Cradle-7
From concept to creation...

3SL

Cradle-DOC

The **Cradle-DOC** module generates documents by combining user-defined templates with items in the database. A document register and a correlation between documents and database items provides full traceability.

Projects use documents as sources of information (such as user requirements or regulations, codes and standards), as confirmation of agreement (such as a CONOPS or RTM or SRD) and to define interfaces between project teams or organisations (such as a SDS or SSDS). Often, a project's progress can be expressed as the issue states of its key documents.

Cradle can generate user-defined reports that will satisfy all internal project needs for information, including simple lists, compliance tables, change logs, traceability and coverage matrices. These outputs are produced from the report, view, query and matrix facilities of the **Cradle-PDM** module.

The Cradle Document Generation module exists to produce complete, high quality, documents directly from the database. It can publish documents that include cover pages, Tables of Contents, Lists of Figures, sections and subsections with mixtures of hierarchical paragraphs, bullet lists, figures and tables.

Any number of documents can be defined. Each starts as a Microsoft Word® document that has all of the internal structure, page layouts, styles and formats required. The Document Publisher tool is used to insert tags into this template everywhere that data is to be reported from the database. Each tag defines both the information to be published, and the high-level formatting to be used for this information, for example if it is to be published as

a hierarchy of sections, a bullet list, or as rows in a table. The tags can follow cross references in any manner required, so complex relationships can easily be included in the document. The tags are defined through a UI, so that complex scripts are not needed.

Arbitrarily complex tables, hierarchies of sections and subsections, embedded diagrams, paragraph and section numbering and self-referencing within the document are supported, all specified within these tags and their associated descriptions.

At runtime, the Document Publisher uses the tags to query the database for information that is to be loaded into Word and formatted according to the styles, contents lists and indexes of that Word template. Embedded binary data can be loaded into the document, including any other Word documents and other binary content, including figures, spreadsheets and drawings.

Document templates can include user-defined

variables that are specified at runtime so that a single template can be used to produce many different documents.

Any number of these templates can be defined and each used to generate many documents. Each document publishing operation will report either the current work-in-progress information or the

DOC Document Generation

ISO 9001 ISOQAR REGISTERED 0026

UKAS MANAGEMENT SYSTEMS

Certificate Number 16926

contents of project baselines created with Cradle's built-in Configuration Management System.

Documents can be published from the Document Publisher tool's UI, or from nodes in a user-defined phase hierarchy UI, or the command line. This allows Document Publisher to be run in batch mode, for example to publish standard project documents overnight.

When Document Publisher is used to publish a document from a template and the database, the resulting document can be marked as a formal document by specifying an issue, issue date and reference. In this case:

- A copy of the published document is held in the database so it can be provided in the future
- A record of the document is added into a formal document register, and
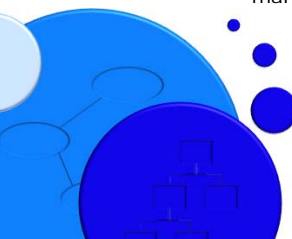- Cradle records which instances of database items were used to produce the document

This means that when anything changes in the database, you know which formal documents contain the items that have changed, so you know which formal documents need to be re-issued. The new versions of these formal documents are also recorded in the register.

Comparison of the contents of different issues of project documentation and the items published within them, are fully supported.

Published documents can be provided to customers and suppliers. They can also be captured using the Document Loader tool, after an external group has made changes. So cyclical processing of external documents is supported. When combined with the register of the issue states of project documents, this facility means that all document-orientated processes are supported. The tools therefore fully support all customer-supplier and supply chain management contexts.

Feature Summary

Feature	Benefits
Arbitrarily large and complex documents	Generate the documents that your project needs with any format, any layout, any style and of any size
Document templates defined in Word	Generated documents have the same style as all other documentation
Integrates into project workflows	Once generated, documents from Cradle can be processed in the same way as any other document
Document contents defined through UI	No complex scripting languages to learn, use existing paragraph, character and page styles
Runtime variables	Define a single template from which several different documents can be published
Controllable information ownership selection	Document approved project baselines, current work-in-progress of the latest information from either source
Automated section numbering	Create arbitrarily complex document structures automatically based on information structure within the database
Arbitrary cross reference nesting	Create tables which follow any number of levels of cross reference according to user-defined rules
Document self-referencing	Structure later sections based on the contents of earlier sections, including where the structure of these earlier sections has been generated completely automatically.
Built-in support for PVM, RTM and similar matrices	Easily construct major tables in specification documents by using built-in support for the most common traceability matrices
Embed figures and tables	Reflect the rich internal structure of Cradle database items in your generated documents
Batch mode	Automatically generate documents when users are off-line
Formal document register	Maintain a list of the issue of specific versions of formal project deliverable documents, with the means to reprint any document version on demand
Formal document correlation	Know which versions of which items are published in each issue of each document. When an item changes, know which documents need to be re-issued. Compare documents to report the differences in items and items' instances shown inside them.