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## Misys Learning Suite

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Technical Architecture

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## Executive Summary

### Abstract

This document details how the Misys Learning Suite (MLS) can be used to create interactive, clones of your target application. The Misys Learning Suite is based on software cloning, a totally different paradigm than other screen copy solutions. This technology is based on capturing information from the real application, storing it (in a simulation file) and playing it back as a clone of the original transaction.

On top of the cloned screens, an informative, lesson layer is created that encourages your end user to interact with the clone to perform tasks. They receive feedback every time they make a mistake, be it when performing an action or entering data.

The lessons can be automatically checked to ensure they can be completed by your end user, and you can control the pre-publishing and publishing of the materials to ensure you give the end user the content and experience you require.

The first section of this document examines the architecture surrounding the MLS application: the installation, capturing, how the core product works, multilingual features and publishing.

The second section is designed to cover the publish form MLS and process from an end user perspective, what is happening when they play a lesson in the various form MLS. It also covers deployment architecture.

### Key Terms

Throughout this document, several key terms are used regularly. These terms are integral to understanding how MLS works.

The first time a term is used, please refer to the Glossary section at the end of this document to ensure you fully understand the concept presented.

## Key Features

The Misys Learning Suite (MLS) allows you to create interactive lessons designed to assist your user through a particular task in an application.

Listed below are the main features of the software.

## Interactive Lessons

The Misys Learning Suite generates fully interactive simulations without a single screen copy. This means that lessons become more interactive and emulate the real application:

- Data can be entered in simulated screens in any order
- Same actions can be performed in multiple ways (mouse, keyboard, shortcuts, etc...)
- Full free-navigation can be obtained to simulate real application behaviour

Simulation capture is made in a matter of minutes, with no programming involved. Capturing is a manual process, where information is recorded while the application is used to perform a specific task. The lesson layer is generated automatically once the capturing of the clone is complete.

The lesson layer guides and evaluates trainees while they are working through the task. Lessons can include any kind of external training resources, Microsoft PowerPoint, Adobe PDF, HTML files or Flash™ movies. Voice can also be added, as well as character customisation. Messages are edited in HTML format, thus including unlimited possibilities of style and interactivity with the trainee.

## Automated Quality Check

An automated test facility is provided. It means all lessons can be fully tested in minutes. The test will simulate the actions a trainee would perform in the simulation, thus validating all its screens can be accessed correctly, and all steps can be carried out.

This becomes extremely important when maintaining the Training Solution, during the quality control process, because it allows the testing of hundreds of simulations in much less time than it would take to manually verify each action, without human intervention. Combined with testing is also the capability of automatic recapture of simulations, making the full solution extremely maintainable.

## Integrated Multilingual Capabilities

As the clone is not comprised of a single screenshot, the objects within the clone can be translated very easily into foreign languages. Text export facilities are provided, as well as dictionary management, so that this same training material can be played in as many languages as you request. You do not have to design and develop your training kit for each target language.

MLS is fully compliant with ANSI, Unicode, or DBCS character sets, meaning lessons can be displayed in all languages (Latin-European, Arabic, Asian, Hebrew, Russian, Greek, etc...).

## Documentation Generation

Transactional documentation can be generated automatically from the tutorial. This documentation is generated using XML, and can then be converted to Microsoft Word or HTML format. It includes screen copies of the each step in the transaction, with pictures generated to show where the user needs to enter data and where to click. You are able to customise the output, so that each set of documents can have tailored fonts, header, logos and styles. Documentation is generated in several languages using a dictionary. All the screens and text of the training material within the documentation is available in all languages thanks to the integrated multilingual features.

## Deployment

The final lesson comes complete with multiple modes in which it can be played, often lessons will contain a demonstration mode (show-me), a practice mode (let-me), and evaluation mode (score-me), as well as automatically generated training mediums (transactional documentation, training portal, , multilingual generation capabilities via dictionaries).

Lessons, documentation and dictionaries are packaged automatically for online or local deployment. All files are compressed for optimisation. Trainees can access all training resources from the generated Web portal.

Publishing on Intranet also incorporates automatically AICC and SCORM compliance, and facilitates enormously the task of integrating eLearning content into a Learning Management System (LMS). It is also possible to publish all training resources in all defined target languages.

## Quick Tour

The MLS Content Developer installation offers you several areas of functionality, split into modules in the interface. Using these you are able to create the output described above.

- **Project:** Create a project to encompass both the physical files for your work and also as a conceptual container to hold global settings and configuration.
- **Templates:** Customise each aspect of the finished output (including the portal publish, eNote and messages) to work with your corporate standards.
- **Content Plan:** Build the structure for your project using groups and sub-groups to help you organise your work and provide a coherent structure to present to your end-users.
- **Lessons:** Simulate the use of an application (e.g. Misys Summit FT, Misys Equation...) and enhance with guidance to explain to end-users what to do. Allow them to practice without using the real application.
- **Documentation / Publish:** Automatically generate documentation to be used both in a classroom situation or to give additional online help. Publish your training material on a CD ROM, or in a format suitable for Intranet and Internet environments.
- **Dictionaries / Data Protection:** Create lessons in different languages by applying a dictionary or anonymise information for data protection or localisation purposes.
- **Expert:** You can view simulations and tutorials in textual mode to enable you to edit and amend the objects and actions directly.

## Content Creation Flow

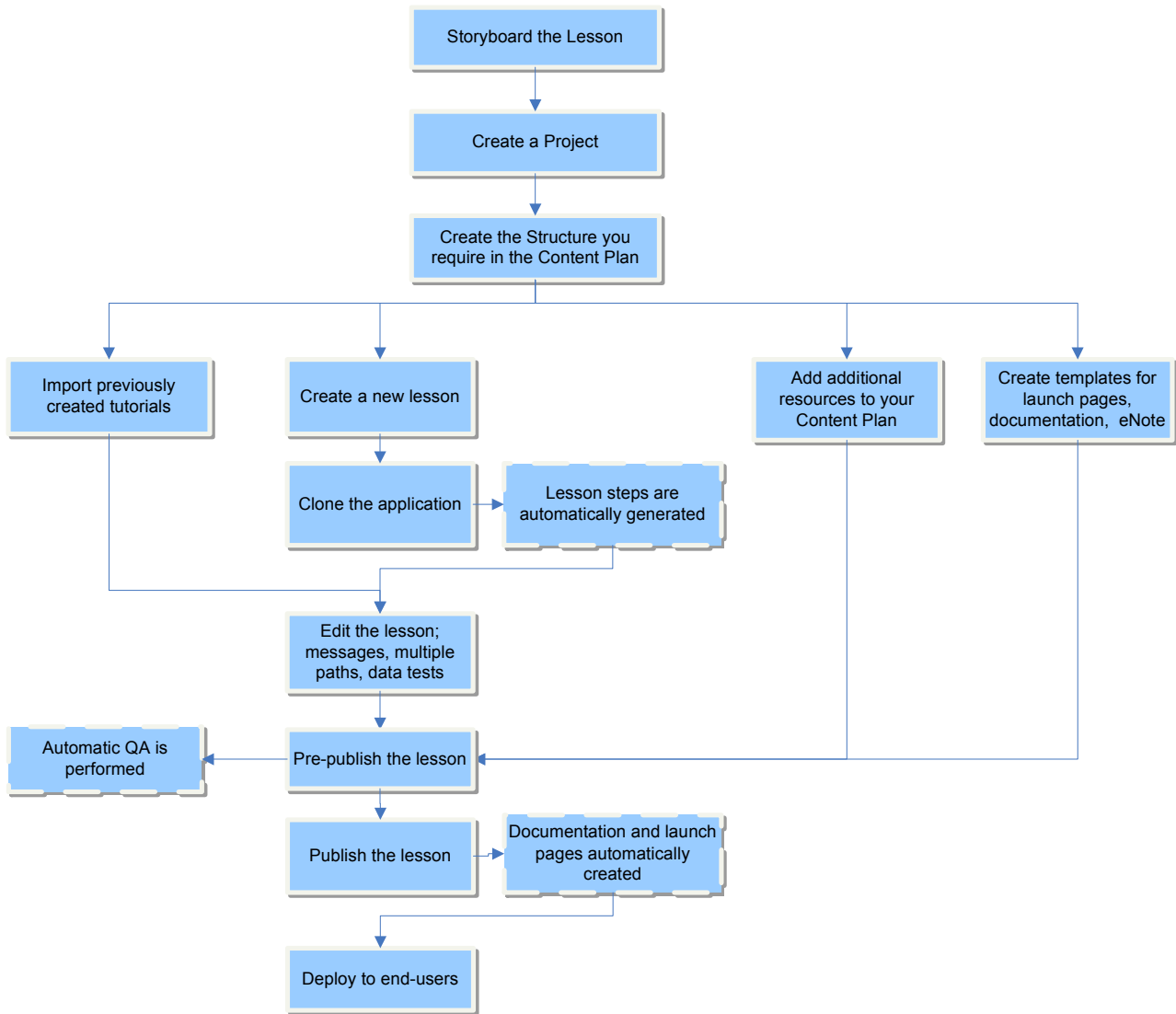
The first step is to define your project (the area of the application you are training your users on) and to determine the task(s) in the application that will be included. The Content plan enables you to create the exact structure that you would like to present to your end-users.

Once this has been identified, you are able to run through the scenario, 'capturing' the graphical appearance of an application and the behaviour at each step. This information is recorded in a simulation file and in this way it can reproduce the display and the behaviour of the real application exactly. After the capture a lesson layer is automatically created.

As well as capturing new lessons, you can also add to your training content previously created MLS lessons (and supported third party vendors) and other supporting documentation such as Microsoft PowerPoint slides and Adobe PDF documents.

Once you have the lessons complete and other content imported, you are able to publish this material into a format that you can present to your end-user. You can use either online or local deployment. MLS also incorporates AICC/SCORM compliancy, enabling information about the lesson to be sent to a Learning Management System.

The diagram below gives you a graphical illustration of each stage mentioned above:



## Developer Version

### Architecture Charts

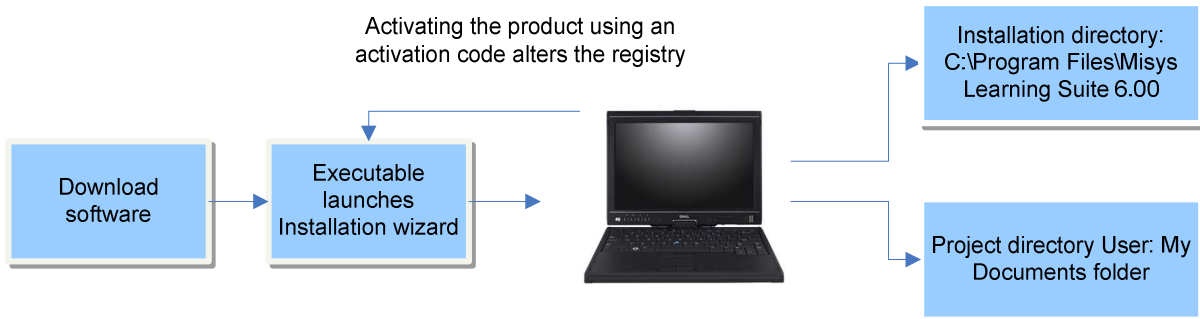
The following charts demonstrate the architecture and behaviour used within the MLS software from a Content Developer viewpoint. They illustrate the architecture and behaviour used during Installation, Capturing, using the Core Product, Multilingual, and Publish.

### Installation

The installation package will be sent to you by your contact at Misys. Full information on installation is given in the *MLS Installation Guide* document.

The application is installed in C:\Program Files\Misys Learning Suite (user may wish to change this directory during installation). An initial project directory is used in the users Documents and Settings folder. If this is not accessible then the user is able to choose an appropriate directory. Note this can also be changed later while using the product. Simulations and other lesson content are stored in this directory.

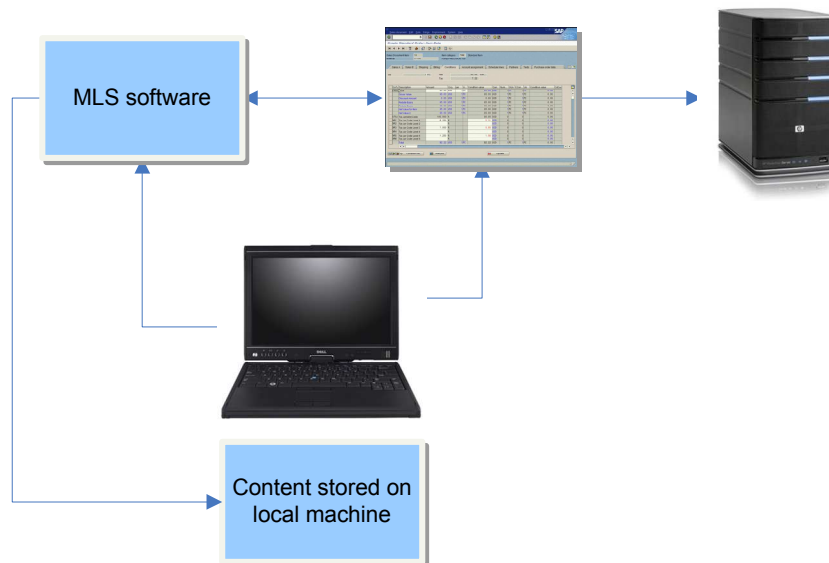
The product is launched through 'Start > Programs' or using the shortcut installed on the desktop.



## Capturing

MLS is a program which “captures” the graphical appearance of an application and records the actions of the user during the capture process. In this way, it can reproduce the display and the behaviour of the real application exactly and thus looks and feels like the real application.

1. The target application is launched (through MLS or externally). The MLS must run in the same windows session as the target application and the capture process is then started.
2. As the user moves through the application following a scenario, they press CTRL each time the new information is loaded on the screen. The Misys Learning Suite software accesses the target application to record information about the appearance and behaviour of the scenario carried out by the content developer.
3. The target application may access the server at any time for processing, but as the capture process interacts with the local executable, the environment does not affect capture
4. At the termination of capture, the simulation files are saved in a dedicated lesson folder within the My Misys Training Projects folder.

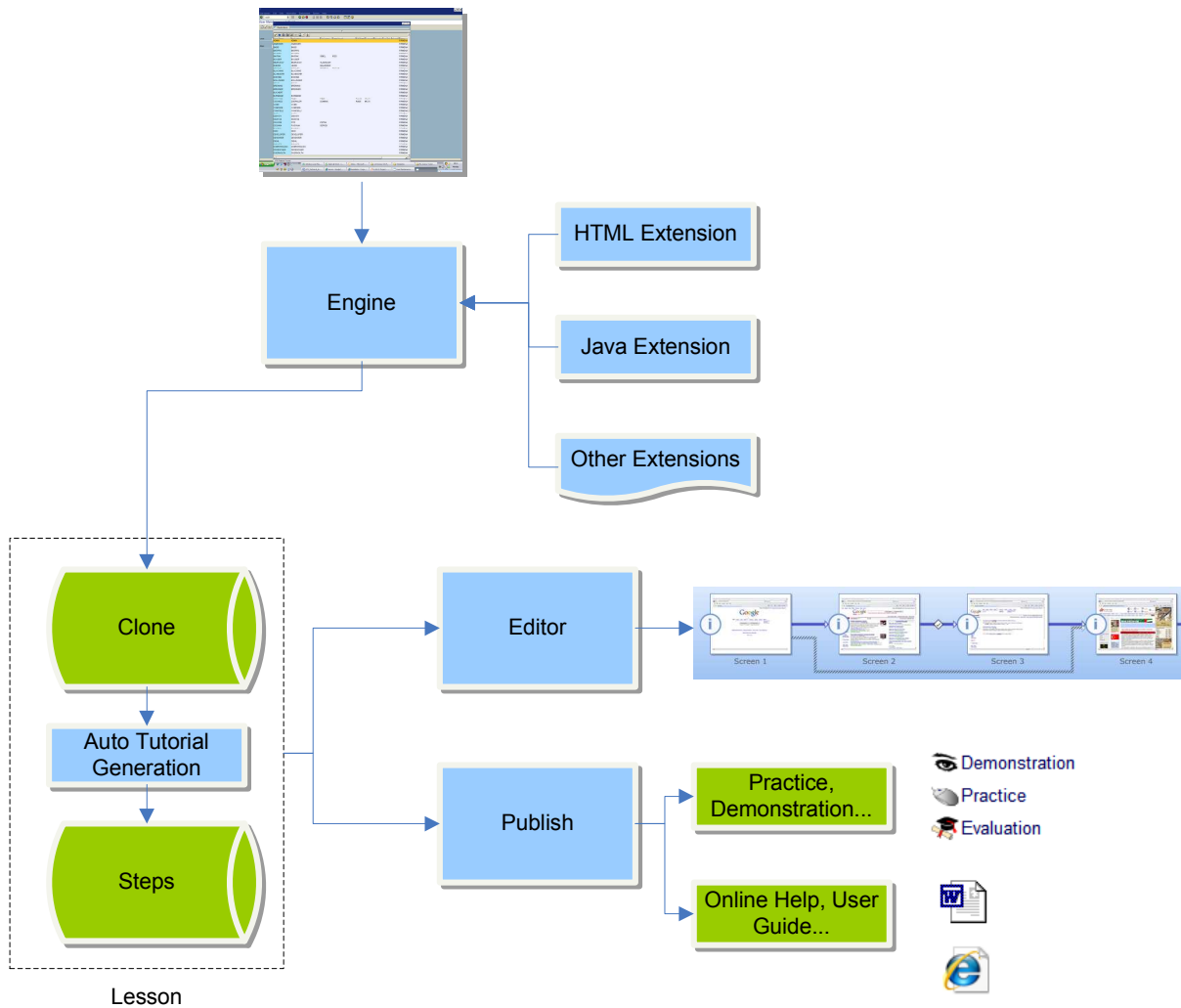


## Using the Core Product

The information from the real application is captured using the core engine and an additional 'extension' (specific to the language of the application). The information needed to create the clone is recorded and lesson steps are automatically generated once the capture is complete.

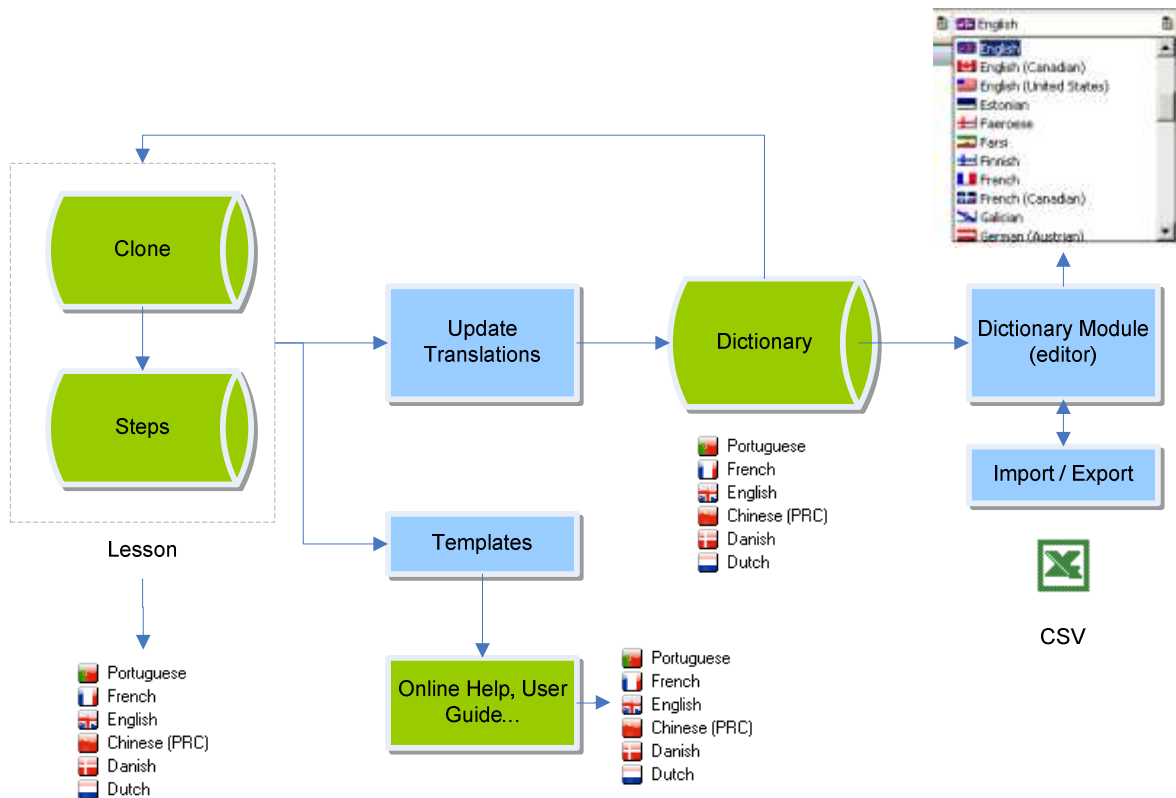
The lesson can then be edited using a graphical editor within the product. Messages can be added, alternative paths recorded and additional triggers added to make the lesson as interactive and informative as possible.

Once this is complete the lesson is published. You are able to choose from several default viewing 'modes' (all of which are customisable) and you are also able to generate other documentation from the lesson content.



## Multilingual

Additional to the core product, dictionaries can be used to extend the content created. The same content (both lessons and documentation output) can be displayed in multiple languages by extracting, translating and applying dictionaries.



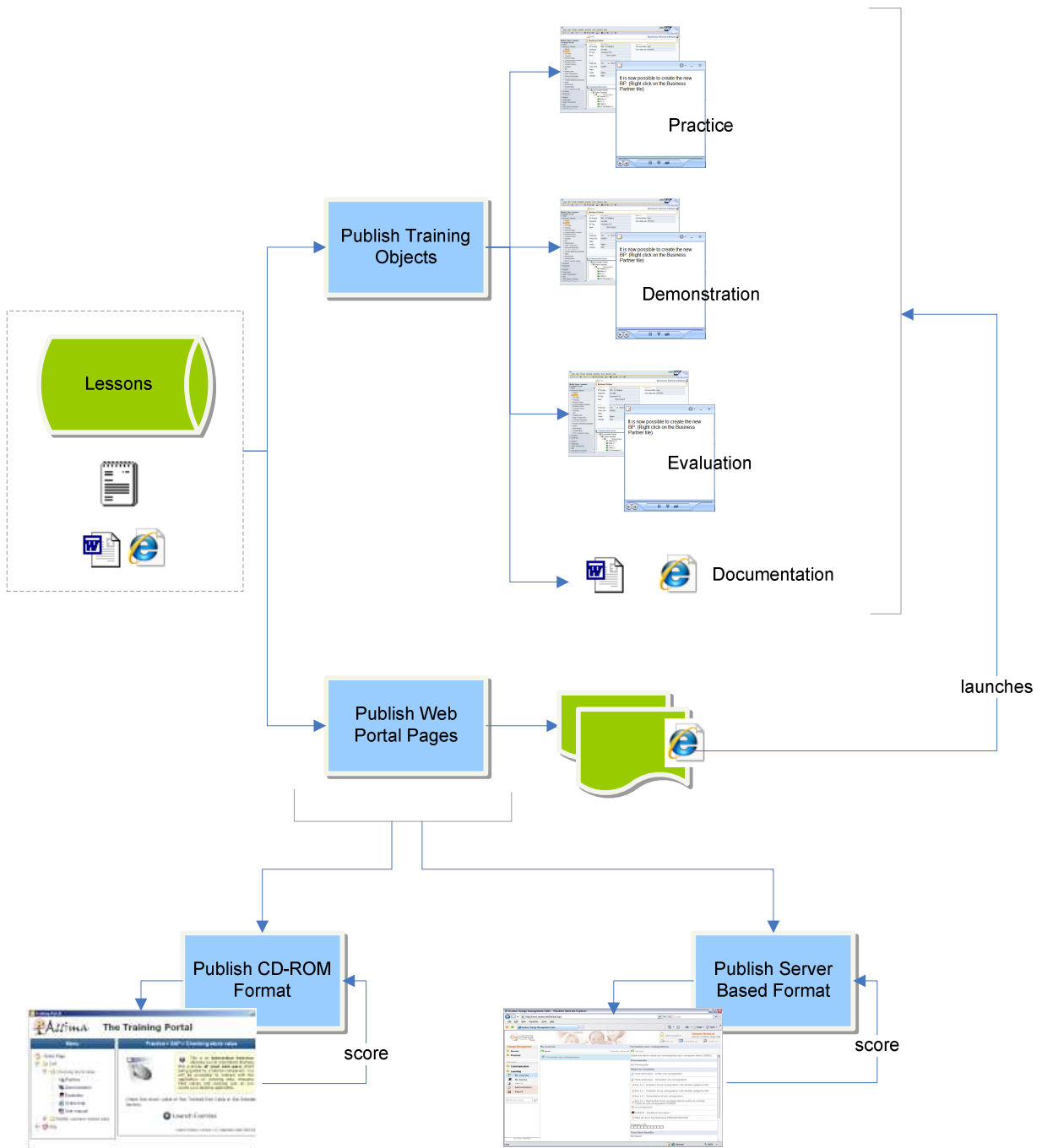
## Publish Process

From a content developer perspective, the publish process involves selecting the content that needs to be presented to the end user (lessons, external resources), content may also be published in additional languages using dictionaries.

The content developer then chooses which 'modes' should be created. These include Demonstration, Practice, Evaluation, and also any accompanying documentation.

These training objects are then packaged into a format suitable for the method of deployment (local or via intranet) and a Web portal is created (HTML files/JavaScript), that is used to access the materials and launch the lessons. Depending on the type of publish used, there may be some client-side installation required to run the training content, see dedicated information for each publish type below.

The score can be recorded when using both local and online deployment. For local deployment, a flat file is stored on the end user's machine to record their performance in each lesson. For server deployment the lessons must be uploaded to an LMS and then the score is transferred using SCORM.



## Technical Requirements

The technical specifications are contained in the Developer Station Technical Specification section of the *MLS Technical Specifications* document.

This details not only the hardware specification, network requirements and server permissions (where applicable), but also the operating systems, configurations, and application versions supported by Misys for which we supply extensions (eg. Misys Summit FT, Misys Equation etc).

## User Version

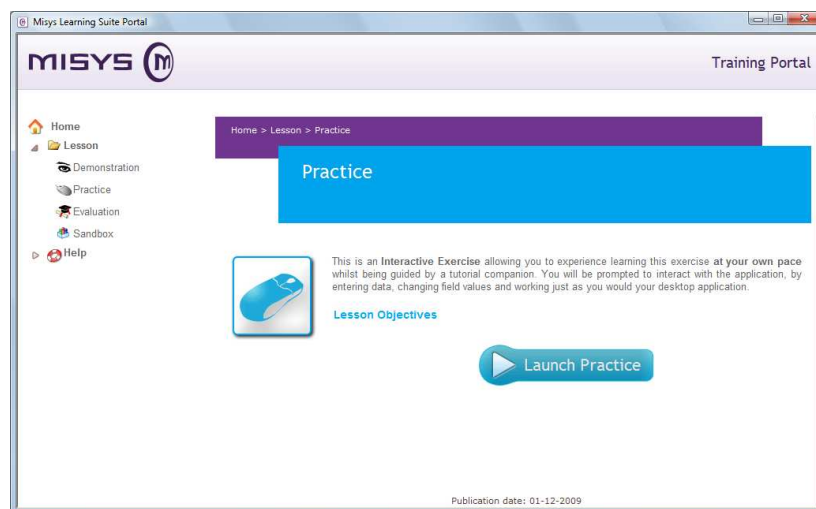
### Overview

Your end-users can access the published training material in a variety of ways as explained in the Introduction.

Essentially, these are either Trainer-led within a classroom environment (Simulations and/or PowerPoint presentations) or self-paced sessions available on-line as interactive tutorials. Documentation generated from the training material can also be available either as hard-copy or on-line references. The End User Illustration on the following page shows the technical architecture of the end-user components.

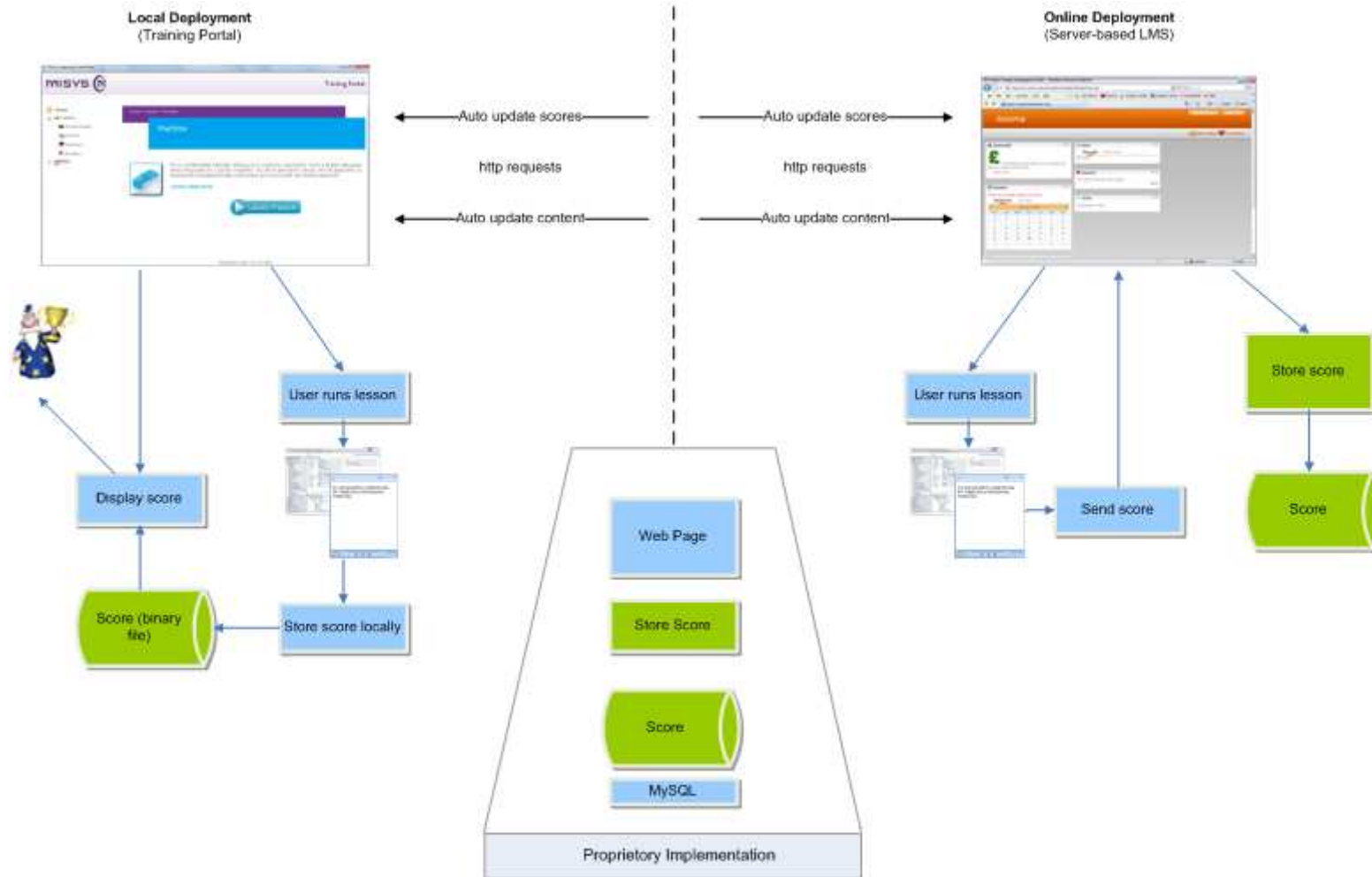
### Accessing the Materials

As discussed in the Publish section of the Content Developer section, a Web portal is created during the publish cycle and allows the materials to be easily accessed and the lessons launched. A custom page is provided but this portal can be fully customised to include corporate colours and logos.



The diagram on the next page gives a general illustration of how the content is deployed to an end user (depending on the method chosen).

# Misys Learning Suite – End User Deployment



## Glossary

AICC	An industry standard used to define a protocol by which information can be passed from training content to an LMS.
Misys Learning Suite	The software used to create training lessons on a particular software application.
MLS	Misys Learning Suite
Deployment	How you present the training materials to your end users.
Learning Management System	A web-based intranet system used to give end users access to content and to record their performance.
LMS	Learning Management System
Modes	Ways in which a lesson can be viewed.
Pre-Publish	The process where lessons are prepared for publishing.
Publish	The process where lessons are converted into a format that can be viewed by an end user
SCORM	An industry standard used to define a protocol by which information can be passed from training content to an LMS.
Simulation	A cloned replica of an application, created using MLS, which training materials are based.
Target application	The application of which you are creating a clone.
Templates	Files and settings that can be altered to customise the training content.

## Annex: Document History

Section Title	Location	Comment	Editor/Date	Version
All	All	Created document	Shyja Prabhu 02/12/2009	1.0
All	All	Updated	James Gale 20/01/2010	