Understanding the Total Cost of Ownership of Integration Solutions
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Understanding the Total Cost of Ownership of Integration Solutions

Since the financial collapse of 2008–09, corporations have adapted to the changing economic landscape with great efficiency and laser-like focus. Corporate profits in terms of both margins and dollars are the highest in history.

With more than USD $3 trillion in corporate profits in accumulated reserves in the years following one of the worst financial crises since the Great Depression, corporations are capitalizing on proven technology with a focus on total cost of ownership (TCO) of IT assets to deliver unsurpassed efficiency and outstanding performance in an economically challenged global economy.

TCO analysis is sometimes associated with data center virtualization, where organizations improve efficiencies through reduced labor costs, decreased physical footprint and server hardware, and decreased utility expenditures. However, when it comes to software platforms such as B2B and A2A integration software suites, understanding all of the hidden components of TCO is often difficult.

Because of the significance each of these cost components play, applying TCO analysis is a must. This paper discusses the components of TCO for integration software solutions and provides insights to help you accurately size overall and ongoing solution costs as well as understand selection and evaluation criteria to avoid solutions with undesired or exorbitant hidden costs.

B2B Integration Software

Often referred to as business-to-business (B2B) gateway software as defined by Gartner, B2B integration is a form of information integration middleware that organizations use to consolidate and centralize their B2B business processes as well as their application and data integration with external business partners. With the increased adoption of cloud-based services, this integration middleware can also be used to integrate on-premises applications with cloud services or with services across different service providers (including both cloud and non-cloud). Some B2B gateway software is known under the Managed File Transfer (MFT) moniker. The essence of B2B integration is the secure, governable, and reliable interconnectivity and exchange of documents, files, and messages in a multi-enterprise context.

What is TCO?

TCO is an analysis to determine all of the lifetime costs associated with the ownership of a particular asset. The ownership of an asset entails not only the initial license purchase cost but also maintenance, deployment, hardware and software upgrades, and operating the same asset throughout the asset’s anticipated service life — or an arbitrary time horizon such as 5 or 10 years to simplify analysis.

For IT leaders who are assessing the acquisition of B2B and A2A integration software suites, TCO analysis highlights a significant difference between the purchase price and the total long-term cost especially when viewed over an extended ownership period.
A2A Integration Software
Application-to-Application (A2A) integration, sometimes referred to as an Enterprise Service Bus (ESB), is the connectivity within the enterprise, joining applications, data centers, databases, and other IT assets together to provide end-to-end services across the enterprise. Key capabilities include routing of data, monitoring and tracking of content, security, and event handling. Today, A2A integration needs to address handling and management of Big Data and hybrid cloud infrastructures.

Consolidated Integration Platform
Implementing a consolidated B2B and A2A integration software platform provides numerous benefits to the organization. Some of those benefits include:

- Trading community and partner management of both internal and external business partners and connection points.
- Support for a wide variety of data formats and communication protocols, including industry-specific ones such as automotive, healthcare, and financial.
- Centralized visibility and governance over content, processes, and transactions.
- Message and data translation at the platform level minimizing or eliminating the need for application code changes.
- Flexibility and scalability of implementing multiple integration projects on a single platform.

These same benefits can come with significant hidden costs if the integration solution is not properly selected, planned, and architected into a target environment. Major components and features of B2B and A2A integration software suites, such as certificate management, multi-protocol support, scalability, data size and volume support, and user experience, can significantly affect TCO.

These are operating costs that are often overlooked or not accounted for properly. A typical scenario is IT being constantly bombarded by business users for self-servicing items, such as low-risk access to reports or transaction look-up, because the software suite does not allow for granular access controls.

Another example is certificate management. Such a routine but important task can often take days of calendar time, while adversely affecting business partners, if the solution is not well-orchestrated.

A well-designed certificate management solution within the software suite will reduce the complexity and time involved in maintaining and updating digital certificates by the system administrator. A properly implemented integration solution will reduce or eliminate some of those avoidable operating costs.
Automated Internal Record Keeping
This example depicts a model of an automated, high-volume transfer system between a human resources department's electronic records process (ERP) application nodes and a variety of internal network applications throughout the company.

Network Benefits:
- Connectivity
- Visibility
- Security
- Governance

Business Connections
An integration solution works in a business-to-business setting by connecting the business with suppliers, customers, vendors, and others whose communication channels exist on external networks.
The two major cost categories of TCO that impact the ownership life of a B2B and A2A integration software suite are obvious costs and hidden costs. When considering hidden costs, it’s not that companies are unaware of most of these. The issue is that companies are unaware of the depth to which these costs can soar without a careful match of business integration needs with a target integration software suite solution.

**Obvious Costs**
- **Purchased cost**: Actual price paid. Often an upfront perpetual license fee. Some vendors provide an alternative annual subscription cost that includes both the limited duration license to use and maintenance, but in most cases they require a minimum number of years for the initial subscription term.
- **Maintenance costs**: Software maintenance and updates, help desk and customer service support, bug fixes, and major software release upgrades. Often an annual cost that is a percentage of the license fee.

**Hidden Costs**
- **Setup and deployment costs**: For example, hardware configuration, network/firewall configuration, and installation of software suite.
- **Partner onboarding and off-boarding costs**: For example, establishing new connections and exchanges with external business/trading partners; removing existing business/trading partners and their connections; and managing digital security certificates.
- **Infrastructure costs**: For example, hardware (servers, storage, and network/communications), and data center facilities required to host and support the software suite.
- **Customization costs**: For example, customized code development to address functions and business requirements not available from the software suite. Be aware of additional customization costs that may be incurred at each major software upgrade.
- **Integration costs**: For example, integrating existing back-office and front-office systems and applications with integration software suite.
- **Integration costs of the software suite components**: For example, integration of separately purchased components of the B2B/A2A integration software suite from the providing vendor(s). Even in cases where the modules are supplied by one single vendor, this can be an extensive and expensive component of TCO. Again, these costs may not only be incurred during initial integration, but may need to be incurred with each major software upgrade.
- **Operating costs**: For example, labor (operator/administrator) and hosting of software.
- **Training costs**: For example, training IT staff on the day-to-day usage and operation of the licensed software modules that comprise the integration solution. Training costs will continue over time as personnel changes occur and as major capabilities are added to the software.
- **Ongoing periodic maintenance costs**: For example, costs involved in upgrading the software to vendor’s latest releases. Many times upgrades are needed not just for bug fixes and additional functionality, but also to support newer versions of databases and other core IT components.

The categories within obvious and hidden costs provide a good estimate of TCO in most cases. However, the traditional enterprise licensing model and annual maintenance still take center stage in many organizations as the hidden costs are often overlooked due to existing infrastructure and support.

For those particular situations, the unexpected hidden costs are usually higher than normal implementation, customization, and integration costs. These can be exacerbated by higher-than-expected day-to-day operating and use costs that adversely affect business processes and cycle times.
75% of the total cost of ownership is hidden beneath the surface.
How to Reduce TCO for B2B and A2A Integration Software Suite Deployments

When assessing the established vendor landscape for various well-known A2A and B2B integration software suites, it’s not uncommon to find these complex applications to be composed of many separate components deployed individually to function as one complete software platform.

This modular/componentized approach allows other business functions and processes to operate independently if issues arise with a non-vital component. However, the operation, deployment, maintenance, configuration and customization of these multi-component integration platforms can be costly when TCO is considered.

To reduce TCO and deliver business efficiency, organizations need to seek a B2B and A2A integration software suite that has the following characteristics:

Simple Yet Capable Solution
- Single platform with as few components as possible. In cases where separate components are needed from a vendor, determine the lineage of the components and how well they are naturally integrated. Vendor acquisitions can often create issues as disparate product lines take time and money to integrate with one another.
- Minimal reliance on professional services to implement the software. Paying 2x to 3x the license fee just to implement the software is an indicator of loosely integrated solution components that need significant work at deployment time to work cohesively. These implementations are typically inefficient and less scalable. They can result in an overall fragile integration system that requires even more consulting and services costs when software upgrades are released.
- Minimal reliance on third-party components, such as web servers and transaction processors, queue managers, and load balancers.
- Streamlined and loosely coupled interfaces for ease of integration and operations management.
- Unified and centralized visibility into all processes and transaction handling.
- Solution or platform must be portable and interoperable to leverage existing and future computing platforms.

Adaptive and Innovative
- Easily adapts to new and emerging technologies.
- Good focus and commitment to R&D and new innovations.
- Roadmap with vision and focus on improvements and product development.

Reliable
- Proven track record of customer satisfaction and issues resolution.
- Significant number of customers and product deployments.
- Proven HA (High Availability), DR (Disaster Recovery) and COOP (Continuity of Operations) implementations for business throughput and continuity with all costs defined.
- Easily accessible customer support and escalation.
- Strong financials and viability of the solution vendor

Obtaining a vendor solution with the aforementioned characteristics will help contain and reduce TCO over the service life of the B2B and A2A integration software suite. Situations such as acquiring and implementing separate integration solutions to handle some newly required protocol or connection techniques because your existing vendor solution does not support them are common occurrences that add to TCO. Collecting a conglomerate of integration solutions over time drives up TCO. Look for solution vendors focused on innovation in the integration space and not ones with a vast array of technologies and solutions without cohesion.
Achieving Efficacies and Results

Achieving a lower TCO is not just an exercise in cost-cutting. The main objective is to obtain maximum efficiency by identifying all the cost components related to a specific asset. As with integration software suites, achieving a lower TCO does not always mean simply purchasing the lowest-priced solution.

The simplicity, reliability, and innovativeness of an offering or solution are the key strategic areas to delivering an efficient implementation and ultimately a lower TCO. The net results of a careful TCO analysis coupled with a simple and reliable integration solution will yield the following:

- Faster implementation resulting in rapid time to value (ROI).
- Fewer dedicated IT resources needed.
- Reduced support and response time.

Profitability relies on a great deal of business efficiency. B2B and A2A integration software suites and solutions are major technologies that enable organizations and enterprises to streamline business transactions and processes. Selecting the correct solution in a competitive and rapidly changing technological landscape, will lead to greater efficiency and profitability. When evaluating a particular solution, TCO is just as important as mapping features and functions to business requirements.

Five Things to Avoid When Selecting an Integration Vendor

Vendor selection based on a well-planned requirements gathering process and thorough research often cover the technical features and functions of a software suite. However, there are major red flags and warning signs to be aware of during your selection/evaluation process. Some questions to ask:

1. Are you buying a technology solution (software) or a bunch of services (people)? Many consulting services companies offer a set of products that require extensive services to implement, customize, integrate, and operate. If you can’t run it out of the box without an expensive spend on their professional services team, think twice. How well will any of the components upgrade later without a repeat of some of these customizations? Analogy: Would you buy separate components of a car from a dealer and then pay the dealer to assemble those pieces for you in their service department?

2. Does the vendor solution enable your hybrid cloud infrastructure? As more of your IT infrastructure expands beyond traditional on-premise to private and public clouds, your integration solution needs to support and manage the growing data sizes, volume and frequency of the exchanges.

3. How viable is the integration vendor? Is the vendor well-capitalized regardless of the size of their organization? Does the vendor have an established market presence and install base? Avoid vendors if any of the answers to these questions are not absolute.

4. How extensive is the training required to manage and operate the integration platform? A steep learning curve or a number of separate components to master often lead to hidden higher labor costs as well complexity in issues resolution, upgrading, and day-to-day operation. Avoid vendors whose products require extensive training and specialized skills. After all, implementation of a great integration solution should make you more nimble and agile to take on strategic business requirements as opposed to becoming more encumbered with complex configurations or workarounds.

5. How reliable and capable is support from the vendor? Often overlooked and under-delivered, support is a major selection criterion for purchase consideration. Avoid vendors who cannot demonstrate a high level of customer satisfaction. Simply put, check references extensively.
Ten Questions to Ask References

As part of the sales process, some engaging vendors will offer customer references for additional research. If such an opportunity exists, please take full advantage of the offer and follow up with the vendor’s existing user base/customers. The anecdotal and factual stories often provide invaluable insights to the vendor solutions.

Here are some insightful and objective questions you should ask: references

1. To what degree were professional services involved in implementing the solution? Did the vendor deliver the solution without any unexpected cost overruns? How long did it take? How expensive was it?

2. How much ongoing service (vendor, third-party, or internal staff) is needed to manage the solution to meet the changing business needs?

3. How reliable is the vendor solution? Were there any specific customizations or add-ons to the base solution?

4. What are your experiences with the vendor support and help-desk resolutions? How responsive is the vendor to your needs and issues?

5. Would you consider buying new products from this vendor or renewing existing maintenance contracts?

6. What was the actual learning curve or user experience with the vendor solution? Is the solution easy and intuitive to operate and manage?

7. How easy and cost-efficient was it to upgrade the solution to the vendor’s latest software release?

8. Did you speak with any vendor references prior to purchase? Did their testimonial or advice influence your purchase?

9. Does the vendor solution integrate easily with your existing systems and applications?

10. Have ongoing expenses met your expectations? If not, what were the major disconnects?
Summary

Achieving maximum efficiency and profits requires the strategic and tactical deployment of technology. B2B and A2A integration software suites are technologies that enable corporations to achieve great efficiency by integrating and consolidating systems and business processes internally and with external business partners.

Acquiring or purchasing a B2B and A2A integration software suite requires a methodical approach that extends beyond the prerequisite technical requirements and software capabilities. Applying TCO analysis will not only help with deciphering the true cost of ownership, but it also provides an approach to a vendor solution evaluation.

Use the methodologies and the components outlined in this paper as a guide to TCO analysis when acquiring or purchasing a B2B and A2A integration software suite. Understanding and uncovering hidden costs will help you more accurately size overall and ongoing solution costs over the lifetime of usage.
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Ben Huang is an information technologist and IT subject matter expert with 20 years of industry experience spanning various industries, including financial services, IT, research, and government. Previously, Ben served as a Principal Research Analyst at Gartner covering the subject matters of both B2B and A2A integration with a specialty in managed file transfers. Ben is a well-respected independent advisor and consultant focusing on technology advancement and business process improvement. Ben studied Computer Science and Business Finance at the University of Maryland.

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