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AB Suite and DevOps: Accelerate Time to Market to Seize New Opportunities

By Thangathen Ponnusamy, Global Product Manager – Enterprise Application Environment and Agile Business Suite, Unisys



Enterprises must innovate and quickly bring new ideas to market. They need to, after all, if they want to meet rapidly changing customer demands. This is never easy, especially when you consider the increasing application and platform complexity most software development organizations must manage.

DevOps promises to help enterprises be more responsive and bring higher-quality releases to market faster by improving communication, integration, and collaboration between development and operations teams. But for DevOps to be truly successful, these teams must adopt an attitude of shared responsibility.

If developers better understand the operation team's pain, they'll be more apt to find ways to simplify it. Similarly, when operations teams understand business goals, they'll appreciate the need for increased IT agility. Speed and stability shouldn't be mutually exclusive, nor should one be sacrificed to satisfy the other.

Fortunately, there is a way to foster shared responsibility among teams while increasing throughput and stability. Continuous integration, continuous testing, version control, automation, and continuous delivery are the DevOps concepts that make it happen. And they're possible with Agile Business Suite (AB Suite™). >>

Continuous Integration

Continuous integration requires developers to regularly integrate code into a shared repository and provide rapid feedback, so defects can be quickly identified and corrected. Team members submit work daily, or more frequently, and conduct builds after each change.

With AB Suite Builder, you can generate and deploy solutions in one step. After you generate a solution the first time, Builder analyzes the changes and then generates only what is required to implement them, automatically optimizing the solution for the target environment.

AB Suite Builder can be integrated with Microsoft® Team Foundation Server (TFS), as well as the Team Foundation Build (TFBuild) function, and configured to automatically build and deploy your application. The Microsoft Build Engine provides options to build AB Suite applications without using the Microsoft Visual Studio® environment. The build is queued automatically when development artifacts are checked in.

Continuous Testing

Though it often determines software quality, the testing component of DevOps can be easily overlooked. Continuous testing requires an automated, end-to-end solution that integrates into the existing development process.

AB Suite Automated Test Tool (ATT) enables continuous testing. It integrates with the AB Suite development environment, enabling you to record, play back, and change transaction inputs at runtime to verify application changes. It can also confirm an application works as expected when the AB Suite model changes. ATT enforces quality by making unit and regression testing part of your standard check-in and build workflows.

Version Control

AB Suite Developer lets you choose any third-party configuration management tool that supports Source Code Control (SCC) APIs. It also includes utilities that compare separate versions of an application and report on the differences. With System Modeler, you can check in and check out

elements, maintain multiple versions, and group them for release by label. AB Suite can also use TFS to easily audit changes, identify which user checked in a changeset, and identify the exact changes made.

Automation

DevOps relies heavily on automation, especially in the areas of application configuration, build, test, and deployment. By using automation, you can set up environments faster, with more standardization and repeatability. Build automation, test automation, and effective version control are all important elements of a successful DevOps practice.

Continuous Delivery

Continuous delivery takes continuous integration to the next level by extending the concept across the entire release chain, including QA and operations, helping teams confirm every change can be deployed to production, as business needs dictate.

Most enterprises require manual review and approval processes for production deployment. They can achieve continuous delivery by continuously integrating the software released by the development team, building executables, and running automated tests on those executables to detect problems.

Driving DevOps with AB Suite

The ability to deliver frequent, predictable, low-risk releases means you'll become more responsive to change while accelerating time to market. By using tools like ATT, you can reduce manual effort and increase productivity. Moreover, TFS integration enhances DevOps capabilities. With frequent deployments, developers receive feedback faster, creating an environment of continuous learning that helps them deliver more value to internal and external consumers.

Please do not hesitate to contact us at ABSuite@unisys.com if you'd like more information about taking the DevOps journey with AB Suite or wish to explore these capabilities in a pilot project.

Q&A: Modernizing EAE Applications with Pasco-Hernando State College



Pasco-Hernando State College (PHSC) is a four-year institution and one of the 28 members of the Florida College System. With five campuses located within a 1,200 square mile, two-county district, PHSC offers vocational certificates, Associate in Science, Associate in Arts, and two Baccalaureate programs to more than 15,000 students.



PHSC is committed to an “open door” policy, which extends educational opportunities to students of all ages and abilities, including all high school graduates and GED recipients. To that end, the college offers workforce programs that provide training for more than 75 high-demand careers in business, health, industry, technology, and public service. And its popular Associate in Arts degree allows graduates to seamlessly transfer to a four-year degree program within Florida’s 12 public state universities, as well as a number of Florida College System and private college programs.

We recently spoke with Janice Scott, Executive Director of Management Information Services at PHSC, about the institution’s history with EAE and the ways it’s continuing to offer opportunities to students from all walks of life by modernizing its EAE application with the ClearPath Forward™ ePortal for MCP.

Developing Agility: Please tell us a little about your EAE application. How many Specs and reports does it have? How many developers support it?

Janice Scott: The EAE application that was partially moved to ePortal is our student records system. It supports all academic records, student records, financial aid records, fee collection records, and more. There are over 500 Specs and over 2,000 reports.

Our IT team partners with Pensacola State College (PSC) in a consortium. PSC employs thirteen developers while PHSC has four. PHSC supports the local users and manages all reporting for the college. The ePortal project was exciting for us since our staff is typically not involved in online development. The beauty of the project was that we did not have to modify any logic behind the Specs.

DA: How long have you been using EAE on MCP?

JS: PHSC has been using EAE on MCP since 1993.

DA: What was the business need that pushed you to select ePortal to modernize your EAE solution?

JS: We wanted to bring our Web Portal for Students (WISE) into the mobile world. WISE had been usable in the mobile environment before, but it was not very user friendly.

WISE gives students a number of self-service capabilities: they can apply, register, pay fees, display unofficial transcripts, schedule courses, view grades, perform degree audits and graduation checks, apply for graduation, request transcripts, receive enrollment verification requests, and much more. We wanted to bring some of that into the mobile version of the portal. >>

DA: How have your developers adjusted to using EAE and ePortal Developer?

JS: The adjustment from EAE to ePortal development was actually pretty easy once we received training in Visual Studio and were able to play with all the different functionality its ePortal plugin gave us.

DA: Are there any features in ePortal you or the developers find particularly useful?

JS: The ePortal Orchestration feature was very helpful. We were able to break down an Ispec into different mobile pages in order to make the experience for the student easier. Some of our Ispecs asked for a great deal of information, so breaking these into pieces made them more manageable.

DA: Do you use other EAE Component Enabler features with EAE on MCP?

JS: Yes, we are using web services and active server pages for our standard interfaces. We are using IEG's Interface Builder to build active server pages for the standard browser interfaces on the college's human resources, financial records, and student records systems.

DA: Looking back, what was the biggest challenge you encountered while using ePortal in combination with EAE?

JS: Getting familiar with the Visual Studio environment was a challenge for us. But once we became familiar with it, we were able to customize the order fields in the Ispecs to be friendly for the end user, as well as include Java scripting and Orchestration in the solution.

DA: Are there any recommendations you'd give to organizations that are just now beginning the move to ePortal?

JS: Don't be afraid of the process. It works very well and within a two-month period we were able to roll out a functioning mobile application to our students.

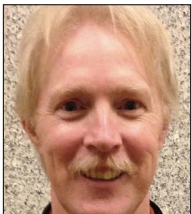
DA: How have students reacted to your EAE ePortal solution?

JS: They love it. It is easier to use than our web environment.

Many thanks to Janice for taking the time to share her thoughts with us. Please visit [PHSC's web site](#) to learn more about the college's locations, programs, and mission. And if you'd like additional information about the ways ClearPath Forward ePortal can help you modernize your EAE and Agile Business Suite applications, don't hesitate to [email us](#).

Engineering Corner: Getting the Right Elements Versioned with the Set Version Files Wizard

By Jim Nichols, Lead Engineer, Unisys



More and more clients are taking advantage of – and benefitting from – the opportunity to use Microsoft Team Foundation Server (TFS) as an Application Lifecycle Management (ALM) and source control tool in their Agile Business

Suite environments. These clients generally fall into one of two categories:

- **EAE users** that are experienced with the legacy EAE source control tool, but are upgrading to AB Suite and need their models under source control
- **Existing AB Suite users** electing to use source control for the first time

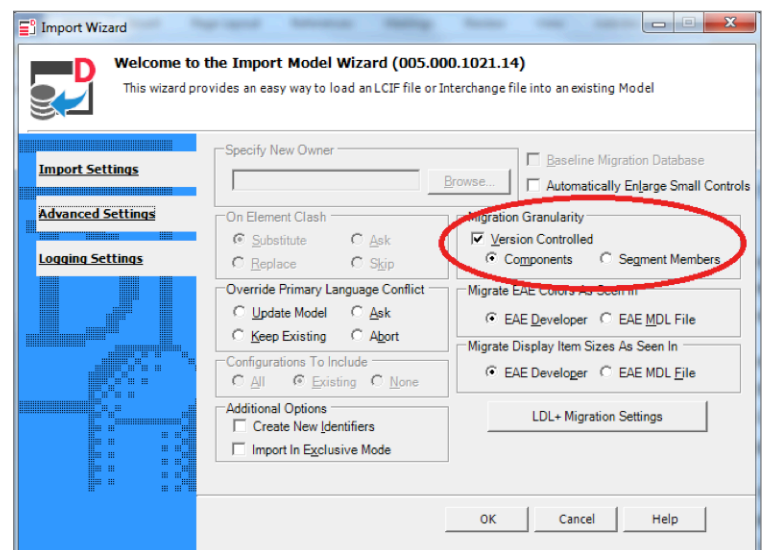
Each group faces some decisions and challenges when they implement TFS with AB Suite. But one thing is common across both: Before the solution is added to source control, **it's critical to have the right model element to file ratio, a file name that matches the model element, and some control over the size of the version files.**

We have found that setting the VersionFile property on the following elements serves as a great starting point:

- Segment element
- All folders and dictionaries
- All elements owned by the segment, including:
 - Ispecs
 - Reports
 - Insertable classes
 - Segment methods
 - Dictionary items
 - Segment attributes (GSDs)

Let's look at how we can get there.

If you're an EAE user upgrading a model to AB Suite, you can use the Model Importer utility to control which elements have their VersionFile properties set. As illustrated below, there are several ways to do this. >>



The default settings make items versionable similar to how it was done in EAE. Choosing “Segment Members” allows you to set the VersionFile property for even more items. The problem is, neither option results in the exact set of items noted in the list above.

What about existing AB Suite clients that want to start using TFS? If you fall into this category, it’s likely you weren’t using source control in EAE, and as a result, simply used the default Model Importer options when you upgraded to AB Suite. As you added or renamed elements over the years, you may not have considered if the VersionFile property was set for that element, and if it was, what it was set to.

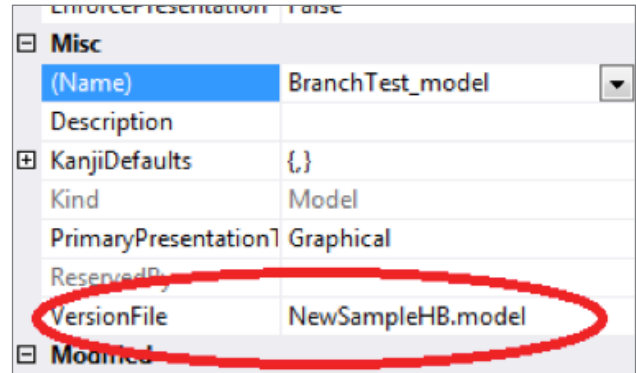
Regardless of whether you’re an EAE user that’s just getting set up in AB Suite or an AB Suite user leveraging TFS for the first time, we have some good news: There is a series of straightforward steps you can use to address your specific challenges.

Getting Your Versions Set

First, for the EAE users. It’s important to understand that the Model Importer is not going to set the VersionFile property in the ideal, recommended way. So, consider unchecking the “Version Controlled” option previously shown with the Model Importer. This will minimize the effort required to get the property set as desired in your AB Suite model.

Now, for both groups (assuming the EAE users did not uncheck the “Version Controlled” option). We need to “clean up” the existing VersionFile property settings via the following steps:

- Check the VersionFile property setting of the top-level model element in your AB Suite model. The model element must always have its VersionFile property set, so we need to know its value.

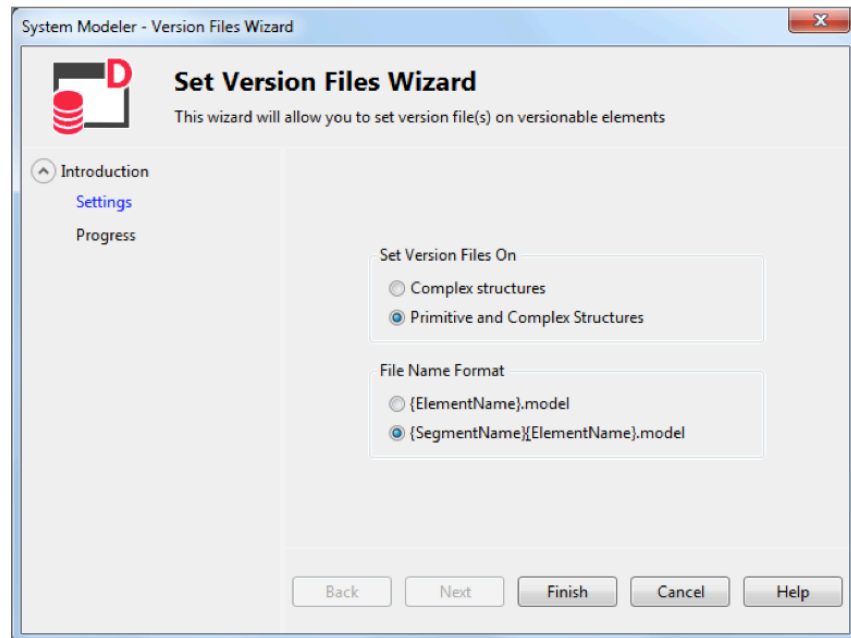


- Go to the Solution Explorer window and delete all model file entries listed there, except for the one identified in the previous step. Note: For a large AB Suite model, there could be thousands of files listed in the Solution Explorer window. If you encounter this, the AB Suite engineering team can provide some assistance to expedite this step.

At this point, only the top-level model element has its VersionFile property set, meaning that all elements are versioned as part of that one model file. So from here, how do we get the VersionFile property set for the recommended elements? We use the Set Version Files wizard. >>

Using the Set Version Files Wizard

To start, select the model element in the Class View, choose Tools>System Modeler Tools>Set Version Files, and the wizard below will appear. We recommend setting the options as shown.



When you click “Finish” and the tool completes, the recommended set of elements listed above will have their VersionFile properties set.

We feel this is a good point from which to start using AB Suite with TFS. Moreover, establishing these elements with the VersionFile property set is consistent with having the System Modeler “Set the VersionFile Property on creation” policy set to “All Classes and Folders owned by the model or a segment.”

At this point, you’re ready to add the solution to source control. You’ll know you have the right set of elements assigned to a version file, with

the correct naming convention for the VersionFile property, and also know that any new items you add later will follow that pattern.

There are a number of reasons to take advantage of what the combination of AB Suite and TFS have to offer. And with the help of the Set Version Files wizard, you’ll be able to you start down the right path.

If you need any help implementing the correct VersionFile Property settings or assistance using the Set Version Files wizard, please email us at ABSuite@unisys.com. We’d be happy to help!

AB Suite Client Completes Upgrade to ClearPath Forward Libra System



A bank in Asia and longtime EAE and Agile Business Suite client needed to ensure its products and services delivered the experience and security today's consumers demand. From the bank's perspective, this meant achieving three distinct objectives: shorten development times, increase performance, and improve security.

Slow development environments made it difficult to bring new offerings to market in a timely manner. Meanwhile, production performance – especially in the area of overnight batch processes – needed to improve so the bank could handle increasing workloads and rising end-user requirements. And with concerns over fraud, breaches, and theft continuing to mount, strengthening security was an absolute imperative.

Upgrading to AB Suite some years ago, and using the solution's REORGDB feature, helped the bank minimize downtime during database reorganizations. To build off of this momentum, it partnered with Unisys again to architect and implement an infrastructure that could address its latest needs while helping it continue to leverage the proven benefits of the ClearPath Forward environment.

Production, Development, and Recovery, Reimagined

The work Unisys performed for the bank targeted both its primary and secondary sites.

At the bank's primary site, Unisys replaced an existing ClearPath® Libra system with a new ClearPath Forward Libra 6390 system. Built on the innovative ClearPath Forward architecture, this new system gives the bank an Enterprise Partitionable

Platform (EPP) that can be freely and securely divided into partitions dedicated to both ClearPath and Microsoft Windows® workloads – all of which are tied together by the system's internal, high-speed interconnect.

The bank used this flexibility to deploy three EPPs within its new Libra environment – one for production and two for development. Along with providing connectivity to the system's MCP operating environment, the production EPP features six Windows partitions, which include dedicated instances of Unisys Operations Sentinel software and AB Suite Client Tools servers.

The two development EPPs feature eight Windows partitions, two of which the bank chose to dedicate to [ClearPath MCP Developer Studio](#). Part of the [ClearPath Software Series](#), MCP Developer Studio enables the bank to run multiple MCP development environments within a single system. Its developers can easily stage different MCP releases, test changes to multiple MCP applications, or even individually test newly developed MCP applications.

Other Windows partitions on a separate ClearPath Forward system were implemented in order to host the AB Suite Model database and build servers. >>

In addition to the hardware refresh at the bank's primary site, Unisys also deployed a ClearPath Forward Libra 4390 system at its secondary site, along with modified disaster recovery procedures, to help the bank improve its business continuity measures. And, both the primary and secondary sites were equipped with virtual tape libraries (VTLs) from Dynamic Solutions International that feature 32TB of memory and self-encrypting drives.

Faster Development, Better Security

With the help of the new ClearPath Forward Libra 6390 system, MCP Developer Studio, business continuity implementation, and VTL deployments, the bank was able to accelerate the speed with which it can develop new offerings while making its entire environment significantly more secure.

MCP Developer Studio played an instrumental role in helping the bank improve its development processes. In the past, many of the bank's

AB Suite developers felt that build times were too slow. But now, those concerns have been all but eliminated. MCP build phases accelerated significantly, while Windows build phase times were cut by roughly 48%.

And because nearly everything is happening in partitions within the bank's new Libra systems – which leverage the point-to-point connectivity provided by the high-speed interconnect, instead of the Ethernet “broadcast” approach – security is stronger, as well.

As these results show, the choice to implement a new Libra system and supplement it with offerings like MCP Developer Studio have put the bank on an exciting new path – one that leaves it much better equipped to provide the experience and security its customers demand.

EAE to AB Suite Upgrade: Take it One Step at a Time



In the March 2016 issue of *Developing Agility*, we focused on the two preliminary steps you should take to help ensure your EAE to Agile Business Suite upgrade progresses as smoothly as possible.

Because the EAE to AB Suite Assessment service plays such an integral role in your ability to upgrade with confidence, we wanted to provide some added detail around what we actually do for you as part of this service engagement. During the service, Unisys consultants will work with you to complete two specific activities: the Trial Migration and Assessment Workshop. The duration of this service may vary – typically between 5 and 20 days – based on your organization’s size, as well as the complexity of your application environment. Once we finish the engagement, a Unisys consultant will create and customize a statement of work that reflects your specific requirements.

The Trial Migration

During the Trial Migration phase, Unisys consultants will access the EAE “mdl” for one of your applications, which represents the things you do with that application, and import it into AB Suite, using Unisys resources if possible. From here, we’ll validate, build, and deploy the application to the appropriate runtime environment.

In addition to identifying any potential issues your EAE “mdl” may cause during the actual upgrade process, we’ll also confirm that your application produces similar runtime results in AB Suite as it did in EAE. This includes loading your application into EAE Developer and validating it in this environment for comparison purposes.

Once the service is complete, you’ll receive:

- A list of the problems encountered and resolutions identified
- A high-level analysis of any AB Suite import and build warning messages

The Assessment Workshop

We’ll begin the Assessment Workshop by providing you with a detailed questionnaire at least a week before the Unisys consultant’s scheduled visit to your site. The standard, common areas this exercise will cover are printing, end-user interfaces, source control, external interfaces, security, and performance. In addition, we’ll help you identify the resources, spanning hardware, software, and people, you’ll need during your upgrade and determine a timeline for the project based on your specific requirements.

Once the service is complete, you’ll receive:

- A presentation about your upgrade – whether it’s happening on the same platform or requires a change in platform
- An assessment report

Many EAE clients that carried out a Trial Migration and Assessment Workshop have benefited from reduced risks, lower costs, and better, more predictable production deployment timelines during their upgrades to AB Suite. We’d love the opportunity to help you achieve similar results. Email us at ABSuite@unisys.com and we’ll be more than happy to answer any questions you may have about the service or work with you to schedule your own engagement.

Info Center



New additions to our libraries of How To documents, white papers, and other useful information include:

- **Demonstration:** An Enhancement to Resolve Unresolved Objects (**New**)
- **How To:** Use Application Pooling and Recycling in Windows Runtime (**Updated**)
- **White Paper:** Deploy an AB Suite Application (**Updated**)

Additionally, the “Software Qualification and Support Matrix” documents for AB Suite releases 2.0, 3.0, 4.0, and 5.0 have all been updated.

To view these and other resources, simply go to public.support.unisys.com and choose “Documentation” in the “Public Information” box located on the left-hand side of the screen. No special login is needed.

In addition, there are two new white papers available on the [AB Suite homepage](#):

- [AB Suite in the Application Lifecycle](#)
- [Agile Development with Agile Business Suite](#)

We also encourage you to view the list of available [AB Suite training courses](#). A blend of instructor-led and computer-based trainings, these courses are a great educational resource and include a lot of graphics, interactivities, simulations, and demonstrations with voice-over narration.

Please be sure to visit the [ClearPath Forward Client Education homepage](#) to view the AB Suite Course Catalog and other helpful education and training resources.

To stay up to date on the latest happenings in the ClearPath Forward world, please [subscribe](#) to the ClearPath Connection™ newsletter.

Quick reminder that the next major AB Suite release will be AB Suite 6.1. Naming this release AB Suite 6.1, not AB Suite 6.0, was an internal decision and does not have any impact on our users. Its availability is planned for Q4 2016.

And if you’re looking to explore AB Suite on an evaluation basis, please [download AB Suite Express](#) today! This free download include the full AB Suite package – AB Suite Developer and AB Suite for Windows Runtime – as well as a “getting started” course designed to help you begin exploring everything AB Suite has to offer in no time.

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