

zapthink
white paper

LEVERAGING SOA FOR STRATEGIC VALUE CREATION

FLORIDA COMMUNITY COLLEGE JACKSONVILLE





LEVERAGING SOA FOR STRATEGIC VALUE CREATION

FLORIDA COMMUNITY COLLEGE JACKSONVILLE

November 2006

Analyst: Jason Bloomberg

Abstract

Florida Community College Jacksonville (FCCJ) is in the competitive and highly commoditized two-year community college industry. To rise above the fray, FCCJ has looked to their information technology (IT) department to help them build competitive differentiation in this market. In furtherance of this aim, FCCJ is instituting Service-Oriented Architecture (SOA) in a three-phase initiative that currently automates several key business processes, and will eventually lead to a virtual environment for students, employees, and other users at the college. FCCJ is a long-term customer of Software AG, and Software AG's products and professional services have been crucial in FCCJ's success with SOA up to this point.

Their SOA initiative is so successful so far, in fact, that they must manage the demand for additional Service-oriented applications from across the college, and their expanded capabilities have led to increased opportunities with channel customers who wish to leverage FCCJ's IT capabilities for their own customers. As a result, SOA has led to strategic value creation for FCCJ's core business.

All Contents Copyright © 2006 ZapThink, LLC. All rights reserved. The information contained herein has been obtained from sources believed to be reliable. ZapThink disclaims all warranties as to the accuracy, completeness or adequacy of such information. ZapThink shall have no liability for errors, omissions or inadequacies in the information contained herein or for interpretations thereof. The reader assumes sole responsibility for the selection of these materials to achieve its intended results. The opinions expressed herein are subject to change without notice. All trademarks, service marks, and trade names are trademarked by their respective owners and ZapThink makes no claims to these names.

I. The Business Issues at FCCJ

Florida Community College is an uncharacteristically large, comprehensive community college that serves 64,000 students each year in more than 200 programs through five campuses and five major educational centers, plus one of the nation's largest distance learning programs. They rank fourth in the nation in the number of students who earn associates degrees in liberal arts and sciences, and they have the largest workforce development program, the largest information technology curriculum and the largest distance learning programs in Florida.

Florida Community College Jacksonville (FCCJ) considers itself to be in competition on a global scale, and continually strives to evolve and broaden their offerings in innovative ways to maintain their high standings and to attract new students. To this end, FCCJ makes significant investments in their technological infrastructure and works to continually improve their information technology (IT) architecture to maintain their competitive edge.

This ongoing urge to maintain a cutting-edge architecture has led them to implement Service-Oriented Architecture (SOA), an approach to organizing IT resources as business Services, increasing the agility of the organization while obtaining increased value out of existing IT assets. FCCJ's SOA initiative is a long-term effort, with multiple phases, each with its own goals and deliverables. But most importantly, FCCJ doesn't consider its architectural efforts to be an IT project *per se*. Instead, SOA for FCCJ is really a combination business and organizational rejuvenation project, with specific strategic business goals.

As a result, this case study focuses both on the technological and architectural achievements that FCCJ has made, as well as the business value FCCJ derived, and is planning to derive, from those efforts. FCCJ is leveraging SOA for strategic value creation, an accomplishment that any organization looking at SOA can benefit from.

Automating Manual Processes

Business process improvement drives FCCJ's SOA initiative, starting with the automation of manual business processes involving students, faculty, and staff. Many of the business processes they targeted were manual, paper-based processes that consumed resources and limited FCCJ's flexibility. They faced the challenge of managing thousands of complex employee documents using such paper-based processes, and also found that they had insufficient process controls for time and leave management, among many other student-facing as well as administrative processes.

As a result, these manual processes offered a poor user experience: processes took too long, were too complicated, and cost too much to manage. Furthermore, such practices were inconsistent with the technology leadership that the college sought to establish.

Service-Oriented Architecture for FCCJ is really a combination business and organizational rejuvenation project, with specific strategic business goals.

TAKE CREDIT FOR READING ZAPTHINK RESEARCH!

Thank you for reading ZapThink research! ZapThink is an IT advisory and analysis firm that provides trusted advice and critical insight into the architectural and organizational changes brought about by the movement to XML, Web Services, and Service Orientation. We provide our three target audiences of IT vendors, service providers and end-users a clear roadmap for standards-based, loosely coupled distributed computing – a vision of IT meeting the needs of the agile business.

Earn rewards for reading ZapThink research! Visit www.zapthink.com/credit and enter the code **FCCJSOA**. We'll reward you with ZapCredits that you can use to obtain free research, ZapGear, and more! For more information about ZapThink products and services, please call us at +1-781-207-0203, or drop us an email at info@zapthink.com.



FCCJ looked to SOA to enable them to improve their processes, build more flexible processes, and increase the reuse of existing IT assets as well.

They realized, however, that simply automating inefficient processes would only solve part of the problem. Instead, they looked to SOA to enable them to improve their processes, build more flexible processes, and increase the reuse of existing IT assets as well. FCCJ sought an extension of the reuse approaches of the past, like reusable code libraries, where they could create reusable modules, only now implementing reuse of Services instead.

FCCJ also realized that they wanted to abstract their business logic into a business process layer. While accessing and leveraging legacy business logic and data proved to be an essential part of their SOA plan, they also wanted the ability to create new business logic through the power of Service Orientation: composing Services into composite applications that implement business processes in flexible ways.

Providing a Complete Virtual Experience

FCCJ achieved a substantial measure of success in improving and automating previously manual processes as a short-term, tactical benefit. However, the longer term, more strategic goal of FCCJ's SOA initiative is to provide a virtual experience for their students and other users, making the physical location of students, faculty, and others irrelevant during the entire community college experience FCCJ's 64,000 students include 20,000 online students. Their business strategy calls for them to offer both audiences a complete virtual experience for their entire education process, which can be entirely remote.

Essentially, what FCCJ means by "virtual experience" is enabling online versions of every interaction a student (or other user) might undergo in person, including instruction and every other interaction people have with the college, in particular registration, meeting with teachers and advisors, and dealing with human resources. They will implement this virtual experience capability by implementing a digital workflow concept within their SOA environment that integrates all assets, from legacy systems to iPods to calendars. In fact, FCCJ doesn't simply see this virtual experience as improving the user experience, they actually see this virtual experience as their core differentiator in what has become a commoditized market for community college education.

Building a Channel

FCCJ has made a business of providing educational capabilities to third parties, and they see their SOA efforts as helping them build this channel by improving the experience their channel partners can offer. In fact, they have already found that their Web Services are in demand by third parties, and as a result, they are building a significant business providing solutions for other educational institutions based on their SOA capabilities.

Examples of these channel partners include Cisco Systems, which calls upon FCCJ to provide a Cisco Academy Training Center. FCCJ trains instructors around the world on all eight levels of Cisco instruction. They also provide leading hotels with culinary training. Additionally, FCCJ also provides global, online degrees to US Navy personnel, the US Army National Guard and the US Coast Guard, as well as operating higher education operations at the Great Lakes Naval Training Center.

As a community college, or more generally, being in the community education business, having a value-added Services layer is a critical strategic differentiator for FCCJ as a value creation engine through building a channel of third-party education firms who leverage FCCJ's virtual experience for remote instruction. In this way, their SOA efforts go straight to the top line, improving FCCJ's business overall.

FCCJ is building a significant business providing solutions for other educational institutions based on their SOA capabilities.

FCCJ's Phased SOA Rollout

FCCJ's IT leadership has been forward looking for many years, long before SOA became popular. FCCJ has long looked to IT to provide strategic differentiation in a commoditized market, and as a result, the journey to SOA began in the 1990's with a focus on a Service-based architecture—a precursor to SOA.

Now that SOA best practices are beginning to mature, FCCJ is well on its way to building business value through the implementation of SOA. They began their SOA efforts with a focus on automating manual business processes, and they are now building out a large number of Services to meet this goal. The future holds even more intriguing capabilities, as they leverage SOA and today's collaborative Web 2.0 technologies to provide advanced experiences for their students, employees, and business partners.

The three phases of FCCJ's long-term SOA strategy are as follows:

- **Phase I: Focus on Business Processes** – FCCJ began their SOA efforts with their business processes and how to interact with them on the Web. They targeted several manual, paper-based process within their organization. During this first phase, they modeled enterprise processes separate from the applications that they had available. They realized even at this early stage in their SOA rollout that SOA enables the separation of business logic from process.

The approach that FCCJ used was to graphically map the target business processes in flowchart form to delineate the business process logic. Then they utilized crossvision BPM from Software AG and Fujitsu as part of an effort to leverage the entire crossvision SOA suite. crossvision BPM enabled them to model processes in a flexible, declarative manner.

- **Phase II: The Move to Services** – Creating a Service abstraction allows FCCJ to separate users from the underlying heterogeneous implementation, providing flexible, seamless experiences for their users as well as enabling FCCJ to take a best-of-breed approach to their infrastructure. At this time, FCCJ has over 1,500 Services in production, they have leveraged crossvision to provide for Service composition, and they have also built a collaborative Rich Internet interface based on Ajax technology.
- **Phase III: Enterprise Web 2.0** – During phase three, they're looking to extend the life of their legacy applications, since those applications still have valuable business logic and rules that they wish to preserve. They were unable to effectively support their portal with their legacy applications before they moved to SOA. But through Service composition and rich user interface capabilities, FCCJ will be able to provide the benefits of the Web-based portal with out the limitations that traditional Web-based applications impose.

They are also planning to implement some Web 2.0 capabilities to front-end their legacy applications, to leverage their student audience's familiarity with virtual gaming experiences. They plan an avatar-based interactivity model similar to a video game as a model for their portal, where users take on personas that move through a virtual environment.

crossvision BPM enabled FCCJ to model processes in a flexible, declarative manner.

Through Service composition and rich user interface capabilities, FCCJ will be able to provide the benefits of the Web-based portal with out the limitations that traditional Web-based applications impose.

II. Legacy Rejuvenation at FCCJ

Obtaining ongoing value out of a range of legacy systems and applications is a priority for FCCJ. Their existing legacy capabilities are centralized and monolithic, which limits their reusability. FCCJ only wants to rework its legacy functionality when it makes sense, but would rather incorporate existing legacy capabilities into their emerging Services as appropriate.

Software AG has worked closely with FCCJ for many years, and most of FCCJ's core applications are written with Software AG's legacy technology like Adabas and Natural. Software AG has been working with FCCJ to determine how SOA could best fit within FCCJ's current environment.

In September of 2005, Software AG performed a technology analysis and assessment on FCCJ's environment and made recommendations on how SOA and Software AG could enhance project delivery, improve productivity and resource utilization. Software AG recommended implementing an Enterprise Service Bus (ESB), a Business Process Management (BPM) tool and a Web Services security layer in order to build a SOA framework that would serve as a solid integration platform.

"Webification" vs. "Guification"

"Webification" is a term FCCJ uses to represent the business process-focused, Service-oriented approach to building interfaces to legacy applications. "Guification" is the simplistic wrapping of legacy apps with static Web pages, for example, the simplistic Web wrappers on legacy screens by displaying 80 columns by 24 rows from a mainframe screen in a Web page. Predictably, FCCJ endeavors to enable Webification and avoid Guification.

To deal with legacy applications, they are following the Webification approach, spreading value to students as well as employees, by reviewing processes and creating Service-based functionality for the Web in a declarative fashion. They are leveraging crossvision BPM for these Webification, efforts, which they expect to complete in 2007 or 2008. crossvision BPM coordinates the flow of business processes by providing the agility to model, automate, and optimize business processes and then measure the results.

Three Approaches to Mainframe Access

FCCJ leverages their Software AG Adabas database and the Natural programming environment for queries on the database. They still use Natural in a limited way in their core business application logic layer, yet they plan to gradually decrease their use of Natural in the future, since SOA makes it easier to abstract the source of underlying business logic.

While they continue to get value out of their Adabas and Natural implementations, they are not relying exclusively upon them. In fact, they have heterogeneous database and programming environments. As a result, their SOA implementation has little dependency on either Natural or Adabas. Furthermore, their heterogeneous environment includes technology from Sun Microsystems as well as additional Java capabilities, in addition to Microsoft .NET functionality, including .NET Portal.

FCCJ is also leveraging Software AG Legacy Integrator, ApplinX, SQL Gateway, and EntireX (now crossvision Service Orchestrator) to gain access to mainframe apps in multiple ways. Legacy Integrator provides adapters to their mainframe environment by integrating existing assets and exposing existing systems as Services. Legacy Integrator also encapsulates functionality, extends usability and maximizes leverage of IT assets. ApplinX provides the guification, which is adequate for low priority data display that is not process-based. They use this capability for administrative screens that aren't for students.

SQL Gateway provides direct access to data, when appropriate, and Service Orchestrator provides the infrastructure foundation for their Services, enabling the use of crossvision BPM for business process composition, CentraSite for SOA governance, and Application Composer for supporting user interfaces. crossvision Service Orchestrator creates new business Services from existing technical systems by transforming existing Services and messages via composition and orchestration.

Service Orchestrator provides the infrastructure foundation for FCCJ's Services, enabling the use of crossvision BPM for business process composition, CentraSite for SOA governance, and Service Composer for supporting user interfaces.

In fact, FCCJ is also quite satisfied with Software AG's portability to other platforms. They have found portability to IBM z/OS and Solaris to be seamless. Furthermore, they saved \$1.2 million per year in mainframe licenses by migrating to a Unix-based platform. This transition to Unix required no training; all it needed was to take care of a few details, for example, transitioning from EBCDIC to ASCII. They reinvested the resulting savings into other SOA projects.

III. FCCJ's SOA Infrastructure

FCCJ looks for flexibility as well as ease of replacement of any tool they use. They evaluated crossvision extensively, and they are quite confident with its capabilities. crossvision has no dependencies; for example, crossvision has no requirement of a particular database they would have to use. This lack of dependencies is important to FCCJ, because they prefer to take a best-of-breed approach, where they select the best tool, but they avoid becoming wedded to any particular technology. Furthermore, crossvision tools are "plug and play" in that they are replaceable tools. This replaceability is an important feature, even though FCCJ has no plans to replace crossvision, because replaceability implies modularity and open standards support.

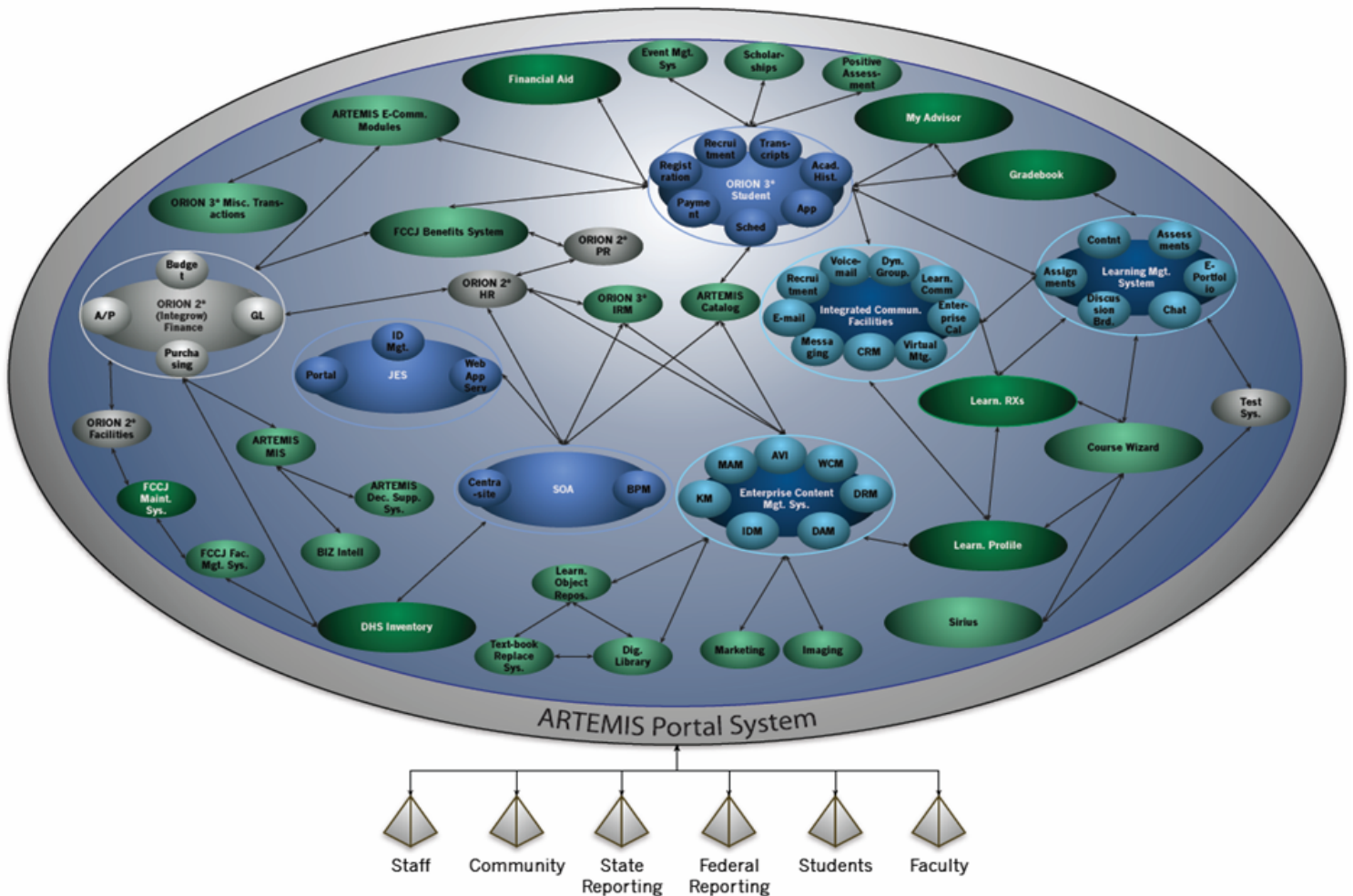
Replaceability is an important feature, even though FCCJ has no plans to replace crossvision, because replaceability implies modularity and open standards support.

Managing and Integrating 1,500 Services

FCCJ is using EntireX, Service Orchestrator, and CentraSite to manage and catalog the 1,500 Services that are now in production. In the first phase of their SOA initiative, all Service aggregation was a manual process. Now they are going back and redoing manual Service aggregation through orchestration in phase two, in order to integrate Services. To prioritize the creation and integration of Services, FCCJ is following the 80/20 rule, recognizing that 80% of the code drives 20% of the functionality. Therefore, they're wrapping the 20% of the code that drives 80% of the functionality with crossvision Service Orchestrator and crossvision BPM powered by Fujitsu. Service Orchestrator enables them to reuse existing code as part of the Webification process. FCCJ also leverages crossvision Information Integrator to resolve issues with heterogeneous data sources that support the Services. crossvision Information Integrator combines data from different systems into a single view. It also enables the management and consolidation of data, the definition of dependencies, and the publication of business Services based on semantic approaches.

The figure below represents FCCJ's vision for their SOA implementation. They represent their core systems, applications, and components in this figure, including their Integrated Communication Facilities, which include messaging, enterprise calendaring, customer relationship management, and other business applications. The figure also illustrates the relationships among enterprise content management, learning management, and their enterprise resource planning (ERP) application they call ORION 3 with respect to their SOA initiative.

Conceptual Schematic of FCCJ IT Environment



Source: FCCJ

The Java Enterprise System (JES) and SOA bubbles on the figure above do not represent technologies separate from the rest of the diagram, but rather indicate technologies that FCCJ has integrated throughout the architecture.

The outer ring of the figure above is FCCJ's ARTEMIS portal system, which provides a comprehensive experience for their customers, as the triangles at the bottom of the figure illustrate. The ARTEMIS portal leverages the SOA to abstract and hide the underlying complexity of the various systems from users. Software AG's crossvision Suite is the primary set of tools that enable and manage this abstraction, which results in customers using ARTEMIS for a simple, rich, and empowered experience. FCCJ had originally created their portal on .NET five years ago, and ARTEMIS represents a Service-oriented, Java-based upgrade of the portal.

CentraSite as the System of Record

While in FCCJ's case, the figure above illustrates an ongoing SOA implementation, other organizations might have similar conceptual diagrams that might illustrate a more traditional, inflexible architecture. FCCJ, however, has made substantial progress

CentraSite is the backbone that integrates all crossvision components.

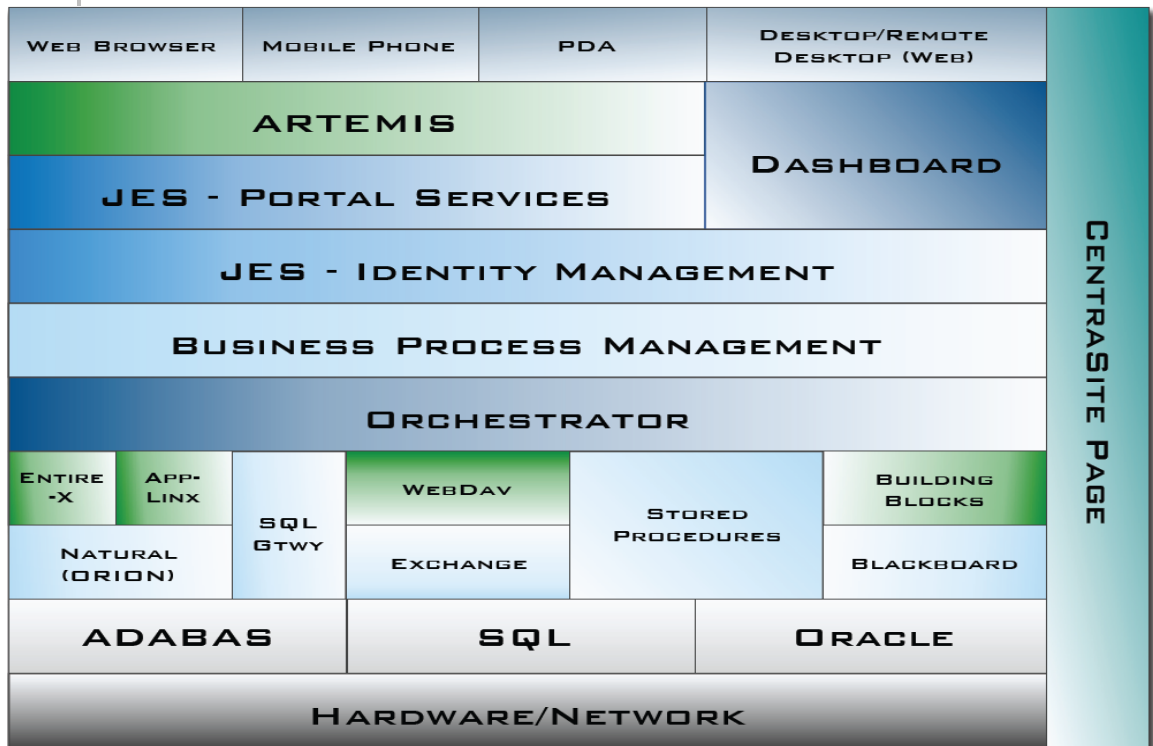
implementing SOA in this diverse, heterogeneous environment, in large part due to their use of CentraSite. Software AG and Fujitsu teamed to develop the CentraSite product as a core component of the crossvision suite. CentraSite supports the Service lifecycle in the SOA implementation and provides transparency, collaboration, Service utilization, change management and governance to the SOA implementation.

CentraSite acts as a Web Services and SOA asset management platform, holding all metadata assets, and also offering reports on the usage of those assets. CentraSite incorporates an asset registry, which allows companies to reuse Web Services. CentraSite also increases collaboration between IT and business users by putting access and analysis tools into the hands of business analysts, architects and developers.

CentraSite is the backbone that integrates all crossvision components. It collects the metadata from all components and assets that these products create, such as Web Services metadata, process models, information models and Web Services orchestration metadata. CentraSite also provides reporting functionality and an impact analysis interface to provide discovery, promote reuse, and ensure reliability of SOA assets.

FCCJ uses CentraSite to manage all the metadata for their SOA initiative, in essence as a catalog both of Services and of business processes. The figure below illustrates CentraSite's core role within FCCJ's SOA initiative:

FCCJ's SOA Relationships



© 2006 Florida Community College at Jacksonville
Source: FCCJ

Note that the figure above highlights the CentraSite “page,” in other words, its user interface. Developers and analysts look at CentraSite’s user interface to check to see where data elements reside. CentraSite also takes an active role within the SOA

implementation, maintaining a runtime metadata store for many elements of their infrastructure.

FCCJ's future plans for CentraSite include incorporating metadata on both Service use and reuse, as well as intelligence on Service consumption. They are looking to track how people will consume Services, and also what value the Services provide. They hope to use that information to adjust their Service delivery approach.

Building the Portal with Ajax and BPM

FCCJ's approach to building the ARTEMIS portal was to start with crossvision BPM. They felt it was important to tackle BPM first, in order to help users understand their processes as those processes moved away from manual, paper-based approaches. By taking a business process approach to their portal, they were able to improve some processes in the course of building their portal.

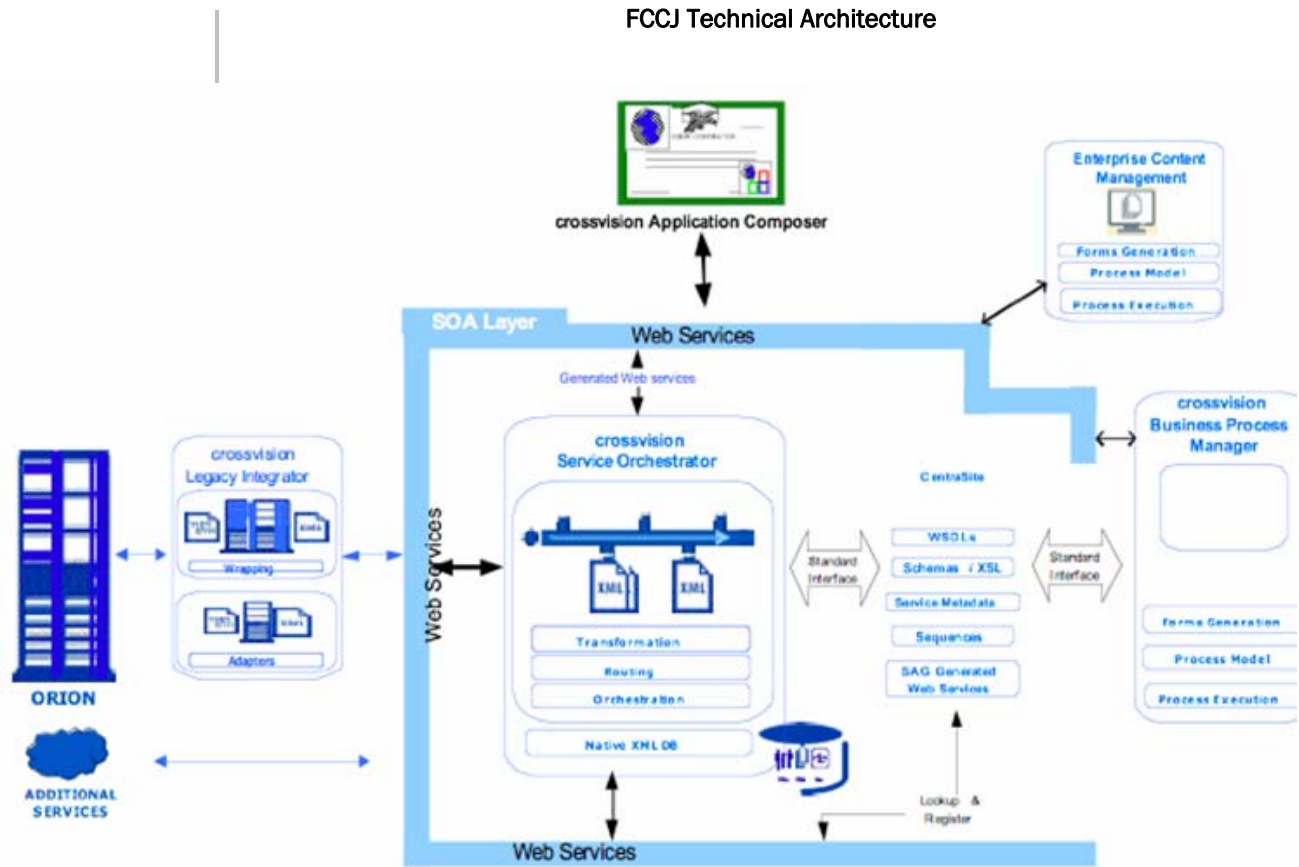
While the current version of the ARTEMIS portal leverages Asynchronous JavaScript and XML (Ajax), they are basing the upcoming second version of their portal is based on a broader range of collaborative Web 2.0 approaches. It will be student services-related, offering registration, degree planning, employee account management , and other processes. It will continue to use Ajax, as well as orchestration and BPM.

FCCJ also plans to leverage crossvision Application Composer for the next version of the portal. In conjunction with the rest of the crossvision suite, Application Composer enables the composition of applications out of existing Services and components. Application Composer takes a model-driven approach to Ajax, simplifying its implementation and maintenance.

Application Composer also provides rich Web 2.0 user interfaces to enable business processes. It integrates with existing application and portal servers, and provides collaborative tools for business analysts and system architects. Application Composer also enables the composition of functionality from both legacy and new applications, which is a capability that FCCJ requires.

Due in part to its use of Ajax technology, applications and user interfaces that crossvision Application Composer can generate run without modification in browsers and Java-based clients. Application Composer decouples user interface definitions from the interface technologies, resulting in flexible applications, independent of the execution environment.

The figure below illustrates FCCJ's vision for their technical architecture and how Application Composer relates to the other parts of the implementation. The core characteristic of this architecture is the "SOA Layer," the Services abstraction at the core of their SOA. Supporting that abstraction layer are crossvision Service Orchestrator, CentraSite, and crossvision Business Process Manager. FCCJ plans to leverage crossvision Application Composer for their next generation portal, and crossvision Legacy Integrator for integration with the ORION ERP system.



Source: Software AG

IV. “A Great Problem to Have”

FCCJ is taking an iterative approach to their SOA rollout, focusing on Service-enabling certain key processes.

FCCJ is taking an iterative approach to their SOA rollout, focusing on Service-enabling certain key processes. They have shown great success with these often complex workflows, building out their first composite applications in as little as six weeks. These applications leverage Centrasite for a managed SOA implementation, with crossvision BPM providing graphical mapping of the business logic. In fact, they were able to deliver the phase one project in half of the allotted time, in large part by leveraging Software AG’s professional services team as mentors during this process.

Furthermore, FCCJ has used the move to SOA to revamp these processes to be consistent with the usage of higher level technology throughout their organization. They are now taking steps toward process integration and away from inflexible transactional processing. As a result, their organization has seen clear proof of the value of their SOA approach. Based on this early success, they are now looking at how to leverage the framework and concepts throughout FCCJ’s IT infrastructure.

Their initial forays into their business process-focused SOA implementation were so successful, in fact, that an unexpected problem has arisen: so many departments within FCCJ, as well as third parties, want to leverage their SOA approach that their biggest challenge is managing the demand for IT services that take advantage of SOA. As a result, their problem is demand management: everybody wants applications similar to the ones they’ve built. For example, one of the composite applications FCCJ built was a human resources time management application, and now several groups across the college want a similar capability.

The impact of their long-term SOA initiative is strategic value creation at FCCJ, as channel customers also seek to leverage the composite application capabilities that FCCJ provides.

FCCJ always looks to extract every last bit of value out of what they buy, leading them to find ways to leverage legacy technologies and applications, even though this legacy rejuvenation principle is at times at odds with their best-of-breed approach.

The impact of their long-term SOA initiative goes beyond increasing the demand for IT services. In fact, these efforts have led to strategic value creation at FCCJ, as channel customers also seek to leverage the composite application capabilities that FCCJ provides. As FCCJ puts it, the system becomes the brand in the user economy. Yet while demand management is one key problem they are facing, other challenges also include maintaining the flexibility to take advantage of new technologies as they develop, continuing to create business value that leverages those new technologies, hiring for overall capabilities, rather than for particular skills, and keeping the people they bring on to help expand their SOA efforts engaged over time.

V. The ZapThink Take

In Nicholas Carr's seminal work, *IT Doesn't Matter*, he concludes that IT does not provide strategic value for organizations. In ZapThink's book, *Service Orient or Be Doomed!*, we point out that SOA can change this conclusion by enabling organizations to introduce competitive change into their markets—the definition of strategic value. FCCJ has done just that.

The most important critical success factor for FCCJ's SOA initiative has been their business process focus. They mapped their processes as early as possible in the project, and incorporated BPM as a central part of their overall IT strategy. As a result, the Services they built as part of their SOA initiative enabled the improvement of existing processes, which created clear, immediate business value.

FCCJ also credits their partnerships with trusted vendors as a critical part of their success. For their SOA initiative, Software AG was able to provide a complete vision based on the crossvision offering. The crossvision toolset integrated well with the existing applications FCCJ developed, which they had often based on Software AG's older technology.

In fact, FCCJ always looks to extract every last bit of value out of what they buy, leading them to find ways to leverage legacy technologies and applications, even though this legacy rejuvenation principle is at times at odds with their best-of-breed approach, in those instances where best-of-breed means retiring an existing application. This “leave and layer” vs. “best-of-breed” dichotomy is often at the heart of SOA planning, but FCCJ understands that reuse will lead to momentum, including both reuse of existing technologies as well as reuse of Services. In fact, they are counting on broad levels of reuse to provide strategic value for their students, employees, and channel customers well into the future.

Copyright, Trademark Notice, and Statement of Opinion

All Contents Copyright © 2006 ZapThink, LLC. All rights reserved. The information contained herein has been obtained from sources believed to be reliable. ZapThink disclaims all warranties as to the accuracy, completeness or adequacy of such information. ZapThink shall have no liability for errors, omissions or inadequacies in the information contained herein or for interpretations thereof. The reader assumes sole responsibility for the selection of these materials to achieve its intended results. The opinions expressed herein are subject to change without notice. All trademarks, service marks, and trade names are trademarked by their respective owners and ZapThink makes no claims to these names.

About ZapThink, LLC

ZapThink is an IT advisory and analysis firm that provides trusted advice and critical insight into the architectural and organizational changes brought about by the movement to XML, Web Services, and Service Orientation. We provide our three target audiences of IT vendors, service providers and end-users a clear roadmap for standards-based, loosely coupled distributed computing – a vision of IT meeting the needs of the agile business.

ZapThink helps its customers in three ways: by helping companies understand IT products and services in the context of Service-Oriented Architecture (SOA) and the vision of Service Orientation, by providing guidance into emerging best practices for Web Services and SOA adoption, and by bringing together all our audiences into a network that provides business value and expertise to each member of the network.

ZapThink provides market intelligence to IT vendors and professional services firms that offer XML and Web Services-based products and services in order to help them understand their competitive landscape, plan their product roadmaps, and communicate their value proposition to their customers within the context of Service Orientation.

ZapThink provides guidance and expertise to professional services firms to help them grow and innovate their services as well as promote their capabilities to end-users and vendors looking to grow their businesses.

ZapThink also provides implementation intelligence to IT users who are seeking guidance and clarity into the best practices for planning and implementing SOA, including how to assemble the available products and services into a coherent plan.

ZapThink's senior analysts are widely regarded as the "go to analysts" for XML, Web Services, and SOA by vendors, end-users, and the press. Respected for their candid, insightful opinions, they are in great demand as speakers, and have presented at conferences and industry events around the world. They are among the most quoted industry analysts in the IT industry. ZapThink was founded in November 2000 and is headquartered in Baltimore, Maryland.

ZAPTHINK CONTACT:

ZapThink, LLC
108 Woodlawn Road
Baltimore, MD 21210
Phone: +1 (781) 207 0203
Fax: +1 (786) 524 3186
info@zapthink.com

