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Integration Alternatives: Positioning Application Integration

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Question

What is the integration context where application integration fits well? What is the overlap between EAI and other integration alternatives?

Answer

Despite the existence of application integration products that are mature and providing faster time-to-market application-to-application integration, these solutions still do not cover and will probably never cover all of the integration needs of complex information systems. So larger companies will use application integration solutions as part of an integration solution portfolio and create an integration team to better choose and reuse solutions for each project in the portfolio. Small to medium-sized enterprises (SME) will prefer ETL-based solutions to largely cover their integration requirements.

Application integration products mainly provide loosely coupled application-to-application integration. These solutions allow faster time-to-market interfaces between applications using off-the-shelf adapters and transformation capabilities. The most powerful products (**IBM**, **TIBCO**, **webMethods**, **Vitria**, **SeeBeyond**, **Mercator**) provide some functional monitoring of end-to-end processes for business users, using business process management (BPM) capabilities. Some tools are also delivering prebuilt processes and/or mappings addressing vertical issues and continuing to accelerate development of interfaces. The most advanced guarantee end-to-end delivery of events.

Pros:
- Faster time-to-market implementation of interfaces.

- Products are generally more mature than relatively new entrants.

- Helps to implement the integration bus most companies are looking for.

- Most provide event detection and transportation through messaging-oriented middleware (MOM).

Cons:
- They do not address all enterprise integration needs. They mainly cover data and transaction levels of application connectivity needs. Generally they do not do good work for batch and volume transfers (except for SeeBeyond). Consequently, EAI is only one of the products contributing to integration needs.

- Packaged application vendors and infrastructure vendors are starting to include integration capabilities in their products, so consolidation is expected with this market segment.

- Emerging platform standards such as **Microsoft** .NET and J2EE are being adopted by different integration vendors, prompting big changes in product lines.

- Despite a recent trend that independent vendors are presenting better financial results, customers and Giga remain uncertain for a long future for them (see IdeaByte, Early Fourth Quarter Indications Are Positive for Some Application Integration Vendors, Ken Vollmer).

Application integration products overlap with several products that implement some sort of integration:

- Comprehensive enterprise application products that provide an integration bus (**SAP**, **PeopleSoft**, **J.D. Edwards**): EAI tools are generally more mature and better in terms of connectivity and flexibility (see IdeaByte, Integration Alternatives: The ERP/CEA Position, Byron Miller.

- Products from software infrastructure vendors, even if they are still lacking maturity and integration quality providing more a toolbox than an integrated product.

- Extraction, transformation and loading (ETL) tools, which also provide adapters and transformation capabilities: However, ETL generally addresses data connectivity, and even if they provide some real-time capabilities, they are not able to provide functional monitoring (no BPM capabilities are provided with ETL) and end-to-end guarantees of event delivery. Even when EAI is not well equipped to supply data to data warehouse storage, because it lacks batches and synchronization of data, it is still a good solution for supplying data to ODS.

- Metadirectory: Several customers have asked Giga if they can use EAI to develop a metadata directory. A metadirectory provides functions to virtually or physically store personal information. EAI does not provide that function. EAI solutions can be used to exchange personal information between directories, however, users should be careful because EAI does not generally provide good connectivity to Lightweight Directory Access Protocol (LDAP) directory and all sort of directories (Active Directory, eDirectory, etc.), and does not provide enough security (mainly encryption) for data during exchange (see IdeaByte, Metadirectory Products and EAI Solutions Are Not Interchangeable, Jonathan Penn, and IdeaByte, Comparing Enterprise Application Integration and Metadirectories, Henry Peyret).

- Workflow: EAI tools are generally more powerful in terms of connectivity than BPM tools. Consequently, they can secure and guarantee long-running transactions even if few are delivering that feature today. But BPM is far better in terms of flexibility (for example, it can change the process flow during execution) and is generally better for business activity monitoring (BAM).

- Electronic data interchange (EDI): Be careful if using an EAI product to create EDI. EAI products mainly provide EDI format transformation, but additionally EDI also supports value-added network (VAN) protocols (X25 or X400 for France, for example) and also to send back functional acknowledgement. So plan to use EAI product to do EDI only if you solve VAN connectivity through the EAI product and if your EDI requirements are not for managing large volumes through batches.

- Some EAI vendors provide portals in addition to their regular offerings. However, generally EAI does not provide integration coverage delivered by portals. Portals usually provide process and user interaction levels of integration, completing EAI coverage, which solves data and transaction level application integration problems. EAI does not provide user interface aggregation, so generally both are more complementary than competitors.

Trends for EAI solutions:

- Increasing support of emerging integration standards such as JCA, Biztalk and Web Services

- Market consolidation

- SME will be a potential growth area for integration solutions, but not all vendors and products will address this market well

Recommendations

- Do not try to use EAI as an all-purpose tool. Experience reveals that some largely customized EAI implementations in a context where EAI does not fit well can be catastrophic in terms of maintenance and operations costs.

- Most SMEs will use only one product to do many types of integration, and even this approach does not perfectly cover all their requirements. These companies do not have resources to cover all of their requirements. Most SMEs use ETL-based functions, which mostly fits requirements and are generally less complex to implement and operate.

- To overcome the fact that several technology and products will provide integration capabilities in most enterprise information system, Giga recommends creating an integration team grouping the different skills in the same team. This allows for each interface to become the best choice of technology at one moment and to optimize reuse of mappings and pivot formats, for example, between integration technologies.