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Is Your AB Suite Application Ready for Generations Y and Z?

By Maarten Schneider, Worldwide Marketing Manager,
EAE and AB Suite, Unisys



In just a few short years, application modernization has changed from a capability that was simply nice to have into a truly business-critical imperative.

To understand why, you need only appreciate the culture that's helping to shape – and in many ways, determine – how today's organizations operate.

As the workforce becomes increasingly populated by a new generation that's grown up with technology and is accustomed to an always-on lifestyle, businesses must search for ways to make themselves resonate with these younger consumers.

That means understanding that this change influences more than the role of the manager, the working conditions, the workday's hours, or the ability to work from home. It also impacts the technology that's used by employees and business partners the world over every day. We saw evidence of this with the "bring your own device" phenomenon that arose several years ago.

But devices are just the half of the picture. The other half is defined by the applications today's employees choose to do their jobs. >>

To win the “war for young talent,” and continue leveraging your core applications at the same time, it’s critical that your application modernization strategy address the following elements:

- Accessibility from tablets and mobile devices
- Ease of use with no special training required
- Self-service concepts
- Social media integration
- Integration with Microsoft® Office and other apps

Sounds daunting, but don’t worry: Agile Business Suite (AB Suite™) offers a healthy set of tools that facilitates the application modernization journey – while helping you protect your Enterprise Application Environment (EAE) and AB Suite investments.

When it comes to delivering a modern user experience or integrating your AB Suite application into a SOA landscape, some of the most important tools include:

- Client Tools
- Customized Client Tools Generator
- ClearPath ePortal
- Client Framework

Here’s how they work...

Client Tools

Client Tools offers generators for different user interfaces, like ASP.NET and VB.NET, as well as Web Services, which make use of the screen definitions within the model.

Customized Client Tools Generator

The Customized Client Tools Generator is the set of source code for the Client Tools generators. It’s been updated to allow you to customize one of the generators to suit your own requirements. Changing the generator – instead of its result – in this manner leads to a much more stable end result, as well as an application that’s simpler to

maintain over the long run. After all, it’s easier to re-run the generator than adjust your application each time you change something.

ClearPath ePortal

Client Tools includes a generator you can use to export UI definitions. This file can then be loaded into the ePortal Developer environment. With ePortal Developer, you can modernize the UI as much as you like before generating one of the available options. At the same time, you can upload the specification to our CloudBuild portal, where you get native apps for the most common mobile operating systems, including Apple® iOS and Android™. Note that ePortal is available for MCP and Microsoft Windows® based versions of AB Suite. To learn more about these and other capabilities, please check out the [ePortal playlist](#) on the ClearPath® YouTube channel.

Client Framework

When you want the freedom to design and create UIs on your terms, look no further than the [Agile Business Suite Client Framework](#). It supports Windows Presentation Foundation (WPF), Microsoft Model-View-Controller (MVC), and Windows Communication Foundation (WCF) out of the box, giving your AB Suite application the look, feel, and interactivity today’s consumers expect. For a deep dive into everything the Client Framework can do, please read the detailed article we ran in the [December 2015 issue of Developing Agility](#).

Modernize Today, Modernize Tomorrow

We view application modernization as a business-critical facet of our clients’ operations – one that’s crucial to constantly enhancing the user-friendly characteristics of their applications, creating and nurturing new sales channels, and remaining relevant to young talent.

Please do not hesitate to contact us at ABSuite@unisys.com if you’d like more information about any of the technologies discussed above or wish to use one in a pilot project.

Taking the Next Step with AB Suite 5.0 and ClearPath ePortal

By Ina Boeke, AVP, United Fire Group



Since our inception in 1937, United Fire Group (UFG) has remained sharply focused on serving the best interests of our customers and the communities in which they live.



Today, this commitment extends across more than 1,200 independent agencies in 43 states, plus the District of Columbia, as well as the 36 states in which we act as a life insurer through another 900-plus independent agencies.

This broad national presence, coupled with our ability to balance technology with personal relationships – and offer a diverse selection of products and best-in-class services – has helped UFG become the clear company of choice for independent agents and their customers.

Since technology pervades so much of what makes UFG the company it is today, it's only fitting that we do everything in our power to keep the systems that drive our day-to-day operations as contemporary as possible. One such application is ACL, a complete commercial lines policy processing system with over 3,000 Specs that started on LINC in 1987 and is now built in Agile Business Suite.

In the spirit of staying current, we decided to move from AB Suite 4.0 to AB Suite 5.0 in 2015. It was a commonsense move – keeping pace with the most recent release means we're able to benefit from the latest fixes and features available in AB Suite.

From AB Suite 4.0 to AB Suite 5.0

We made sure to do a fair amount of testing before we made the move to AB Suite 5.0. One of our smaller systems ran a complete cycle of daily activity for the online application, as well as a few reports, and compared the outputs and extract files

produced by AB Suite 4.0 and 5.0 with each other using a tool called “multi-edit.” We also ran some test reports that cover a variety of functions.

Once we completed the test, we made the move to AB Suite 5.0. It took a few weekends to get everything on our three development servers updated and rebuilt, but the Unisys support team was available throughout the process to help us quickly resolve issues or answer questions.

Response to AB Suite 5.0 has been great. Our developers didn't require any additional training and quickly began to appreciate many of the environment's newest features. In particular, they were happy to see that reports built faster and appreciated that the GLB.PARAM had increased to 262k.

With the help of additional DASDL properties, they no longer have to manually adjust the DASDL during the RTU. Cutting and pasting from the help menu and using the option to “find all references” also resonated with the team. And in particular, I loved the ability to find the length of an attribute, along with the template, by simply hovering over it in a logic page.

The Next level: Going Mobile

Application modernization is another important facet of keeping technology current and optimally suited to serve our employees' and customers' needs. So, in addition to implementing AB Suite 5.0, we also examined ways to make our application modernization strategy as strong as possible. >>

As Scott Minkel, our Enterprise Architect, describes it, our goal when it comes to modernization is to enable desktop PCs, tablets, and smartphones to access our applications in a way that delivers the appropriate functionality to the intended audience. To help bring this strategy to life, we chose the ClearPath ePortal for MCP.

After evaluating a couple options, we found ePortal to be more feature-rich, offer better integration with Visual Studio, include more project types, and provide the flexibility to create our preferred interface without limitations.

Our first step with ePortal came in the form of a pilot project focused around moving our Project Tracking System – an application with an ASP web front-end – to ASP.NET and updating it with a modern look and feel similar to another piece of software we use elsewhere in the company. It was a successful project that gave us the confidence we could use ePortal to achieve our modernization goals.

To that end, we've thus far successfully migrated all AB Suite generated ASP applications to ASP.NET and have also converted a third of them to MVC incorporating Bootstrap and responsive design principles. Additionally, we extended our AB Suite developed quote functionality to our agent portal, provided our marketing representatives with a reporting application they can access via a smartphone, and deployed web service integration back to our AB Suite application.

These projects are a great start, but there's certainly more we'd like to achieve with ePortal. For instance, by the end of the first quarter of 2016, we plan to release an updated version of our Commercial Lines and Bonds web applications, and also want to roll out new features for our mobile application.

We have five dedicated ePortal developers managing these efforts, all of whom have C# and web development programming backgrounds, but no previous experience or exposure to AB Suite. Rich experiences with Visual Studio and a strong understanding of C# and web development are keys for success with ePortal, as my colleague James Sharman likes to say.

As our successes with ePortal have shown, it's a tool that can really help an application modernization strategy reach the next level.

Q&A: Isle of Man Government on the Latest AB Suite Innovations



A self-governing British Crown Dependency, the Isle of Man sits in the Irish Sea between Great Britain and Ireland. Thirty-three miles long and 13 miles wide at its broadest point, the island is home to a population of around 90,000 individuals.



The Isle of Man Government supports life on the island and provides a multitude of citizen services – encompassing social welfare and emergency response programs, as well as adult education, environmental projects, and everything in between.

One of the core applications that helps the government perform its day-to-day activities is known as “TaxLive.” An Agile Business Suite application, the system collects income tax, national insurance, and corporate tax for about 80,000 entities.

We recently spoke with Mitcho Iankov, Senior Software Developer at the Isle of Man Government, about their history with EAE and AB Suite and how his team is using the development environment’s latest innovations to help the government better serve its citizens.

Developing Agility: When did you move from EAE to AB Suite?

Mitcho Iankov: The system was initially developed in 1996 and went live on EAE in 1999. We moved the runtime to Windows in 2003 and then migrated to AB Suite 2.0 in 2012.

After the migration, we used every opportunity to piggy back on a business project to make the system more object-oriented and use classes

wherever possible, so we could improve code readability, reusability, and maintainability. By encapsulating the code in methods with parameters and functions, we created highly visible interfaces that document the complexity of the system and allow us to build and expand the TaxLive application.

As a result of these OO changes, the system now has fewer than 300,000 lines of code – versus the 500,000 we had with EAE – but features more functionality than before. Now, writing a new Screen/Ispec takes a day or two, instead of five or six, and requires four or five times fewer lines of LDL+ code.

DA: In 2015 you added new developers to your team. What was their first impression of AB Suite? Was it easy to learn?

MI: Two new trainee developers joined the team after our AB Suite migration. Even though they had no EAE or AB Suite background, it was quite easy to get them accustomed to AB Suite. They did have some Visual Studio experience, which made it easy to understand things like using F5 to start the debugger or using methods and attributes.

DA: You updated from AB Suite 4.0 to AB Suite 5.0 in the beginning of 2016. What were some of the reasons you chose to upgrade?

MI: Unisys presented AB Suite 5.0 at a conference in Amsterdam in September 2014. >>

I was impressed by the new Client Framework and the replacement of the traditional painter, which we have used virtually unchanged since 1995, with a modern XAML painter.

We received many requests from the business over the years for modern interfaces, such as dynamic colors, buttons with different text, or local list sorting. The new XAML painter gives us all that. What's also great is that Unisys provided a utility to help us migrate the existing screens to XAML with minimal modification.

DA: What benefits have you experienced with AB Suite 5.0?

MI: AB Suite 5.0 is a 64-bit application and runs smoother on our Windows server, which has been 64-bit for years. Transactions are a bit faster and fewer fail due to dead lock – down from one or two a day to one every three to four days.

DA: We understand you're currently working on modernization projects using the Agile Business Suite Client Framework. What are you looking to achieve with this new tool?

MI: We have two objectives for the Client Framework. First, we want to replace RATL communication to our Microsoft Model-View-Controller (MVC) web portal with the Client Framework DataModel, which is much easier for C# .Net MVC developers to understand and use. Early binding will prevent lots of mistakes and speed up the MVC development cycle.

In addition, we want to modernize the GUI interface by moving to XAML and Windows Presentation Foundation (WPF). This should help us improve the user experience by giving them more options, such as new color themes, while limiting the training required for new users. XAML is much more flexible, and because all controls are created outside AB Suite, we can mix AB Suite bound controls with controls not bound to anything, like images, URLs, and more. There's also no need for Java on the desktop because WPF is native to Windows 7 and XAML screens are developed using Visual Studio.

DA: What are some of your first impressions of the Client Framework? Does it make a difference in the way you approach modernization projects?

MI: Developing new screens means we're able to make the most of the Client Framework's functionality at design time, though we're still restrained by the need to have the screen in Presentation Client as well. I can see how our AB Suite system is becoming a data provider – via the DataModel and Client Framework – for modern technologies like XAML, WPF, and MVC, while still being equipped to execute code written 20 years ago.

DA: What are your short-term and long-term plans with Client Framework?

MI: Our short-term plan is to make the Client Framework an appropriate replacement for the current Presentation Client. We have a pilot project of 12 screens, which are nearly ready for user acceptance testing. For now, we will run both GUI interfaces together, but we will use the full capability of XAML once the Presentation Client is completely replaced.

DA: What advice would you offer other EAE and AB Suite users?

MI: If you are still using EAE, you're limiting your developers' productivity. Your development life cycle is three times longer than it could be.

Moving from AB Suite 4.0 to AB Suite 5.0 is an update, not a major upgrade. In our case, we did not encounter any major issues and it was seamless for the end users and developers alike. Though we did run into some challenges with the Client Framework, Unisys acted quickly to resolve them, often the same day.

Thanks again to Mitcho for taking the time to speak with us. If you're curious about how AB Suite 5.0 or the Client Framework can benefit your business, please [email us](#) for additional information.

Engineering Corner: The Improved Stability of Windows RATL Server

By Ganesh Raghupathy, Senior Engineer, Unisys



Microsoft Windows **RATL Socket** is the primary interface server process used by most Agile Business Suite on Windows clients in production. Windows RATL Socket is mature, stable, and has demonstrated its ability to handle a large number of transactions.



The **RATL protocol** is a wrapping of a standardized and extended set of NO-Form (NOF) messages that provides all the functionality needed to support GUI forms in a deployed application. It is the primary interface protocol used

for communication between the GUI clients, such as Component Enabler, and the deployed runtime application. RATL protocol is implemented separately on Windows and MCP platforms. This article focuses on the RATL protocol server, or “RATL Socket,” used in AB Suite on Windows deployments.

Recent Enhancements

In order to make RATL Socket even more robust and stable, enhancements have been made to reduce its memory footprint for some specific system settings, such as “Unicode.” These improvements are available in AB Suite Interim Correction levels 4.0.1026 and 5.0.1016 onwards. And, by default, these improvements will be part of AB Suite 6.1.

To demonstrate the impact of these changes, stress and load tests were conducted in the AB Suite engineering labs. RATL Socket was tested with a load of 50 million transactions using an automated NOF driver client program, which established a connection to RATL Socket and performed Ispec transactions in a loop 50 million times. This automated stress and load test took around a month to complete on our low-end machines.

For the entire duration of the testing period, RATL Socket was extremely stable in terms of both CPU and memory usage. During the test run, the maximum CPU usage consumed by RATL Socket hovered around 20 percent on our low-end machine. The memory consumption (Private Working Set) of RATL Socket averaged roughly 4 MB for both AB Suite 4.0 and 5.0 throughout the testing period.

Below are snapshots of RATL Socket’s process statistics (via the Task Manager) after processing roughly 90% of the transactions. >>

AB Suite 5.0:

Image Name	User N...	CPU	Working ...	Peak Working S...	Working ...	Memory (Private Working Set)	Commit Size	Paged Pool	NP Pool
RatlSocket.exe	AppUser	15	7,848 K	18,344 K	0 K	4,280 K	11,020 K	115 K	27 K

AB Suite 4.0:

Name	PID	User name	CPU	Working set (memo...	Peak working s...	Work...	Memory (private working set)	Memory (shar...	Commit size	Paged pool
RatlSocket.exe	2528	AppUser	07	10,784 K	13,452 K	0 K	4,020 K	6,764 K	6,980 K	115 K

Lab Test Hardware Configuration

With AB Suite 4.0 and 5.0, the testing was done on virtual machines with the following configurations:

- Processor: 2x Intel® Xeon® CPU E5-4640 @ 2.40
- RAM: 2 GB
- Virtual Memory: 4 GB

Although production sites typically have high-end configurations, low-end machines were used for the tests to ensure that RATL Socket can handle large workloads on systems with minimal configurations. As our results show, RATL Socket seamlessly supported these transactions. The CPU and memory usage metrics obtained through Windows Performance Monitor indicate that RATL Socket was fully stable during the entire one-month testing period.

Monitoring RATL Socket

The important metrics to monitor center around CPU and memory usage – things like Private Bytes, Private Working Set, and the Commit Size values – of the RATL Socket process. You can check these details through any monitoring program or do so manually using the Task Manager. The Private Bytes and Private Working Set indicate the amount of memory that can't be shared by other processes. The Commit Size indicates the amount of virtual memory reserved for use by a process.

In AB Suite 5.0, the AB Suite for Windows Runtime is 64-bit, as is RATL Socket. Therefore, this combination can handle higher volumes of process memory, so you should consider recycling RATL Socket once every few months. Conversely, as the AB Suite for Windows Runtime 4.0 and its RATL Socket are 32-bit, it is advisable to recycle RATL Socket at least once every month.

Running Multiple Copies of RATL Socket

An important aspect of RATL Socket is its ability to run multiple copies in parallel using different port numbers. So, typically, a single RATL Socket can handle all clients and all systems. However, in some very high-volume transaction environments, you could consider configuring more than one RATL Socket process to effectively spread the load and keep the process from getting overloaded.

AB Suite on Windows and RATL Socket Server: Ready for the Future

Today's IT world has already started its transition from 32-bit to 64-bit computing. We have software systems that have already exhausted the 4 GB RAM limitation on 32-bit machines. But the theory of addressable memory permits you to use up to 16 exabytes – or 16.8 billion gigabytes – of RAM in a 64-bit machine.

The size of the computing device is shrinking day by day even as its computing capabilities expand exponentially. The day when we have a server with 16 exabytes of RAM to take advantage of full-fledged 64-bit computing is not too far away.

But here's the good news: AB Suite and RATL Socket are already future-proof – and future-ready. The 64-bit AB Suite for Windows Runtime 5.0 software combined with the parallelism of Windows RATL Socket is already available and ready to take full advantage of the capabilities of tomorrow's computing hardware.

All you need to do is update your environment to AB Suite 5.0. If you need help getting there, please reach out to us at ABSuite@unisys.com.

EAE to AB Suite Migration: On Your Mark, Get Set...



There are a number of compelling reasons why EAE clients should consider migrating to Agile Business Suite. And with just as many client stories detailing the benefits new AB Suite users routinely enjoy, you might be feeling eager to make the move yourself.

But when you decide you're ready to move to AB Suite, it's only natural that you might have some questions and concerns about the process before you actually begin.

Think about the project like running an off-road race: before you approach the starting line, it pays to know everything you can about the road ahead. How long is the course? Where are the turns? How steep are the hills? Will it be muddy or dry? Will I have enough stamina to go all the way? Did I enlist the support I need to reach the finish line?

Fortunately, there are things that can be done to help you successfully prepare for and complete the journey.

First, you'll want a good, high-level overview of the course, so you can understand challenges specific to your particular migration. To help you gain this vision, the Unisys team offers a migration checklist that collects critical information about your applications, such as how many elements (Ispecs, reports, etc.) they have, which external interfaces are used, and what types of end-user interfaces you maintain.

We'll also gather information regarding both your current and planned hardware and software environments. This completed checklist is then forwarded – along with your Model file, if necessary – to the AB Suite Engineering team.

They'll provide a complimentary assessment of the checklist and identify areas that may present a particular challenge or require special attention.

By this point, you should be able to anticipate any challenges that might pop up. To help you handle them – and keep you on course – the next step is to collaborate closely and build a plan using the EAE to AB Suite Assessment service. During this paid engagement, Unisys consultants will work with you over the course of five to ten days to perform a detailed examination of all aspects of your current environment. Once the service is complete, you'll receive reports that:

- Identify any areas that require special attention during the migration process, and make recommendations regarding them
- Point to new features in AB Suite that make the most sense for your specific needs

Complete the engagement, and you should be nimble enough to avoid the stumbling blocks that might otherwise interrupt your migration.

We'd love the opportunity to run side by side with you, providing the assistance you need to successfully navigate your course and complete the journey as efficiently and effectively as possible. Drop us an email at ABSuite@unisys.com and we'll forward you the migration checklist and send along additional information about the EAE to AB Suite Assessment service.

On your mark, get set...GO!

Info Center



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

- **How To:** Clone an AB Suite Model Database **(New)**
- **How To:** Use Registry Keys with AB Suite MCP Runtime **(New)**
- **How To:** Upgrade your AB Suite Environment with an IC **(New)**
- **How To:** Use Registry Keys with Windows Runtime **(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 Customer 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 includes 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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