulation of conditional properties and rules.

At a more detailed level, Intelledox Designer provides users with an integrated toolbox of facilities that allows them to control and define how they want document-related questions to be used, framed, and displayed to the end user. Questions can be organised into columns or set under tabs within a single page. The question tool enables template creators to drag and drop various question types and sets to define how and what type of data needs to be collected. An answer tool then maps the defined questions and the answers obtained to the bookmark tool created in the basic document. Through the use of a properties tab the designer interface enables users to configure properties for the created question sets, such as setting width and rows, and where in the screen a question should be displayed.

Bookmarks can be viewed using a bookmarks tab, and a content-library tab allows data extraction from the Intelledox content library. In addition, a validation tab is available to ensure that all user responses can be authenticated in real time based on pre-set conditions. An auto answer tab allows previously entered answers to be used where similar responses are required.

**Intelledox Director** is the centralised management system of the Intelledox Enterprise solution. By using a Web interface approach, it enables organisations to centrally manage users, documents, projects, connections to data sources, and the content library. All projects created and modified using the Designer can be accessed from the Director by users that have administrator access rights. Authorised administrators are allowed to search based on groups or project names, to modify project names and edit project permissions, and import and export projects. They can also create packages by grouping similar projects so they can be made to run automatically in a sequence, and publish projects and packages onto folders that can be made available to end users in Intelledox Producer. In addition, administrators can view the Intelledox project history. When the details of a project are changed, Intelledox Director stores the newer version of the project to support ease of roll-back and restoration.

**Intelledox Producer** is an end-user portal-management facility that ensures documents created and modified using the Designer module are saved and published and can be easily accessed by end users. Once an authorised user logs in to Intelledox Producer, the facility displays all documents the user is authorised to work with. This module consists of a Web-based Wizard to guide end users through the entire process. Users initially select the document they wish to generate, and the Wizard starts up its smart-guide function, directing users through a series of Intelledox Designer questions via a Web form. The answers provided are used to populate and generate a new updated document.

**Intelledox eforms** is a dynamically generated rich Web form based on rules defined in the Designer module. These forms are highly customisable and rules-driven to allow a high degree of interaction with the user, and only show questions relevant to the user. They can also be used to display line-of-business data to the user for verification or update as part of the document-generation process.

## **Product Emphasis**

The Intelledox Enterprise solution provides a high-volume document-creation solution that enables the end-to-end creation and lifecycle management of business and end-user documents. Aimed primarily at business correspondence, the solution provides enterprise alignment with design layouts and rules, and connections to enterprise databases and applications. The focus is on enabling content and process owners to create document templates and rules that govern their use and personalisation requirements. The entire document-creation process can be formalised to support the needs of the business, with all templates and documents maintained using a single-repository approach.

The breadth of the solution's document-creation and management facilities are extensive. User familiarity is supported using a Microsoft-based approach. Scalability, both in terms of numbers of documents that can be generated and throughput, means Intelledox can compete with the leading document-generation solutions on the market today.

## DEPLOYMENT

The company reports that all systems-deployment expertise can be provided using its own staff. It also provides the opportunity to work in partnership with a customer's in-house IT team and document-management professionals, or with professional services organisations and systems integrators. A typical pilot project's implementation time is about 10 days and involves no more than two staff resources. A departmental implementation can take between 20 and 40 days and involve between five and ten staff. A typical enterprise-wide deployment would take between 40 and 100 days and involve 20 to 40 staff.

Intelledox provides three levels of technical support: telephone support 8am to 6pm Monday to Friday (based on Australia Eastern Standard time) charged at 20% of the original licensing cost, free 24x7 online support, and "out of hours" telephone support where the cost is negotiated on a client-by-client basis. The solution can be deployed as a user-owned on-premise model, an on-premise managed model, a hosted dedicated model, or as a separate SaaS offering. Intelledox Enterprise provides support for Microsoft Windows XP, Vista, and Windows 7. On the server side, Intelledox supports Microsoft Windows Server 2003/2008, Microsoft SQL Server 2005/2008, Microsoft IIS 5.1 or above, and Microsoft .NET Framework 3.5.

## PRODUCT STRATEGY

Intelledox Enterprise's traditional focus has been on government agencies and the public sector. It also targets financial services, manufacturing, mining, logistics, healthcare, and the education sector. In terms of geography, Australia, New Zealand, Singapore, and Hong Kong have contributed strongly to Intelledox revenue streams. China is an important upcoming market for the company, and through reseller partners it also targets the UK, the US and Canada, and the Asia region. The company's route to market is mainly direct, which accounts for 85% of its revenues. Sales through resellers and distributors account for the remaining 15%.

Intelledox's global partners include Dimension Data (SharePoint integrator), Gen-I (Sharepoint integrator), CSC (Systems integrator), OBS (Sharepoint integrator), HP (TRIM Document Management), and Core Delta (Integration Architect). Technology partners include Microsoft, HP (TRIM), Oracle (Siebel), and Compuware (Changepoint).

Intelledox Enterprise is offered via an enterprise-licensing model on a named-user basis, starting at 50 users. For the SaaS model the solution is sold via a monthly subscription, starting at the level of one processor with a minimum of 5,000 documents. The fully hosted licensing model starts at 50 users via a monthly rental subscription with a minimum term of three years.

The solution's ongoing release cycle involves patches and fixes released on a quarterly basis, a minor release every six months, and a major release (a new version) every year. Over the last year the company has focused its development strategy on enhancing Web-form capabilities and plans to keep working in this area. In addition, it has plans to focus on integration and the use of Web services and automatic links to SharePoint. The future roadmap also includes support for Oracle's database platform, which is seen to be of particular interest to large enterprise customers. It is also keen to build workflow capabilities that will allow users to directly update all their details using Web forms.

## COMPANY PROFILE

Intelledox was founded in 1999 as a bespoke software-development house that specialised in office automation. The Intelledox Enterprise solution was brought to market in 2005 to address the specific requirements of automated document creation. The company, which is privately owned, is based in Australia, with its development team working out of Canberra. It also has additional offices across Australia and has secured investment from several private investors. Intelledox has 300-plus customers for its overall product portfolio. Intelledox Enterprise has a client base of 20 customers covering about 20,000 users. Reference clients include AXA, Tradelink Electronic Commerce (Hong Kong), Civil Aviation Safety Authority, Hastings Deering, and Department of Health and Community Services.

## SUMMARY

The document-creation and management market is relatively small in terms of the number of vendors and solutions that have the capability to automate and manage the end-to-end lifecycle-management requirements of business clients. In Ovum's opinion, many enterprise organisations would benefit from the automated productivity and consistencies provided by the Intelledox Enterprise solution but have not yet invested in this type of technology and continue to rely on more basic manual or semi-manual approaches that are fraught with business-continuity challenges such as dependence on manual processes that often lack structure and consistency of reuse.

The usage-benefits scenario that Intelledox focuses on is strong: business efficiency driven by the availability of prebuilt and reusable templates, document consistency based on the Microsoft environment, and the increasing need for Web-based access, support, and services-delivery capabilities. Ovum believes Intelledox has a potentially very large market opportunity to deliver a range of document-automation services of value to an extensive range of public and private-sector organisations. Overall, this is a solution that merits closer evaluation by any company with ongoing document-generation requirements.

**Table 1: Contact Details**

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