

Lead Auditor Certification Maintenance System
Concept Whitepaper
for
Proposed Partners
with

PICS, LLC
Georgetown, KY

This document was prepared in conjunction with work accomplished in preparation for advancing lead auditor qualification retention capabilities online using a registrar, to complement an NQA-1 Lead Auditor Training and Certification package.

Purpose and Scope

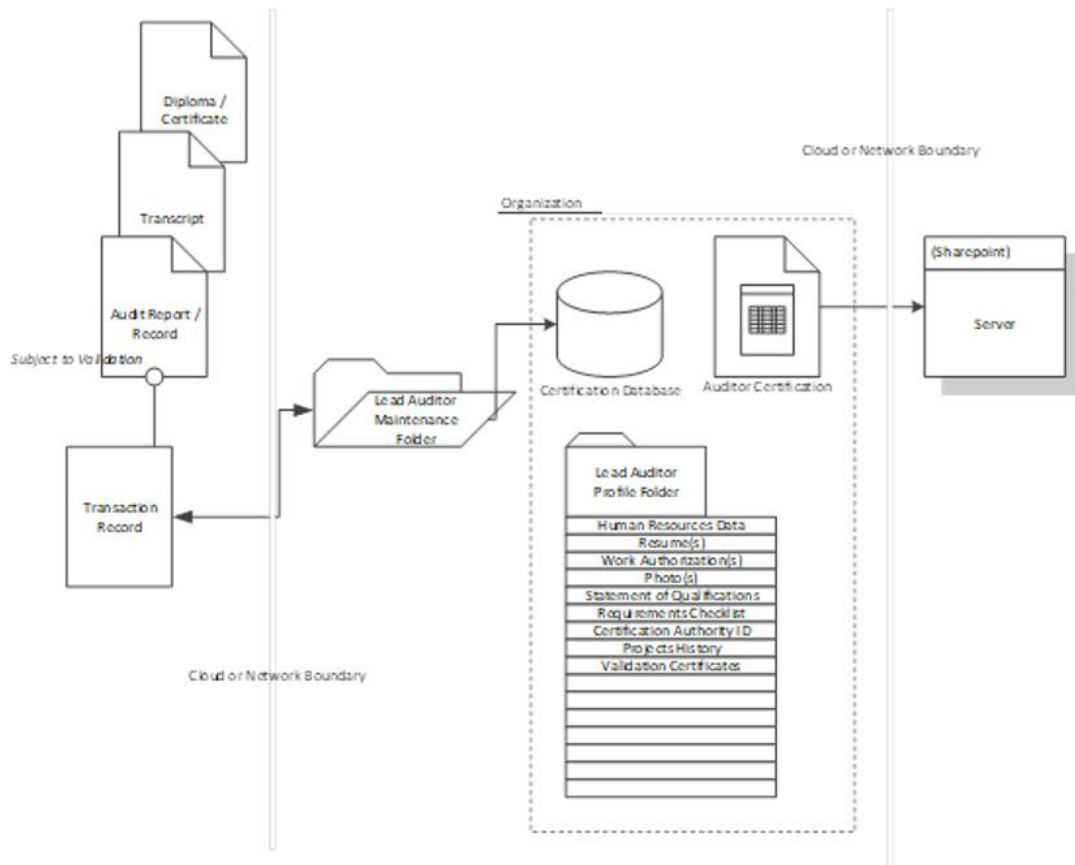
The primary purpose of the program is to develop and implement a system to enable lead auditors to employ remotely-placed resources of all parties using a Lead Auditor Certification Maintenance System (LACMS). This concept proposes using web-enabled, cloud-serviced software tools provided through Software as a Service (SaaS).

The scope of the LACMS for activities supporting the Pilot Project will include the:

- Requirements of the system in a Functional Description
- Selection and evaluation of software tools (e.g., SharePoint, AODocs)
- Development of the applications and mock-up database
- Trials of tools for transactions, validation, evaluations and tracking/reporting
- Demonstration of implementation scenarios (e.g., workstation and server-based).

Please refer to the diagram on the next page. The LACMS is presented in a conceptual process format using the MS Visio Component Object Model (COM) and Object Linking and Embedding (OLE) diagramming software tools.

Lead Auditor Certification Tracking & Reporting System (Proposed)



The primary goal of the project is to develop this model toolset and test it in an actual lead auditor certification maintenance scenario. The trial will use all of the demonstration set of information management systems and components. One component, the validation toolset, will be used in audits or surveillances to help maintain administrative control and promote continuous improvement. The deliverables schedule and any risks will be shared with the proposed partnership real-time.

The secondary goal of the program is to implement standardized tools and processes for use in training and qualifying role owners. Three roles need to be accommodated:

- an administrator responsible for the site maintenance and indoctrination of lead auditors to use the LACMS;
- the prospective or certified Lead Auditor;
- the certification authority for validation of the documents presented by the Lead Auditor.

Premise

The niche market for the product is to fill the gap resulting from the growing need of lead auditors across the industry and the risk of maintaining their certifications current without significant effort required by both the individual and the organization. The transitioning lead auditor risks losing their certification with each transfer. Each entity needing lead auditor services has implemented their own requirements for achievement and maintenance of qualification. Most are uniform in their reference to a standard. However, their unique forms and documentation requirements complicate the matter. The need for a dynamic administration product, generated and presented using software, is the key premise of the program.

The first objective is the separation of the repository from the certification product (e.g., the shared audit evidentiary documents). This will permit the ownership of the certification data to be kept separate from the value-added services provided (e.g., validation of the evidentiary documents).

Performance will be recorded during the trials. The expectation is the program will remain compliant throughout the project to the satisfaction of the requirements established by the American Society of Mechanical Engineers, (ASME)¹.

Note 1: Configuration Management of software will be approached separately, and as deemed applicable to the operation of the trainee-related and interfacing systems. A proposed Configuration Management Overview will be submitted for review by the stakeholders and acceptance by the President.

Note 2: Cyber Security is not within the scope of this project. The secure development and operating environment (SDOE) will be described in any generated plan and implementing procedure during the pilot. The LACMS Project will initially comply with, and conform to the project implementing authority's security plan, thereafter offering programs to service each client or vertical market.

¹ NQA-1a-2009, Part II, Subpart 2.7, *Quality Assurance Requirements for Computer Software for Nuclear Facility Applications*, American Society of Mechanical Engineers (ASME).

Introduction

In the interest of economy and efficiency, while at the same time establishing controls across a distributed workforce, a uniform auditor certification maintenance component of any quality learning management system must be implemented to better accommodate the needs of the existing and prospective PICS, LLC clientele. The end user workstations/mobile devices will be employing only the browser for the LACMS software tools. Initially, a representative combination of the software and workstation configurations will be evaluated. All workflows will be inspected to determine and measure their effect on all levels of user privacy and security.

Background:

A summary assessment of the proposed design of the LACMS was shared by the author in September 2013 in response to a question posed by a client in August, 2011. A potential determination of the opportunity, as well as the impact of any identified weaknesses in existing programs and issues concerning the scalability were exchanged with the client through meetings and discussions since. After a demonstration of a model MS ACCESS database in 2015, the client deemed it necessary to confirm the present status and applications of any software tools in use in the present environment and continue to explore the opportunity.

The proposed model relational database management tools and recommended processes for maintenance of certifications will be shared with, and endorsed by the proposed partnership through a Pilot Test.

Diffusion Potential

Research on the approaches by other providers of training to the certified auditors, by the self-training employer groups, government agencies, association-sponsored programs (e.g., ASME), supplemental training programs and the operation of existing distance learning services facilities provided input on the processes and controls recommended in this conceptual model. Specifically, any Electronic Training or Certification products offered by the following marketers of NQA-1 Certified training products have been evaluated and their graduates interviewed:

- ASME: EL520 - NQA-1 Quality Assurance Requirements for Nuclear Facility Applications (see: <https://www.asme.org/products/courses/nqa1-quality-assurance-requirements-nuclear>)
- JETS: NQA-1 Lead Auditor Training (3-Day) (see: <http://www.jetsquality.com/NQA-1%20Training.htm>)

- Global Quality Assurance, Inc. (see: http://globalqualityassurance.com/en/training/nuclear_internal_external_auditor_training)

The employment of online, remote learning tools evaluated include:

- Digital Chalk (see: <http://www.digitalchalk.com/train-staff-online>) which uses the Amazon Cloud, on a pay-as-you-go basis. The SCORM-Compliant features would serve well with the government offices. The video captures, chatting and a browser-based synchronized whiteboard would enable offering to serve one or a few, distributed trainees. This could grow in popularity rapidly, so the use of several brick and mortar production studios with interactive classrooms could make this very effective in meeting the demand internationally as well as within the Labs and other government facilities.
- Polycom's CloudAXIS Suite, Active Touch, Smart Pairing (see: <http://www.polycom.com/products-services/products-for-microsoft/video-solutions-microsoft-lync.html>)

The following Distance Learning – equipped centers were evaluated:

- Center for Rural Technology 2292 South Highway 27, Suite 300, Somerset, KY 42501 (see: <http://www.youtube.com/watch?v=w47MYn152w4>)
- Kentucky Educational Television's distance learning project (see: <http://i2.ky.gov/>)

Conclusion

The background of the author of this white paper includes the development of patent-awarded applications of expert systems software in the DOE Laboratories, NRC regulated commercial nuclear facilities and USN Nuclear Propulsion Plant operations and training arenas influenced the design of the inspection, cross-functional process improvement and planned corrective/preventive actions model recommended herein.

The proposed selection of the SharePoint and Office 365[®] or the AODocs[®] tools is based upon the customizable features of these platforms and the ease of rapidly gaining uniformity across the parties involved in the project. As a benefit to the stakeholders, an intellectual property opportunity may result from the implementation of these tools in this project, with technology transfer to the other facilities and interests owned by the stakeholders through the eventual development of a SharePoint ap.

The demonstration included with this concept and initial implementation using the MS ACCESS and SharePoint software only precludes the recommended perfection of the product for end users in the form of a downloadable application.

The outcome is predicted to be of value in the form of tools accommodating processes and procedures for use in maintaining lead auditor certification. A value-added result in the form of improved validation and registration tools for use by the registrar and other validation authority resources is expected.