



**AKUTER™ Enterprise**  
*Adaptive Learning Management System*

White Paper

Written by Jay Farhat PhD.

[jsf@akuter.com](mailto:jsf@akuter.com)

## Table of Contents

<b>THE NEW LEARNING ENVIRONMENT .....</b>	<b>3</b>
<b>CHALLENGES.....</b>	<b>3</b>
<b>SOLUTION.....</b>	<b>4</b>
<b>NEW APPROACH.....</b>	<b>5</b>
<b>AKUTER™ ENTERPRISE .....</b>	<b>6</b>
HOW DOES IT WORK.....	6
TECHNOLOGY .....	8
<b>AKUTER™ IS MORE THAN JUST AN LMS .....</b>	<b>10</b>
<b>SUMMARY .....</b>	<b>10</b>
<b>FOR MORE INFORMATION.....</b>	<b>11</b>

## List of Figures

Figure 1: AKUTER™ learning system.....	7
Figure 2: AKUTER™ Architecture.....	9

## The new learning environment

The new enterprise-learning environment needs to be ubiquitous due to the global nature of today's business. Courses must be simple to implement and quick to maintain, because of constantly changing training materials. It must be cost-effective, based on actual learning hours. In addition, it must be instrumental in maintaining employees skills and loyalty to the company through continuous learning. Obviously, instructor-led classrooms will not be able to provide the competitive edge in the 21<sup>st</sup> century business environment. Corporations understand the issue and realize that the need for a cost effective solution to address their training issues within their enterprises is becoming mandatory.

The need for an effective solution to the training issues is a fact understood by businesses and governmental agencies alike. This very important issue led to the formation of the Advanced Distributed Learning (ADL) initiative by The Department of Defense (DOD) and the White House Office of Science and Technology Policy (OSTP). The objective of this cooperative work is to develop the 21<sup>st</sup> century training standards. After careful evaluation of all existing standards and products, ADL asked the IMS Global Learning Consortium to manage the new learning standard process.

Akuter, Inc. built a Browser-Based Intelligent Learning Management System with Authoring tools to be compliant with the emerging standards. In addition, the product provides intelligent delivery through full server adaptive control that approximates one-on-one learning objectives with quality learning objects. Because we are a new company we did not have to deal with the old ways of building computer based training. We used the new technology with interactive learning through our Adaptive Learning System. Our "Designed for Trainers" approach allows our customers to monitor their learning materials and data at their own location. We offer not only advanced software applications, but also provide dedicated education and support services, maximizing our customers' benefits. Our purpose is to make sure our customers gain autonomy and expertise from us to meet their business needs.

## Challenges

The current business environment demands superior products and services to stay ahead of the competition on a global scale. One of the most important factors in achieving organizational objectives and competitive edge is to maintain a skilled, productive, and loyal work force that can react rapidly to changes in business climates and products.

Akuter, Inc. surveyed managers in a cross-section of enterprises in order to identify the challenges being faced, and how these challenges could be addressed with innovative solutions. Out of this survey it appeared that the eLearning market was not being effectively served even though numerous vendors were trying to deliver solutions.

The survey revealed the following weaknesses in the existing eLearning solutions:

- The high price of entry excluded non-Fortune 500 organizations
- A long deployment schedule made solutions cost-prohibitive
- A lack of quality course content made eLearning unattractive
- The methodology used did not allow for rapid course development for an effective learning experience
- Course content updating was too cumbersome for a real just-in-time learning environment

As a result of this survey, the following challenges had to be addressed to allow any size of business to benefit from a new environment:

- Effectively building employee's skills had to be paramount
- There must be a quick response to changing business needs
- The product must be ubiquitous and easy to use
- It must be affordable with a relatively low financial commitment
- The delivered training should match the quality of one-on-one training
- The system developed must be open, flexible, expandable and technically state-of-the-art
- It must be designed to support both existing and future standards
- The system must be designed to communicate with other enterprise systems

Akuter, Inc. achieved a solution to help managers deal with these challenges. A solution that our team believes in and our customers testify to its capabilities.

## Solution

Network learning applications are increasingly influencing how we learn and accelerating the speed of learning. The rewards are a more skilled and empowered workforce, an efficient and adaptable training infrastructure with incredible savings in time and money. Knowledge development inside the organization establishes an amazing and competitive advantage for companies to get and stay ahead. An ASTD study shows, for the fourth year, a direct correlation between an organization's investment in training and its performance in the marketplace.

The solution to the corporations' training challenges is the innovative Akuter Enterprise software that combines rapid authoring with an intelligent learning management system. The Akuter system incorporates the advances in technology during the last four years, which have helped shape a solution for the training challenges. Among these are the emerging SCORM e-learning standards and the advances in digital technology that enable the creation of interactive, media-rich courses.

The Web-Based training market is growing strongly because of the convergence of Internet/Intranet popularity and ease of distribution with the increasing need to efficiently train the workforce. It is a valuable part of the enterprise solution and no

longer limited to IT-training. It addresses all sectors of industry, commerce and education and can be accessed worldwide.

## New Approach

Our new approach in building our software will contribute in solving corporations' training challenges. The most important aspect is our intelligent learning server that interacts with the users and scores them in real time. Furthermore, it supports smart learning objects, existing courses and learning objects built with the AICC and SCORM immersing standards. Our pricing model is the most cost-effective way to deploy corporations' e-learning systems.

Akuter, Inc. is committed to provide solutions to the training challenges corporations face. Our AKUTER™ product is positioned to be a leading enterprise application for distributed learning. It is differentiated from any other system through the following:

- (1) Designed and built with trainer specifications and includes a trainer-oriented authoring system.
- (2) Our intelligent server is the first step toward future intelligent learning servers, based on ADL - SCROM. It tracks and interacts with the learner and trainer in real time to approximate the effectiveness of one-on-one training.
- (3) Our product provides an end-to-end rapid deployment enterprise solution. It includes the AKUTER™ Authoring, the AKUTER™ Management, the AKUTER™ billing system and it interfaces with a company's ERP or HR system.
- (4) Low entry cost because of our unique usage-based business model. It means that the server contains the technology to track usage and reports it to our backend systems for billing. This also provides the basis for cost center management.
- (5) The complete tracking, scoring, and time usage provide a great knowledge base to corporations to evaluate their training effectiveness and return on investment, enabling skills gap analysis.
- (6) Our approach is to give corporations total control of their assets. Akuter, Inc. licenses the software to be installed on the customer's own equipment or by the customer's hosting provider.

## AKUTER™ Enterprise

Akuter, Inc. developed an innovative enterprise solution for corporate learning. It is an end-to-end solution that was designed and built for the trainer rather than the programmer. Most of the functionality of the end-to-end corporate solution is within two main products. The two systems are:

- AKUTER™ Enterprise, and
- AKUTER™ authoring system.

The following section explains the functionality of this system within corporate enterprise resources.

### How does it work

Akuter, Inc.'s enterprise solution includes the functionality to support various resources within the corporation. It provides a solution for the trainers, the administrators and corporate-wide learners. In addition, the AKUTER™ Enterprise learning system interfaces with the customer's enterprise resource management system to send training and knowledge results, and retrieve learner profile information.

Figure-1 shows the different AKUTER™ Systems and their interaction within the corporation. In every corporation, employees are involved in training at different levels. Some of these employees are categorized as subject experts who produce training courses for other employees.

#### Building learning objects:

To the trainer, the AKUTER™ product provides an authoring system designed for the trainer and simple to use. It is a Windows application that allows the trainer to use a familiar environment, MS Word, to do his work. However, the result is always a high quality multi-media learning material automatically produced by the authoring system. On completing the course, the system produces HTML code, packages the training materials and publishes it to the server.

#### Administration:

The administrator of the AKUTER™ Enterprise system uses a standard browser to access the administration and configuration module of the AKUTER™ Management System. An Administrator can be the same person as the trainer but tasked with the responsibility to manage the curriculums, the learners' assignments, track the results, and generate training and knowledge reports.

#### Learners:

The learner on the AKUTER™ LCMS uses a standard browser and is limited to assigned training courses defined by the administrator. In addition, administrators can assign courses for self-assignment by authorized learners. AKUTER™ Enterprise launches the course, then guides and tracks the learner through the curriculum. The server interacts with the learner; tracks each step, scores the tests and determines the number of times he or she attempted to take the course. The AKUTER™ LCMS can make a decision to change the path of the course based on the results from the test and interaction with the learner.

### Connectivity:

AKUTER™ Enterprise reports the learners' results to the corporation's ERP system, in many cases essential to meet certification requirements. Administrators also can use all tracked information about each learner experience as a knowledge base for improving the training experience.

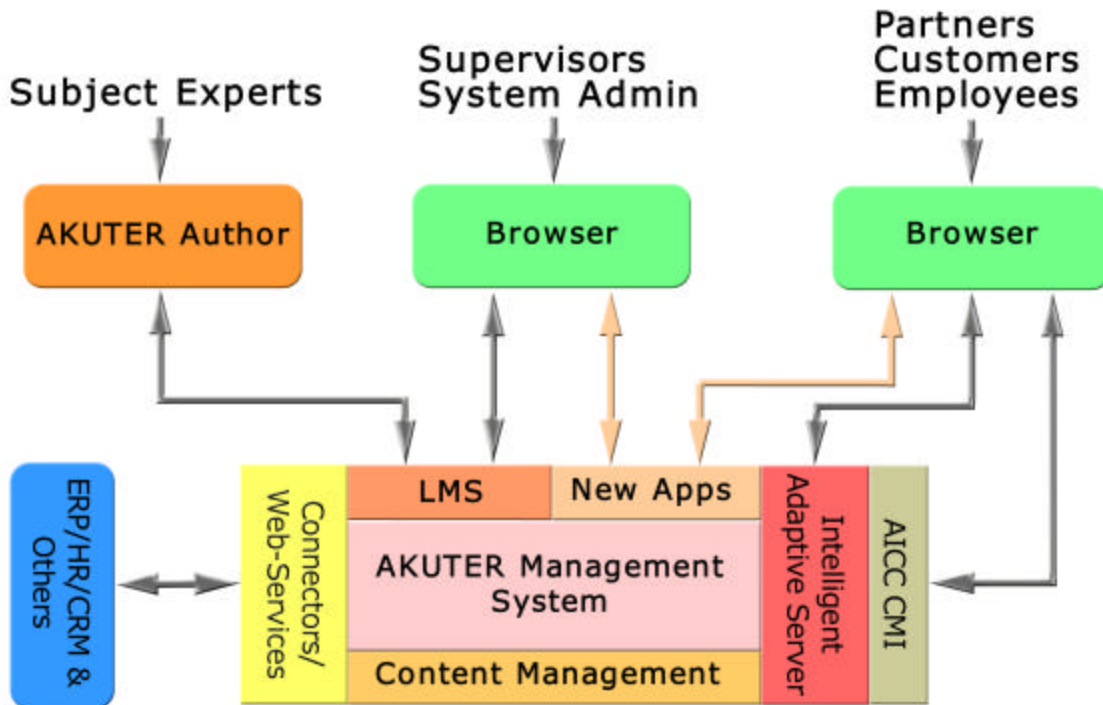


Figure 1: AKUTER™ learning system

### Intelligent Adaptive Server

No one has our revolutionary intelligent adaptive server, because we invented it. Akuter Enterprise Intelligent Server allows you to run legacy learning material, AICC/SCORM compliant material as well as server based adaptive delivery, which is server driven adaptive learning.

Computer based learning has been developing and changing in the last ten to twelve years. It went through several stages that parallel the change in the computer industry. Migration through different computer paradigms resulted in AICC/SCORM recommendations, with the premise that the learning material is controlled through a run-time program at the student machine. However, the Akuter Intelligent Server controls learning objects from the server with no run-time at the learner's machine. In addition, the server will run any learning objects that the server will recognize, or users can define to the system, with different degrees of intelligence, tracking and controls. For instance if you attach an AICC learning

object, the intelligent server will follow all the AICC protocol and will download a run-time Java Applet to the learner's machine.

Akuter Enterprise is a Server Driven learning system that gives your organization the 'best-of-breed' in Learning Content Management System. It supports your existing training materials, the emerging AICC/SCORM standards and gives you applications for rapid development of quality learning material limited only by your imagination.

## Technology

### Architecture:

The AKUTER™ Enterprise system is an open and scalable enterprise application developed with J2EE for multi-platform support. It was built for fast deployment with friendly installation and configuration management (Figure-2).

Akuter Enterprise system is designed with high security in mind, with options to connect to the organization's authentication systems, such as RADIUS or LDAP systems, as well as authentication and authorization at the local database level.

International languages are supported within the code and the database levels. It is part of the original architecture and not an afterthought conversion. The same system can support users with different languages depending on the user's language selection.

Akuter integrates XML messaging system for configuration, web-services messages to the billing system and report customization. Messaging outside Akuter is secure through encryption and delivered through different transport mechanisms, such as HTTP and e-mail.

### Foundation:

The Akuter system is based on the latest technology standards. It is built using the power of J2EE with XML and Web Services components. It separates the application layer from database, security, and presentation layers for easily extending the application or adding new modules to the existing system. Akuter Enterprise supports all popular operating systems (Windows 2000, XP, Solaris, Linux and AIX) and commercial databases (Oracle, SQL-Server, DB2 and Sybase).

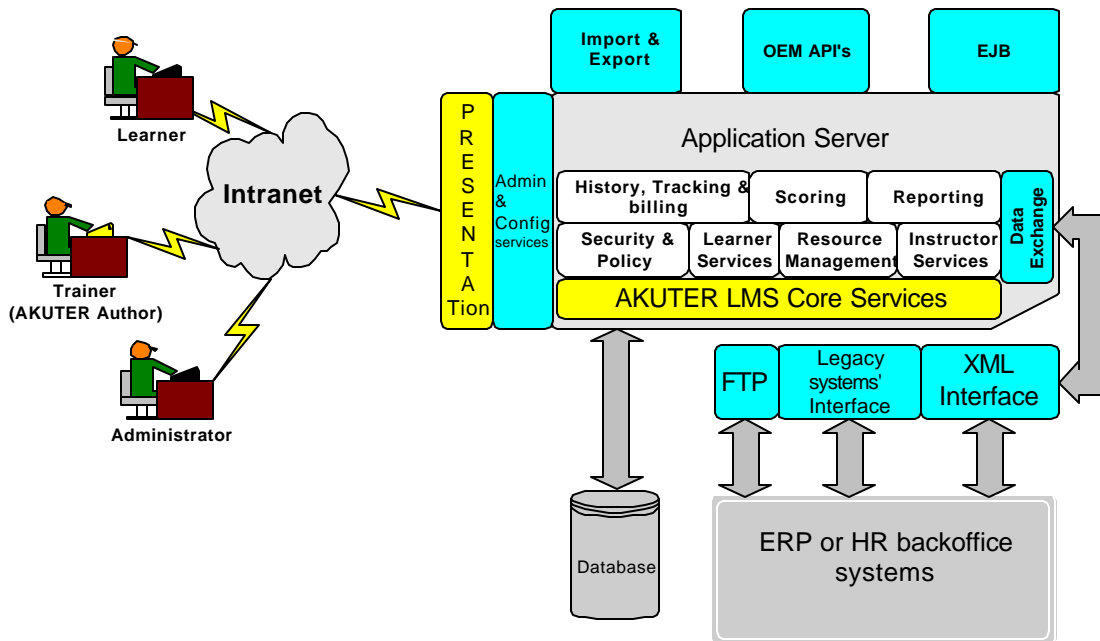


Figure 2: AKUTER™ Architecture

## AKUTER™ is more than just an LMS

AKUTER™ Enterprise is a complete enterprise application that includes many modules beyond what is normally called a Learning Management System (LMS). We refer to AKUTER™ as a Learning Management System but it is distinguished from the normal LMS by the following functionalities:

- The AKUTER™ is an enterprise level system with course management and registration modules.
- The system includes an intelligent services module, which establishes a session for each learner, presents dynamic HTML to the learner's browser, tracks the learner, scores the learner and eventually will report the results to a corporate ERP.
- AKUTER™ builds a detailed knowledge base during tracking of learners' sessions, which is a valuable source of information, statistics and knowledge to the company.
- AKUTER™ includes a sophisticated curriculum management to fulfill competency gaps with the extended enterprise and provides skills gap analysis.
- AKUTER™ can be used as an integrated Work Instruction System because of its ability to maintain a persistent session with the learner, and because of its ability to produce dynamic HTML to the user's browser.

These important functionalities make our AKUTER™ an enterprise system that can solve workforce challenges.

## Summary

Akuter, Inc. developed innovative end-to-end enterprise knowledge software that solves organizations training challenges. It includes the AKUTER™ Author, which is an application for rapid development and deployment of learning objects (course materials). Output of the AKUTER™ Author is published to your AKUTER™ Enterprise, which will manage the intelligent adaptive delivery of your curriculum, the registration, the interaction with the learner and real time tracking and scoring.

The AKUTER™ Enterprise solves the challenges that the manager encounters with today's workforce and achieving training objectives. It provides a platform for remote training through Internet or Intranet, in addition to its adaptive server power of delivering legacy course material, AICC/SCORM emerging standards and intelligent adaptive delivery for learning material that is developed by the Akuter Author.

AKUTER™ enterprise platform makes sense as a solution to your corporation. Please call us to learn more about our enterprise software product.

## For more information

Akuter, Inc.  
177 Bovet Road, Suite 600  
San Mateo, CA 94402

P.O. Box 4119  
Foster City, CA 94404

Call	(650) 638-2338
Fax	(604) 687-3821
E-mail	<a href="mailto:info@akuter.com">info@akuter.com</a>
Web	<a href="http://www.akuter.com">http://www.akuter.com</a>

### CANADIAN OFFICE:

AKUTER Technologies, Inc.  
146 W20th Avenue  
Vancouver, BC V5Y 2C3

Call	(604) 435-3473
Fax	(604) 687-3821
E-mail	<a href="mailto:info@akuter.com">info@akuter.com</a>
Web	<a href="http://www.akuter.com">http://www.akuter.com</a>