

10 Keys to Successful EAI

By Andy Carl

With so many new, exciting technology trends happening in Enterprise Application Integration (EAI), there's a tendency to lose sight of basic fundamentals for successful implementations. Web services, Java Connector Architecture (JCA), integration server/application server convergence, and Business Process Management (BPM) are among the new trends worthy of the attention they're capturing. We should monitor these trends because each promises to add significant value, but we must remain focused on fundamentals. Sticking to fundamentals separates success and failure. Implementation is everything.

I've been fortunate to work for two large, well-respected organizations that made significant investments in EAI. Even though each partners with different technology providers, the 10 keys to success apply equally. I was the EAI development manager for 18 months in the first organization and I'm currently the EAI architect in the second. The challenge in both organizations is to establish an EAI Competency Center that provides architecture, project management, development, and support services to the rest of the enterprise. It's a difficult task, but if you keep focused on the keys to success, your chance of success is greater.

1.) Communicate, Communicate!

It's critical to communicate early and often to everyone. How well your organization understands what EAI is and its value often determines success. You need to deliver the message in waves. The first wave includes presentations to senior management on strategies, Return On Investment (ROI), and implementation

timelines. A second wave includes presentations to peers in IT. You'll need their support. Other waves can come after you have a few projects completed. Keep sharing your successes.

Deliver formal and informal updates. Formal updates can be quarterly updates to management or weekly status reports. Informal updates can be "brown-bag" lunch presentations to many different groups. Seek out your network services, Unix, application development, and database teams to share your EAI story. These meetings are critical for building relationships and developing implementation standards. Don't limit yourself to presentations alone. Use many informal techniques to communicate your message.

2.) Partner With a Leader

It's easy to find product evaluation criteria and even product comparisons. Use research firms' (Gartner, Giga, Meta Group, and others) Websites to find help in selecting the right EAI tool. Independent sources (*eAI Journal*, *EAI Toolbox*, and *ebizq*) also have excellent materials to help companies choose the right vendor. Partner with an industry leader. For long-term success, you'll need to partner with an existing leader.

One vendor might be better suited for a decentralized organization. Another vendor might have a compelling alliance with your application server vendor. Another might be better suited to an all-Microsoft shop. Certainly, pick a vendor that meets your requirements, but pick a leader.

The EAI industry continues to be characterized by rapid change and consolidation. Vendors are adding new capabilities almost daily in response to new threats and opportunities. Only a few can survive

the pace and magnitude of change. A short list of leaders includes webMethods, SeeBeyond, TIBCO, BEA, Mercator, IBM, Microsoft, webMethods, and Vitria. Consider partnering with one of these to mitigate the risks associated with rapid change and industry consolidation.

3.) Tap Internal and External Talent

For our purposes, we'll consider the need for a centrally focused EAI Competency Center as a given. You should find the right staffing mix for your Competency Center. As with anything, a person's track record, interest level, and motivation outweigh other factors when considering candidates for your new EAI team. Aside from identifying these qualities, recruit talent inside your organization that has experience with distributed programming. This includes Java (most tools are Java-based), messaging, and databases. Distributed programming skills translate well to EAI. One of the best ways to gain credibility early is to recruit respected persons who have a history of success and solid technical skills.

Don't rely entirely on shifting existing staff to your new EAI team. Supplement existing staff with partners experienced in EAI projects. Don't accept partners with limited EAI training who are looking to build their practice. Sometimes you have to challenge a consultant's background to ensure they aren't fresh out of training. You need expertise to help you get started. Make it a priority to use consultants to perform project work and to share knowledge with existing staff. Make sure consultants don't work alone or handle problems without help from staff. You can use professional services for your EAI pro-

ject, but these consultants are typically much more expensive.

4.) Integrate With an External View

Successful business-to-business (B2B) initiatives require that you build and integrate internal systems with a view toward B2B opportunities. You want to leverage your EAI infrastructure. Don't implement a B2B connection to your Enterprise Resource Planning (ERP) application separate from your EAI connection. Leverage the same EAI connections for B2B connections.

You can use different vendors for EAI and B2B, but consider both when designing your integration architecture. Implementing BPM will be easier with a single, complete integration solution, but you can develop connections between vendors. Most tools are Java-based and have features for connecting to applications using open standards such as Web services and Java Messaging Service (JMS), so connecting vendors is feasible. Use B2B initiatives to sell the need for a more complete EAI infrastructure.

6.) Deliver and Build off Success

Don't try to solve your enterprise integration problems with your first integration project. Plan for doing a few projects with limited scope and high probability of success. Also, plan to use a few initial projects for building skills within your staff. Skill building is critical for long-term success. Having several wins under your belt will make your communication task that much easier.

Stay focused on delivering a few initial projects and building reliable, stable EAI processes and infrastructure. After implementing a project or two, you'll be ready to tackle the larger, enterprise projects that promise to bring greater ROI.

Build Alliances in IT

You'll need help from Database Administrators (DBAs) and members of the network, security, application development, and architecture teams. These technical alliances are critical. Engage these groups early to define standards for implementation. To reuse design patterns for implementing adapters, you'll need help.

The network team needs to understand the impact of EAI traffic on the network. DBAs need to understand how

database adapters affect database performance. Architecture leaders need to bless the general architectural design. EAI touches just about everything in your enterprise. If you have a data warehouse group that uses Extraction, Transformation, and Loading (ETL) tools, you need to work with them to articulate how EAI and ETL are complementary, not competing. That's another topic all its own.

7.) Establish Basic Processes

One of the first tasks when creating a Competency Center is to standardize development life cycle processes and process templates. Put a stake in the ground on a set of documents that guides your EAI staff through implementation. Emphasize making your templates simple, understandable, and usable. Try to resist the temptation to excessively engineer, especially with your first few projects.

Your EAI process should jive with processes already used in other areas. If your IT organization operates at Software Engineering Institute (SEI) level four, then begin with level four-like processes. If you need to migrate to a more robust process, do so after starting out simple and small.

8. Use Metrics

In addition to process standards, you need to consider metrics. First, measure your processes. You need to understand how long integration development takes and how much of the total effort is development or testing, or design or other key tasks. Having metrics on processes will facilitate estimating future integration projects. Second, measure transaction volume. This includes the number of transactions and number of bytes. This metric helps indicate to management how much the EAI environment is being used and by whom. If you charge back to departments in IT for services, this metric is critical. Get started with metrics and adjust along the way. The results of your measurements will help provide visibility to others about the scope of EAI.

9. Build Reusable Adapters

Keep adapters simple and reuse standard approaches across many systems. For every company using SAP, PeopleSoft, Siebel, and i2, there are many more who don't. The biggest challenge for most companies starting out with EAI is

connecting legacy applications to the EAI hub or bus. Legacy isn't just mainframe applications, but all applications (package and internally developed) without open standard Application Program Interfaces (APIs). By this definition, we all have lots of legacy applications.

Don't develop a unique adapter for each unique application. Identify common patterns across many applications and start with basic adapter solutions that meet common requirements. Start with simple, reusable adapters and evolve into more complex adapter implementations as your EAI "business" grows.

10. Monitor Trends

Even though the focus here is on basic fundamentals and keeping things simple, you also need to follow new technologies and understand the implications to your industry and company. Build a foundation with basic, repeatable processes, templates, and code, but think strategically as you act tactically. Follow trends in Web services, JCA, .NET, and Java 2 Enterprise Edition (J2EE) development platforms. Web services hold promise to make application connectivity a commodity, rendering proprietary broker adapters useless. JCA could standardize J2EE-compliant application connectivity. Consider also the trend of application server vendors providing integration broker capability. BEA and IBM are taking steps in this direction. These trends will define EAI in the next few years.

Conclusion

Keep it simple. Start small and build. Communicate early and often to everyone. Keep an eye looking ahead. Don't go alone. Focus on reuse. Remember, implementation is everything. 

About the Author



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