

XML and the ALMIS Database

By John Pearce, Oregon Employment Department

A NEW NAME

and an energized commitment to Delivering Solutions!

The ALMIS Database Maintenance Consortium is now the ALMIS Resource Center. The new name reflects the opportunities taken on by the ALMIS Database Maintenance Consortium to assist states in the delivery of consistent, comparable, and quality labor market information to their customers.

Look for more information on products in development and improved approaches to customer service by the ALMIS Resource Center in the next issue of the "ALMIS Database News".

Inside this issue!

ALMIS DBA in the Spotlight	2
Notes from the ALMIS Resource Center Meeting	2
ALMIS Database Q & A	4
Resource for Understanding Employment Projections	4
Dates to Remember	4

On February 10, XML (Extensible Markup Language) celebrated its 5th birthday. Its growth in such a short period of time has been nothing short of phenomenal. It is very difficult to find any area of computing technology that does not involve some use of XML. It is indeed the cornerstone of many new technologies such as Microsoft's Office XP, and the Web Services being touted by all major software vendors.

So, what is this new technology and why is it important for ALMIS Database Administrators? XML is a standard for creating text documents that contain structured information. XML is a markup language, it is composed of tags like HTML -that's the 'ML part. But unlike HTML, the XML standard does not define the type of tags that are used. It merely defines a syntax for creating the tags. The user / author can create their own tags to reflect the type of content that is in the document. That's the 'X or Extensible part.

For example, the following XML document gives some personal information about the author:

```
<author>
<name>John Pearce</name>
<occupation>ALMIS Database Administrator</occupation>
<state>Oregon</state>
<favorite-food>stuffed mushrooms</favorite-food>
</author>
```

Because of XML's flexibility, it can be used to create a variety of different document types. Any document can be an XML document as long as it follows the XML syntax. This has given rise to many new markup languages based on the XML syntax. Even HTML has been remade into XHTML. (The original HTML tags were not XML compliant.) The types of tags that may be used in any particular document can be limited or constrained by special rules

enforced by either a document type definition (DTD) or a newer method called XML schema. Powerful rules can also be used for transforming or changing one type of XML document into another type of XML document or a non-XML document. This makes XML a very powerful tool for electronic communication. Because of its usefulness in working with structured information, XML has become a key complement to relational database technology such as ALMIS. The ALMIS Database Consortium has started a project to investigate XML technology and create XML schema for defining the structure and queries for the ALMIS database. This is the first in a series of articles that will discuss that project and its progress.

XML in 10 Points, an excellent introduction to XML technology is available at: <http://www.w3.org/XML/1999/XML-in-10-points>.

DBA in the Spotlight

Bob Johnson

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How long have you been an ALMIS DBA?
May 2002

What is your educational background?
B.S. in Applied Mathematics at
North Carolina State Univ.
December 2000

Are you originally from North Carolina?
Yes. Born in Winston-Salem,
lived on the East coast most of



my childhood, moved to Burlington for High School, then Raleigh for college. Been here ever since; seven years now.

What are your interests outside of work?

Billiards league and tournaments, spending time with my two dogs Duke and Dakota (Duke pictured), and golf.

What is your favorite work-related web site? Why?

- MSDN Library website: <http://msdn.microsoft.com/library>
Best place to get sample code and answer basic & advanced programming questions.
- DotNet 247: <http://www.DotNet247.com>
This is also very good for the same thing above.

What is the strangest job you ever held?

Mechanic on the pinsetters and lanes at a bowling alley. Worked on the machines that sort and drop pins, and also the lane oil/cleaners.

What is the most rewarding aspect of your current job?

Getting something to compile and work efficiently, then seeing it go out into the production world.

What is the most challenging aspect of your current job?

I'm the only person doing VB. NET programming in a Windows Client environment, so there is a lot of book reading and trial-and-error involved. Everything I am working on involves the NAICS implementation, which means lots of records and methods have to be rewritten, or created for the first time.

What is fun about your job?

I love the programming challenges and new technologies I'm working with, and it's especially fun to get to put out new types of info/reports that did not exist or were not possible before.

What is the most exotic place you've been?

Muirfield Golf Course; just outside of Edinburgh Scotland. This is the birthplace of the current set of rules that golf uses. It's a very exclusive club that normally you need 12 months in advance to get admittance. Luckily, I was invited to go as a guest by Sir Francis McWilliams; Lord Mayor of London in 1992.

What would a perfect day be like for you?

75 degrees and sunny: 18 holes of golf in the morning, lunch in the early afternoon, and billiards in the evening. 🌍

NOTES from the ALMIS Resource Center Meeting, May 2003

As mentioned on page one, the ALMIS Database Maintenance Consortium has recently changed its name to the ALMIS Resource Center. Following are highlights from the latest meeting.

The ALMIS Database Maintenance Consortium met in Portland, Oregon on May 6–8, 2003. The group spent half their time meeting within their designated subcommittees.

Regular subcommittees include:

- Structure
- Policies, Procedures, and Core Elements
- Education and Communication

On an as needed basis, other workgroups are formed to handle projects or issues (e.g. Employer Database Contract).

Meeting Highlights:

Members gave updates on various consortia, policy councils, workgroups, the Bureau of Labor Statistics (BLS), the Employment and Training Administration (ETA), and the National Crosswalk Service Center (NCSC) work activities.

A presentation on the work that has been done on the eXtensible Markup Language (XML) Project to date was given with a call for interested member states to participate in the XML Workgroup.

Iowa issued a notice of intent to award the ALMIS Employer Database contract to InfoUSA. Dun & Bradstreet had filed an appeal and the hearing was held late March. At this time legal proceedings are continuing and more information will be provided as available.

Another extension to the existing ALMIS Employer Database contract with

InfoUSA was negotiated with the State of Maine and the next update will be distributed in October 2003. This set of data can then be used until May 15, 2004.

The ALMIS Database Maintenance Consortium conducted a survey of states in order to gauge interest and ability in attending an annual national ALMIS Database Educational Seminar. Based on survey results, there is a marked interest in attending such a seminar. It had been tentatively scheduled for Summer 2003, but due to simultaneously scheduled events it was rescheduled for early November 2003 at a site to be determined.

(Continued on page 3)

(Continued from page 2)

The Education and Communication Subcommittee gave a demonstration of their prototype website that is set for an August 1, 2003 release date.

The Structure Subcommittee tackled several issues including: exploring the possibility of combining the long term and short term projections tables, defining LED (Local Employment Dynamics) tables, reviewing the recommended table


layout for the O*NET 5.0 and laytitle tables, reviewing suggested changes for the sfirms table, and refining the url tables. The Subcommittee also made a recommendation to drop lychist from the list of core tables as listed in the Workforce Information Grant.

The ALMIS Database Maintenance Consortium will be looking at processes with which to more efficiently track questions, issues, suggestions, and comments related to the

database as well as communicate outcomes to interested parties.

The National Crosswalk Service Center gave an update of their recent activities and gave a demonstration of their prototype website.

While the ALMIS Database continues to be integral and vital part of the Workforce Information System's infrastructure, the ALMIS Database Maintenance Consortium's activities have

evolved since its inception to include a variety of information delivery initiatives. As part of a broader awareness and communication plan and in order to more accurately reflect the work that they do, the Consortium will be changing their name to the "ALMIS Resource Center". 

DBA in the Spotlight

Jered McDonald

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How long have you been involved in the world of LMI?

Almost one year. My first year anniversary with the State of Nevada was June 10th.

How long have you been an ALMIS DBA?

Six months, give or take

What is your educational background?

Applied and Resource Economics

Are you originally from Nevada?

No, I am originally from California.



What are your interests outside of work?

Snowboarding, backpacking, camping, hiking, fishing and most importantly, family. I'm married with a two-year old daughter and another baby due in October.

What is your favorite work-related web site? Why?

As a DBA, the National Crosswalk Service Center website has got to be my favorite. The site provides one location for state and national data as well as good information on the database itself. I also enjoy Economy.com for analysis of regional and national economic trends and news.

What is the strangest job you ever held?

One winter I removed snow from the roof of Squaw Valley Ski Resort. The snow was ten feet deep at times.

What is the most rewarding aspect of your current job?

Being able to apply the skills I learned in college to real life situations at work. It makes all those years spent in college and monthly student loan payments seem worth it.

What is the most challenging aspect of your current job?

Finding time to fit it all in. Currently, we are updating ALMIS and building a new website, all while trying to keep up with regular analyst duties.


What is fun about your job?

The people I work with, staying busy and learning new skills to solve unique challenges everyday.

What is the most exotic place you've been?

Last summer we went to Austria, while there we visited Steyr, a small town with its old city still intact. Many of the buildings were constructed in the 15th century and haven't changed much since the day they were built.

What would a perfect day be like?

Sleep in until 9, get served breakfast in bed, catch the Dodgers on TV, get some outdoor time with the family, go out for sushi with friends and stay up late watching a good movie. 

ALMIS DATABASE Q & A

How can I get historical (last 10 years) CES (Current Employment Statistics) data based on NAICS (North American Industry Classification System) codes?

The information comes out of the CES ACES application. The information can be downloaded by year, downloading JOB E43. The information is only the employment, no hours or earnings. The format is not in the ALMIS Database format, but it is a text file, with the column headings. The file has the following information in it: year, benchmark year, state, area, industry title, series

and the employment for the months of January through December and the annual data. The next issue of *ALMIS Database News* will discuss the steps necessary for transforming the historical CES data into an ALMIS Database format.

What am I supposed to populate the URL table with and why is it a deliverable in the Workforce Information Grant from ETA?

That's a great question. If you look at the URL table in the ALMIS Database Data Dictionary it says "This table contains a unique listing of uniform resource locators [URLs]." Looking at the Data

Sources document <http://www.xwalkcenter.org/almisdb/adbsource/almisource.html> on the National Crosswalk Service Center (NCSC) Website it says "States are encouraged to build meaningful URL tables." In the Program Year 2000 Workforce Information Grant states were asked to "...populate the URL table which identifies State web linkages having resources which may be of interest to our customers." Yes, the definition is a little vague but it allows for states to use the table in a manner that meets their individual needs. Possibilities for use include application

development that uses the URL table as a source for extensive Web page links.

The ALMIS Resource Center is currently developing more in depth information to help guide you on populating this table, how it can be used, and why it is a deliverable. Look for that information in the next *ALMIS Database News*.


Additionally, the NCSC (starting with a file developed by Mike Blank of the Iowa Workforce Development) now maintains a URL file containing state Labor Market Information Web page addresses. The addresses are

(Continued on page 5)

Resource for Understanding Employment Projections

For those of you who might have missed this helpful piece of information from the National Crosswalk Service Center regarding employment projections here's a reprint:

Those of you who work with occupational projections know of times when it's difficult to relate the projections occupations to other classifications. During the modification of the MicroMatrix system to address the new SOC (Standard Occupational Classification)-based projections occupations, staff in Utah took a detailed look at the

SOC, OES (Occupational Employment Statistics) and projections occupations, noting differences among the three. The results of this examination is available as the **Occupational Projections Warning Document** on the MicroMatrix web page (<http://almis.dws.state.ut.us/matrix/matrix.asp>). Note that that link is to an archived (ZIP) file containing a 22-page PDF file. The document also looks at the relationship between projections industries and the SIC (Standard Industry Classification). If you deal with employment projections, the document is definitely worth a look. 

Dates to Remember

ALMIS Resource Center Meeting
August 5—7, 2003
Portland, Maine

Marketing Labor Market Information (LMI) Class
August 4—6, 2003
New Orleans, Louisiana
www.lmi-net.org

LMI Applications of Geographical Information Systems (GIS)
August 18—21, 2003
Indianapolis, Indiana
www.lmi-net.org

LMI Basic Analyst Training
August 25—27, 2003
Portland, Oregon
www.lmi-net.org

ALMIS Database Seminar
November 3—5 2003
Site TBA

(Continued from page 4)
tested and updated monthly. You can download either url.dbf or url.txt from ftp://ftp.xwalkcenter.org/almis/national.

In the “propval” table, a mill rate means per 1000, but the field in this table is named rateper100 with mill rate as the description. (rateper100 number(6,4) mill rate) Is there a typo in this field name?

It’s more of a field misname and is being addressed. The value entered in the table should be in thousands.

In “clsxproj” table, the OES code field is still five characters. There are OESX crosswalks that need to be updated to SOC: oesxcens, oesxcids,oesxcip, and oesxjob. Have these lookups been built?

There are a number of issues here. The consortium has developed structures

and some content for crosswalk files in which SOC occupations replaces the older five-digit OES occupations. The file structures and a Visual FoxPro database are available for downloading from the NCSC’s Non-standard ALMIS Database Information page at <http://www.xwalkcenter.org/almisdb/nonstd.html>. The NCSC is updating the units of analysis files that are the basis for the CLSXPROJ, CLXSUPL and ANALYSIS

tables. The first stage involves updating occupations to the SOC and SOC-based projections and updating content for the ANALYSIS table. A subsequent project will update the training programs codes to the 2000 Classification of Instructional Programs.

In Version 2.2, the field value for aggregate in the “Ownership” table has been changed from 60 to 00, although there is no indication of the ownership lookup being changed in the change document. Is 00 a typo?

No, 00 is not a typo. This change was done in a consistency cleanup. For those of you whose states are using WIN202 for their Covered Employment and Wage program, the aggregate ownership data are 00 coming out of WIN202 so you need to use 00 instead of 60 in your lookup. 🤖

Did you know...

- ☞ It takes **84 lookup tables** to describe the standard, descriptive variables used in the ALMIS Database.
- ☞ There are over **300 relationships** among the database's tables! These are necessary to ensure the integrity of the database's contents.
- ☞ If you divide the variables in the database into two groups: those included in the tables' primary keys and those that are not and assuming the primary key variables are used to define the parameters by which data are displayed out of the ALMIS Database (...breathe...)—we estimate that the ALMIS Database has about 240 variables that are not part of their tables' primary keys. So what does this mean? This means that if the ALMIS Database was completely populated, an application running off of it could potentially display **240 different variables of labor market or workforce information!**



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The ALMIS Database is a normalized, relational database structure developed for the storage and maintenance of labor market, economic, demographic and occupational information. The ALMIS Resource Center is responsible for the ALMIS Database structure development, update, and maintenance. Members include North Carolina (lead), Connecticut, Georgia, Florida, Illinois, Iowa, Massachusetts, Minnesota, Montana, Nebraska, Nevada, North Carolina, Oregon, South Carolina, Wisconsin, and ETA, along with support from the National Crosswalk Service Center and the LMI Institute.