

BENCHMARKING THE ENTERPRISE'S B2B INTEGRATION MATURITY



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Background

Enterprises have long been using Business-to-Business integration (B2Bi) technology to enable automated and efficient exchange of business data with their trading partners that include customers, vendors, banks, third party service providers etc. With growing trends like increased focus on transforming and optimizing the demand supply networks, extending business processes outside the boundary of enterprises, connecting enterprise applications with cloud services, integrating social and mobile apps with enterprise systems etc., there is a major force at work requiring enterprises to upgrade and fortify their B2B integration capability.

Therefore, from its humble beginning of largely traditional batch oriented transaction based exchanges that primarily constituted EDI data, the B2B exchanges in today's business includes a large array of data formats, protocols, security, large data sizes, real time, near real-time, SOA, web services, policy enforcement, auditing and governance etc.

Why do we have to measure the B2Bi maturity level?

In this rapidly evolving scenario, the ability of an enterprise to adapt to the above said demands are increasingly becoming a critical competitive differentiator and a key enabling factor to stay ahead and thrive. Clearly the B2B integration capability of an enterprise in this interconnected world has a strong correlation to the business performance of the same.

In addition to this, consider the following facts (as reported in analyst

reports and market predictions) and the importance of a B2B integration layer for the performance and competitiveness of an organization in the market place that makes the case for itself.

- During the course of the years between 2010 and 2015, the global top 2000 enterprises are expected, at the least, to double their B2B integration data exchanges volume
- Prediction is that by the year 2016, almost half of all the new integration projects will involve integration between enterprise's on-premise application, trading partners and cloud based services
- Another prediction is that by the year 2017, about two-thirds of all the new integration flows will extend outside the enterprise firewall

This whitepaper recommends enterprises revisit, evaluate and measure their B2B integration capability by benchmarking against the broad classification of B2B integration maturity levels described here.

What are the key performance indicators that demonstrate the B2Bi maturity level of an enterprise?

Having established the need to measure the B2Bi maturity levels, the question that follows is how to go about this now. For this, let us look at some of the key performance indicators (both qualitative and quantitative)

that help us measure and monitor an enterprise's B2B integration platform, processes, operations and its overall effectiveness.

KPI Category	KPI Indicators
<p>System Capability (Ability of the system to support emerging technologies, data and communication scenarios)</p>	<ul style="list-style-type: none"> • Are you able to support the latest integration technology, data and communication standards in your B2Bi platform? • How many different platforms (B2Bi related applications) are being used by you to enable B2Bi integration with your partners? • Are you able to support complex data processing requirements that are required to integrate data with your internal and external stakeholder systems? • How fast and efficiently are you able to build connectors to integrate with all your internal applications and systems? • Are you able to handle unstructured data transfers (large files and large volume of file) efficiently? • Are you compliant to the increasing regulatory and industry compliances for exchanging files with partners?
<p>Process Efficiency (Speed and performance in on-boarding new partners to the B2Bi platform and enabling business workflows for exchanging data with partners)</p>	<ul style="list-style-type: none"> • What speed and efficiency is required to enable a new B2B integration process flow with your partner? • What is the reusability index of your B2Bi business development effort? • How many partners are fully integrated to exchange business documents using the B2Bi platform? • What is the time/effort involved to onboard a partner to use the B2Bi platform? • What is the cost incurred to onboard a partner to use the B2Bi platform?
<p>Operations Cost (The effectiveness, efficiency and the cost involved in supporting and maintaining the B2B integration platform and interfaces)</p>	<ul style="list-style-type: none"> • What is the operational cost of supporting and maintaining your B2Bi platform? • What is your annual expenditure towards SLA penalty charges? • Are you able to monitor and track data exchanges with your partner and have end-to-end visibility of the B2Bi process flow? • What is the cost incurred for data transfers and communication? • Do you use open and cost efficient modes of data transfers with your partners?
<p>Customer Experience (Partner's business end user satisfaction of the effectiveness, performance and usability of your B2B integration services)</p>	<ul style="list-style-type: none"> • How flexible are you to your partner demands in setting up the B2Bi data exchange? • What is the average time and effort spent by the customer in setting up B2Bi data exchanges with your systems? • What is the ease with which the customer exchanges data with your B2Bi platform? • What is the overall customer experience index in setting up and maintaining the B2B integration workflow and relationships with your organization?

Where do we start our journey to benchmark our current B2Bi maturity level?

Given that the above key performance indicators of the B2B infrastructure is spread across multiple facets, we propose a simplified model categorizing the B2Bi maturity into four levels. These levels are intended to indicate different levels of sophistication and performance of the organization's B2Bi services using some of the key parameters that directly or indirectly influence the above KPIs.

The key B2B integration parameters that are considered to categorize the levels are:

- B2Bi Platform
- B2Bi workflows development, support and maintenance
- Partner onboarding process
- Support for different data types and standards (structured, un-structured, global standards etc.)
- Support for data integration patterns (batch, online etc.)

- Support for communication methods used to connect and transfer files securely to partners (VAN, EDIINT, SFTP, HTTP(S), Web Services etc.)

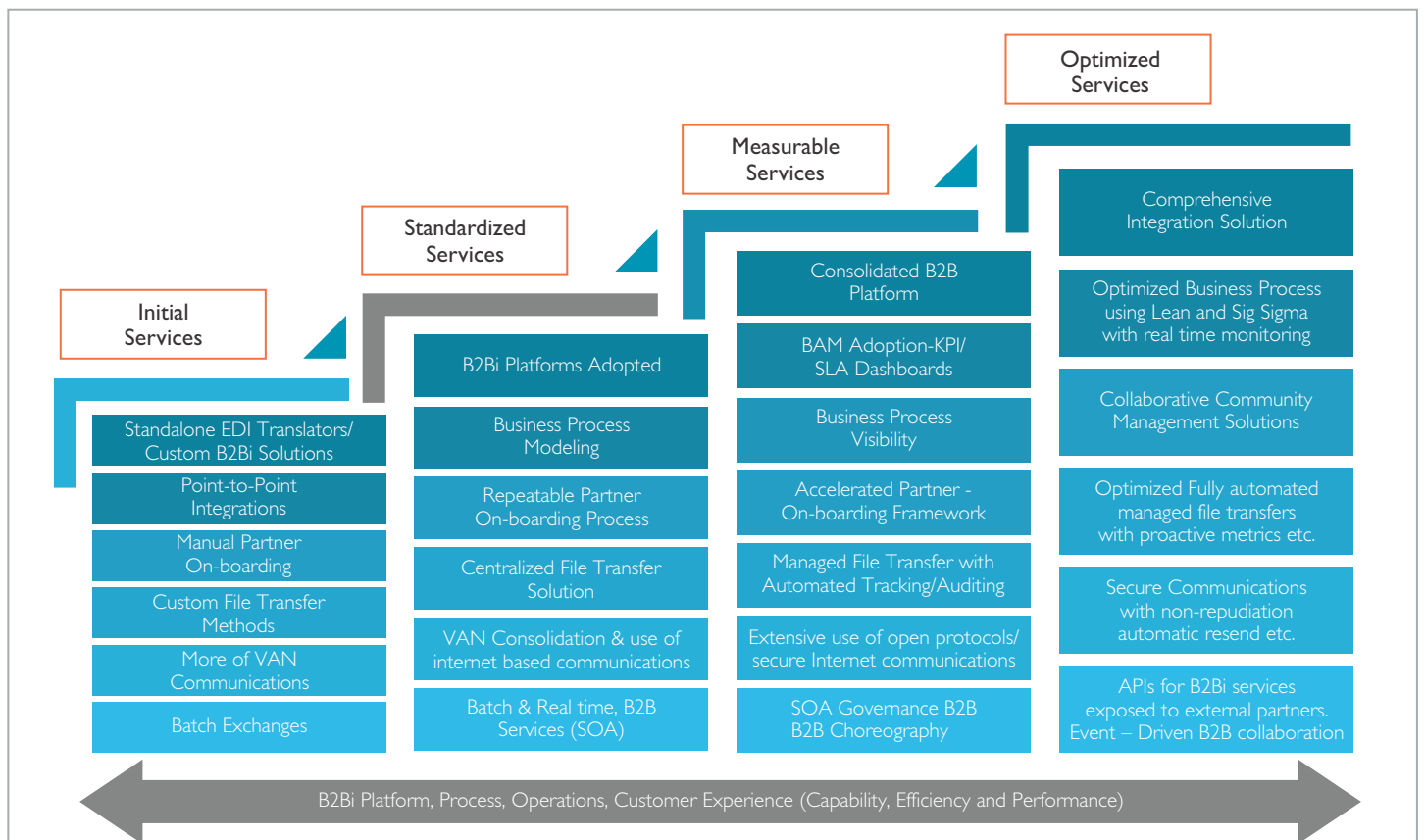
Each of these parameters influence one or more of the KPIs listed above like the right platform chosen is key to your ability to effectively support latest technology, data and communication standards, handle your complex business needs, and drive your operations cost down etc. We can easily visualize in similar lines on how the other parameters from the above list influences enhanced capability, reduced cost, improved process efficiency, resulting in a positive customer experience.

Broadly speaking, depicted below is a simplified model categorizing the B2Bi maturity into four levels of increasing sophistication and performance as following:

- Initial
- Standardized
- Measurable
- Optimized

These levels are used to look at the various B2B integration characteristics of an organization in a holistic manner based on different parameters and categorize them into the respective maturity level in a broad sense.

Figure 1



Initial Services

At the initial level, typically, we look at the use of point solutions for EDI translation, communications etc., and development of point-to-point interfaces that connect different enterprise applications with your partner systems. In this scenario, the reuse between the different workflows are minimal, that results in increased duplication of effort due to lack of a business process centric approach to its development. The partner on-boarding process is manual with no standard guidelines and is implemented in an ad-hoc fashion – effective but not efficient.

Also, from the data exchanges perspective, the unstructured data exchanges (aka file based data exchanges) are looked at in silos as department levels use cases are implemented using an FTP based approach resulting more often in a spaghetti architecture that impedes central monitoring and control. For the other more traditional data exchanges (aka transaction based exchanges like EDI messages etc.), VAN based communication methods are leveraged more commonly resulting in additional cost overhead and mostly support only the batch mode of exchanges with the partner's effectively.

Standardized Services

As we move on to the standardized level, a B2B Gateway platform based approach is adopted to address a more holistic set of B2B integration requirements. And more often than not when enterprises find it challenging to roll out these standardized platforms for the entire enterprise, they take a divide and conquer approach making these adoptions standard at localized and manageable levels like business divisions or geography etc. The platforms enable a consistent approach to develop and support workflow, data transformation, integration with internal applications etc. along with business process modeling/workflow designer capabilities in most cases. This capability makes it easy to build integration patterns that can be reused for multiple implementations along with an ability to automate business processes efficiently. This also paves way for an SOA architecture based service development model that bears in mind the principle to use these business processes as independent and atomic units.

The B2Bi Gateway platform also allows for standardization of partner on-boarding process by providing for Trading Partner Management (TPM) utilities – a single consolidated tool to configure, maintain and support partner set-ups, standard reusable business process frameworks that can be reused across partner set-ups etc. This leads to development of

repeatable process framework to streamline and standardize the partner on-boarding process.

From the data exchanges perspective, unstructured data (aka file based data exchanges) is implemented more efficiently using a centralized secure file transfer solution that provides guaranteed and secure delivery of files, support for multiple protocols, support for large files etc. The holistic platform's multi-protocol support enables migrating from VAN to internet based communication methods and creates opportunities to explore VAN consolidation thereby optimizing traditional VAN based delivery costs. The enhanced gateway capability also provides for increased support to real time exchanges in addition to batch interactions with partners. And apart from static batch and real time interfaces, the ability to model services, provides for B2B integration functions to be used as independent services that can be exposed and consumed by internal and external participating systems and processes.

Measurable Services

At the Measurable Services level, the impetus is on consolidating to a single enterprise B2Bi Gateway solution building and enhancing on top of the assets accrued from standardizing the platform and the services earlier. Once the interfaces are brought into a unified platform umbrella and the integration processes themselves are organized and built using a business process modeling based approach, the focus now expands to putting together these individual services/processes to accomplish a complete business cycle aka business process choreography.

With increased business process automations, monitoring and tracking these processes and data exchanges providing for end-to-end business visibility and agility makes it imperative to build a business activity monitoring layer on top of the standardized and consolidated B2B gateway platform. This provides for configuring, and tracking integration flow and associated metrics, complete auditing of all actions, message correlation among different messages, part of a complete business process cycle, SLA / KPI dashboards and reports on these various business metrics.

Also consolidation to a single platform creates opportunities for enterprises to strategically invest and address the partner on-boarding functions using an accelerated tool based solution that relies more on automation and less on manual intervention. This automation results in significant effort reduction and improves the partner on-boarding cycle time.

And from the data exchanges perspective, the approach for handling unstructured data (aka file based data exchanges) evolves from the simple need to effectively and securely transfer files to a more auditable and measurable managed file transfer services that provides for monitoring and tracking capabilities along with the ability to support and prove compliance.

With the growing service maturity and capability, more and more integration projects will look to leverage open and internet based protocols like SFTP, EDIINT (EDI over the internet) AS2, HTTP(S) and Web Services for their batch and real time data transfers. And with the integration functions increasingly being built as reusable services, there is also effort towards SOA Governance within B2B projects.

Optimized Services

At this highest level, the impetus is on leveraging the assets built in the previous phases and to continue improving and optimizing the B2Bi service. This phase completes the platform consolidation process creating a 'comprehensive integration solution' (CIS) that provides for a complete set of capabilities that includes EAI, B2B, EDI, XML, MFT, SOA essential to address the most demanding and complex business integration challenges of an enterprise. Leveraging the metrics captured by the business activity monitoring layer, proactive and reactive actions are configured based on events reducing the lead time on actionable events.

Also now that the B2B integration processes are more aligned and modeled after the business process that it supports, the ease to apply business transformation initiatives like lean, six sigma etc., and further optimize the integration process along with its associated business program increases and drives direct tangible business benefit to the

enterprise. With high level automation and optimization, the partner onboard functions are potential areas to be augmented to a more holistic community management solution enabling self-service, survey roll-outs, collaborative profile maintenance etc. depending on the partner community collaboration requirements of the business. To further optimize partner collaborations, B2Bi services are exposed as APIs to external partners enabling self-service and faster time to market.

And from the data exchanges perspective, approach for handling unstructured data (aka file based data exchanges) matures into a comprehensive managed file transfer solution capable of handling multiple integration scenarios like System-to-System, Human-to-Human etc. with more proactive metrics and monitoring. High Level Automation is again the theme that looks at content-based filtering/routing creating intelligent file transfer interfaces. Communication handling is also optimized by providing for automatic resends and resubmissions support for re-routing, broadcast messages etc. Thus the overall capability evolves into an Event driven completely automated, monitored, managed and fully governed B2B integration services

What is our take away from this proposed B2B Integration Maturity Model?

Summarizing the discussion so far, below is a snapshot view of the typical state of B2B integration in enterprises of different maturity levels. The purpose is to draw the attention to key details of the state of play of B2B integration and the key focus areas and opportunities for improvements at each of these broad maturity level categories.

Figure 2

Maturity Level	Initial Services	Standardized Services	Measurable Services	Optimized Services
What is done well?	<ul style="list-style-type: none"> Effective B2B point solutions Tactical Gets job done 	<ul style="list-style-type: none"> B2B Platform Standardization Business Process / Service Modeling Capability Repeatability due to platform approach Secure file transfer revamp 	<ul style="list-style-type: none"> Consolidate to a single B2Bi enterprise platform Business process choreography BAM for proactive monitoring Mature to managed file transfer method 	<ul style="list-style-type: none"> CIS based holistic approach to address the enterprise's integration requirements Proactive actions based on business metrics Community management portals for partner collaboration
What are the opportunities to focus?	<ul style="list-style-type: none"> Shift focus from 'getting it done' to 'doing it better' Look at business case for a B2Bi platform roadmap Initiate platform strategy ROI analysis 	<ul style="list-style-type: none"> Create SOA centric architecture Improve process efficiencies (Repeatable Partner Onboarding Process Framework etc.) Reduce VAN Cost (VAN to EDIINT migrations, VAN consolidation etc.) Platform rationalization 	<ul style="list-style-type: none"> Business metrics monitoring & tracking Message trials and end-to-end Audit trails Increased Automation of business processes SLA/KPI Dashboards SOA Governance for B2B projects 	<ul style="list-style-type: none"> Business transformation initiatives like Six Sigma & Lean etc. Enhanced partner collaboration initiatives like self-onboarding survey rollouts Fully Automated Processes APIs for B2Bi services

Conclusion

B2B integration is a very critical and complex challenge right at the forefront of most of the business transformation initiatives that the global enterprises of this inter-connected world are embarking upon at this point of time. The nature, type, priority and complexity of these challenges might vary significantly across the various enterprises and can internally take different forms – like time to market business priorities to rapidly onboard and roll out B2B integration services to partners globally, providing end-to-end visibility to business stakeholders for all the global data exchanges, ability to support and automate multiple integration scenarios and capabilities to onboard partners of different IT capability levels etc.

As a result, the roadmap of the B2B maturity journey for the enterprises also involves different priorities and challenges based on where they are (current maturity level), what are their priorities (key parameter that needs immediate focus and other strategic priorities for competitive differentiation) and where they want to go (in the near future and strategically in the long run). Having said that, the above maturity model in trying to capture the essence of a typical B2B integration evolution journey, will serve as a good starting point to evaluate your B2B integration current state, identify and map your business priorities to the B2B integration parameters and mark your immediate and strategic target state.

About the Author



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