

Vendor Landscape: B2B Business Networks, 2017 To 2018

Leaders Exploit Scope And Scale, While Competitors Push Collaboration And Specialization

by Andrew Bartels

November 15, 2017 | Updated: December 4, 2017

Why Read This Report

Business networks play a key role in the age of the (business) customer, underpinning B2B eCommerce; connecting buyers and suppliers to exchange purchase orders (POs), invoices, and supply chain documents; and providing venues for collaboration. CIOs and their business partners face more network options as differences blur between networks in terms of industry focus, direct versus indirect goods, and transaction visibility. But new specialization in networks makes the choice of which to use more challenging. This report helps decision makers find the right networks for their firms.

Key Takeaways

Business Networks Are Converging In Scope And Diverging In Offerings

Historical distinctions are blurring between PO and invoice networks, electronic data interchange (EDI) networks, and vertical industry networks. But as old distinctions start to disappear, new ones are emerging as networks offer new value propositions to differentiate themselves from others.

EDI Networks Are Shifting To B2B Integration For Growth

EDI networks face challenges in offering buyer/supplier collaboration and network-based apps and analytics as a source of growth. Thus, they are pushing B2B integration solutions.

Specialization Is Driving An Increase In Network Partners

With networks starting to evolve into six new models, buyers are tailoring networks to their needs. At the same time, suppliers are looking to influence their buyers to consolidate their network.

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Business Networks Are Key Assets For B2B Commerce

Business networks play a central role in B2B online commerce. Business networks provide a convenient, reliable, and secure mechanism for buyers and suppliers to exchange POs, invoices, and advance shipping notices and other supply chain documents that enable B2B online commerce. They are also increasingly becoming platforms for collaborative applications used by both buyers and suppliers, as well as sources of data and analytics on B2B transactions. Thus, business networks are a key component in a business technology (BT) portfolio of tools for winning, serving, and retaining customers.

Business Networks Are The Dominant Channel For B2B Online Commerce

Business networks play a dominant role in B2B online commerce, but they are not the only channel nor are they the only mechanism for businesses to exchange data, documents, and transactions with each other:

- › **Business networks handle 82% of US B2B online channel spending.** The amount of B2B purchasing that flows through business networks is five times bigger than B2B spend that occurs through other channels. For the US in 2017, we estimate that \$9 trillion of B2B spending will go through these business networks, compared with about \$0.9 trillion of software-as-a-service (SaaS) eProcurement and services procurement spending and \$0.9 trillion in individual purchases from eCommerce websites (see Figure 1).¹
- › **Business networks provide value beyond documents for data exchange.** Business networks differ from other B2B integration mechanisms (e.g., managed file transfer, direct integration, and APIs) by using a many-to-one-to-many transaction flow (e.g., multiple business buyers connecting through a hub to multiple suppliers) and concentrating on structured business documents such as purchase orders, invoices, advance shipping notices, demand forecasts, and related documents. They also differ from SaaS B2B vendors that provide connections from their systems to multiple buyers or suppliers on behalf of their clients who are using their own products, but don't act as a hub between buyers and suppliers who use different procurement, order management, invoicing, or supply chain products (see Figure 2).

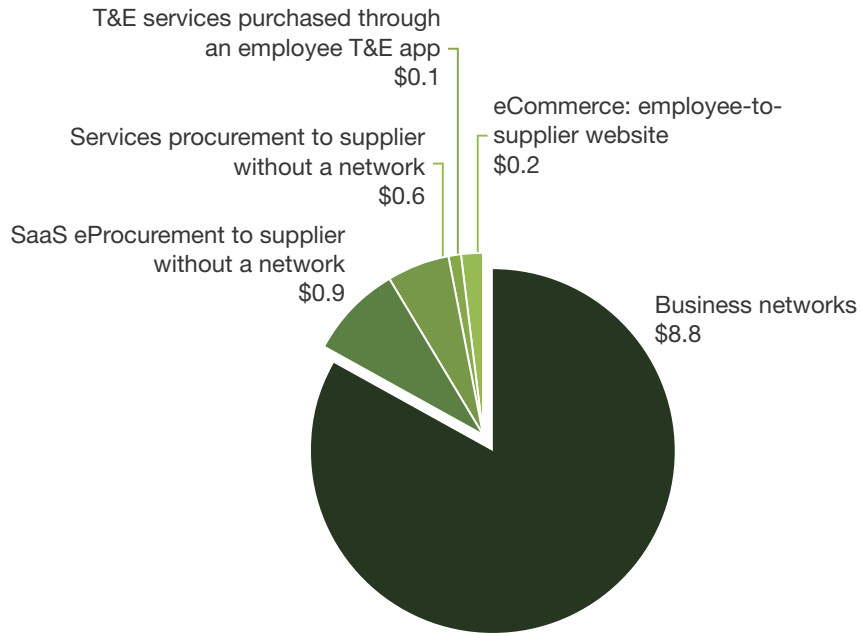
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FIGURE 1 Business Networks Handle Three-Quarters Of All B2B Online Commerce In The US

US B2B online commerce by channel

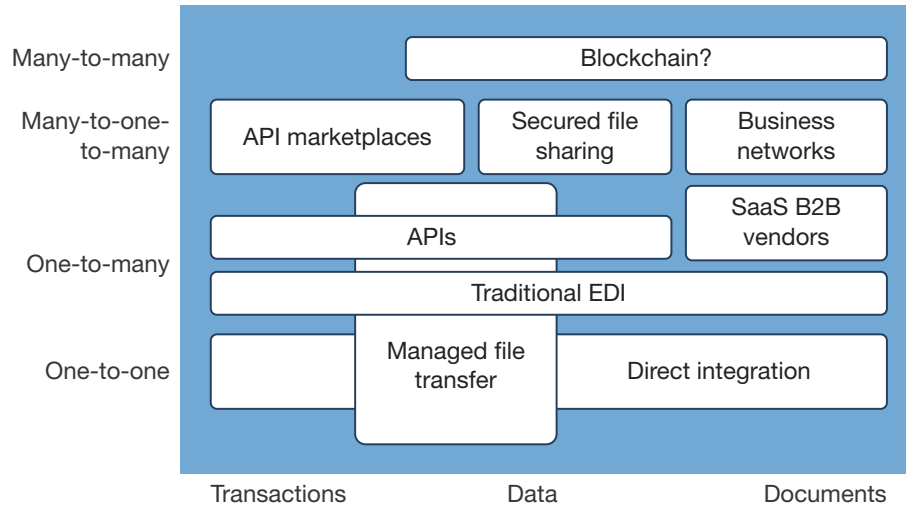
(US\$ trillions)



*Forrester forecast

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FIGURE 2 Business Networks And The B2B Integration Landscape**B2B integration solution landscape****Buyer And Supplier Collaboration May Be The Big Win**

Because of history and the leverage of large business buyers, business networks have asymmetric relationships with buyers and suppliers. Buying organizations can generally choose the network or handful of networks that they want to use with their suppliers. In contrast, suppliers are almost always forced to use the multiple networks that their disparate customers choose to use. Moreover, suppliers typically bear most of, if not all, the costs of the networks they are forced to use. These conditions mean that buyers and suppliers will view and use business networks differently:

- › **Buyers view business networks as mostly positive.** For buyers, one, two, or maybe three network connections are all they need to send POs directly to their suppliers, receive electronic invoices back (whether or not the supplier itself generates the electronic invoice), and exchange supply chain documents. This is especially true for the largest buyers, which have the most leverage over suppliers. Their direct material purchasing module, eProcurement, eInvoicing, and/or supply chain management systems will generally integrate with the network(s) they choose. Their business network will usually assist with bringing suppliers onto the network, if they are not already connected. Suppliers will often pay the cost of the network connection (though the buying firms may have to deal with supplier complaints from about those costs). All in all, buyers tend to be in the driver's seat when it comes to choosing the business network they want to use.

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- › **Suppliers view business networks as necessary evils.** Suppliers connect to many different networks, which they tie into their order management system. They may be expected to pay the cost of the network connection. If they don't have an AR eInvoicing system or other means of generating electronic invoices, they may have to go through the manual process of taking an incoming PO and "flipping" it into an invoice or log in to a portal to enter invoice data into an electronic form. The networks themselves often treat suppliers as connection points, not as customers. Suppliers can try to nudge their customers to use networks that they prefer, but they are mostly responsive to their customers' decisions. Networks that offer applications that help suppliers manage orders, generate and keep track of invoices, find new customers, or resolve payment issues can provide a more positive reason for suppliers to connect to and use them.
- › **Network-based collaboration may be the real win-win for both parties.** Collaboration between buyers and suppliers, whether around master data management, invoice financing and dynamic discounting, master catalog management, or resolving transportation and logistics problems, is beneficial to both parties. So, it is not surprising that many networks emphasize their collaboration mechanisms and are constantly looking for new opportunities to support collaboration.

Business Networks Have Diversified Their Revenue Sources

In the distant past, business networks made most of their revenues from document delivery between buyers and suppliers. Today's business networks have five potential sources of revenues, and different vendors emphasize or deemphasize different revenue sources as they look for points of differentiation and market opportunities (see Figure 3):

1. **Document routing and transport.** Moving electronic purchase orders, invoices, and supply chain documents between buyers and suppliers has been and remains the core activity of business networks. For some, these activities remain their principal revenue source. However, other business networks view document delivery as a source of little or no revenue, and instead treat it as a necessary but unpriced complement to other product or services sales.
2. **End-point applications for buyers or suppliers.** PO and invoice supplier networks originated as extensions of end-point eProcurement or eInvoicing solutions, and for some vendors, this remains the case. These vendors include document routing and transportation as a no-cost extra to clients that acquire their eProcurement or eInvoicing solution. Sell-side order management or AR eInvoicing solutions are starting to become a new revenue source for vendors that operate business networks. Similarly, business networks with a vertical focus are offering supply chain planning and supply chain execution applications for either buyers or suppliers.
3. **Network-based applications for buyer/supplier collaboration.** Business networks operate on a many-to-many model. As the entity in the middle, business networks can offer applications located at the network hub that involve shared access and collaboration between both buyers

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and suppliers to commonly used documents, data, or process steps. Examples of these solutions include master data management, master catalog management, logistics coordination, supply/demand chain coordination, payment/invoice matching, and supplier/buyer matching.

4. **Network-based analytics.** Business network vendors that have visibility into the transaction flow can use this information in aggregated and anonymous form for pattern and predictive analytics. Spend analytics, supplier risk analytics, working capital optimization, and supply chain optimization are some of the analytical offerings the business networks are bringing to their customers.
5. **Multinetwork integration and connectivity for buyers or for suppliers.** Some vendors, especially those with roots in EDI, offer B2B integration software and/or managed services to help buyers and suppliers connect with all the various networks they use, as well as with the other B2B integration methods shown in Figure 2 above.

FIGURE 3 EDI-Based Networks Handle More Transactions, But With Lower Revenues Than PO/Invoice Networks

Business networks by type	Vendors	2016 PO and invoice transaction volume (percentage of total)	2016 transaction value (percentage of total)	2016 business network revenues (percentage of total)
EDI-based networks	Comarch, IBM, Liaison, OpenText (including Covisint)	86%	63%	31%
PO and invoice networks	Basware, JAGGAER, Nipendo, Mercado Eletronico, OpusCapita, Perfect Commerce, SAP Ariba, Taulia, Tradeshift, Transcepta, Tungsten Network	7%	17%	36%
Vertical industry networks	Cortex, E2open, Elemica, Exostar, GHX, Infor GT Nexus, Oildex, One Network, SPS Commerce, SupplyOn	7%	20%	33%

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Business Networks Are Converging In Scope And Diverging In Offerings

In our 2015 report, we described three types of business networks, based on their history and points of origin: 1) PO and invoice networks, 2) vertical industry networks, and 3) EDI-based networks. These network types still exist, but some distinctions are blurring, and new ones are emerging as vendors respond to a shifting competitive landscape:

1. **EDI-based networks pivot to managed services and other offerings.** Networks with their roots in EDI like Comarch, IBM, Liaison, and OpenText still handle the largest proportion of B2B transactions. However, many of these vendors do not have full visibility into all the messages they deliver, which has hampered their revenue growth. With transactional revenues flat or declining, these vendors have scrambled to move into other services, most commonly B2B managed integration services, managed file transfer services, and B2B integration software tools. Some vendors have completely reinvented themselves with brand new platform offerings with a broader range of capabilities.
2. **PO and invoice supplier networks expand into direct materials.** These networks support the outbound delivery of electronic POs from buyers to suppliers and the inbound delivery of electronic invoices from suppliers to buyers. They have the second largest transaction value, but the largest portion of revenues, due to their full visibility into the document content and their resulting ability to offer value-added services based on that data. Their initial focus on POs for indirect materials has expanded into direct materials, especially at SAP Ariba. Tradecraft is emerging as a disruptive force, thanks to its strong growth and its 2016 acquisition of IBX from Capgemini. Other PO-focused networks include JAGGAER and PROACTIS (formerly Perfect Commerce). Invoice-focused networks like Basware, Infor's GT Nexus, OpusCapita, Transcepta, and Tungsten Network are increasing their focus on factoring of payables, dynamic discounting, and tracking of payments.
3. **Industry-based networks focus more on supply chain collaboration.** These networks are generally concentrated on direct materials and coordination of the supply chains for these orders. They initially focused on one industry, but are increasingly expanding into adjoining industries. For example, Elemica supports the chemicals and rubber and tire industries; Exostar has expanded from aerospace into pharmaceuticals, leveraging its highly secure identity management platform; and SupplyOn has branched out from its initial focus on the automotive industry into aerospace, railways, and other engineered products. E2open has shifted so much that it is now effectively a supply chain management vendor with a network that generates no revenues, while One Network provides a supply-chain-focused network to a variety of industries. Only Cortex (oil and gas), GHX (hospitals and medical equipment and goods suppliers), Oildex (oil and gas), and SPS Commerce (retail) have remained committed to their original industries.

EDI-Based Networks Still Dominate Transaction Metrics, But Not Network Revenues

As they converge, these three types of networks increasingly compete. In that competition, EDI-based networks still handle the most transactions, but they are losing out to the vertical industry and general PO-and-invoice networks when it comes to revenues.

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- › **EDI-based networks hold the lead in transaction-related metrics.** Because of their history, their critical role in many manufacturing and retail supply chains, and their fixed-price-per-client pricing model, EDI-based networks continue to handle the most transactions, whether for purchase orders, invoices, or supply chain documents. The value of transactions across these networks is four times greater than for general PO and invoice networks and six times greater than transactions on vertical industry networks. The number of buyer organizations connected to these networks is also much greater than for other networks. However, general PO and invoice networks on average have more active suppliers in their networks (see Figure 4).
- › **But EDI-based networks face declining revenues, while other networks are growing.** While EDI-based networks still handle more transactions than other business networks, they are losing the revenue war. Vertical industry networks and PO/invoice networks have full visibility into all transactions flowing across their networks and can use this visibility to charge higher fees to buyers, suppliers, or both. But most EDI-based vendors do not yet have that full visibility into transactions, their traditional business of simply delivering encrypted electronic documents between buyers and suppliers through an EDI pipe with no visibility and no value-added has declining revenues. With buyer clients starting to shift transaction volumes to other networks, most EDI-based vendors are reporting flat or declining revenues from basic document delivery (see Figure 5).

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FIGURE 4 EDI-Based Networks Dominate Transaction Volumes, But Other Networks Connect To More Suppliers

Business network metrics, 2016	Number of buyer organizations	Average number of active suppliers	Total transaction value in US\$ billions	Total transactions in millions	Total POs in millions	Total invoices in millions	Total supply chain documents in millions
Vertical industry networks	54,555	54,349	\$3,205	2,014	283	254	1,453
General PO and invoice networks	43,865	570,925	\$2,699	678	164	441	143
EDI-based networks	73,178	264,831	\$10,255	28,849	4,002	2,929	21,844
Total	171,598	342,247	\$16,159	31,540	4,448	3,624	23,440

Business network metrics, 2016 (percentage of total)	Number of buyer organizations	Average number of active suppliers	Total transaction value in US\$ billions	Total transactions in millions	Total POs in millions	Total invoices in millions	Total supply chain documents in millions
Vertical industry networks	32%	N/A	20%	6%	6%	7%	6%
General PO and invoice networks	26%	N/A	17%	2%	4%	12%	1%
EDI-based networks	43%	N/A	63%	91%	90%	81%	93%
Total	100%	N/A	100%	100%	100%	100%	100%

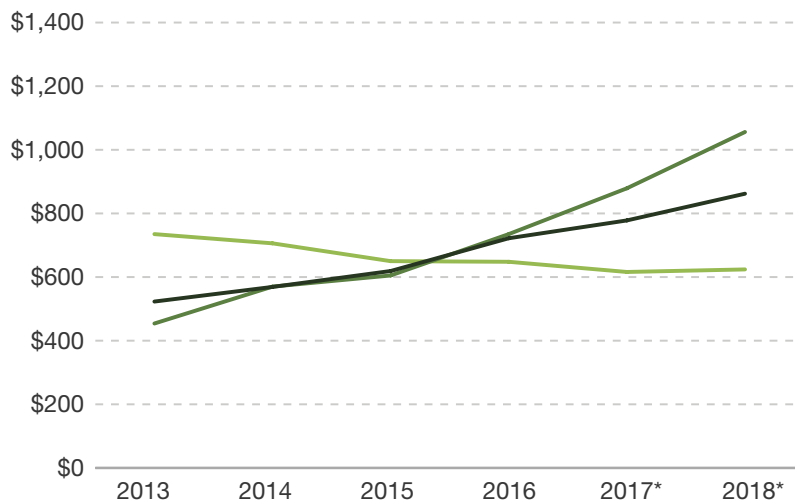
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FIGURE 5 Revenues Are Growing For PO/Invoice And Industry Networks And Shrinking For EDI-Based Networks**Business network revenues**

(US\$ millions)

- Vertical industry networks
- General PO and invoice networks
- EDI-based networks



*Forrester forecast

Who's Who In Business Networks In 2017

The three categories we divided business networks into in 2015 continue to provide the most useful way to look at this market. In each category, we see some vendors that are doing very well, others that are marking time, and still others that are changing their business models.

EDI Networks Shift Toward B2B Integration Managed Services

EDI-based business networks have dominated PO and supply chain flows for manufacturers' purchase of direct materials and retailer and wholesaler purchase of goods for resale. They have also handled much of the invoice flow as well, since invoices were just another EDI-formatted document that could be sent through the existing EDI link. But that dominance is under threat from three directions.

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- › **SAP Ariba and Tradeshift attack the direct material purchase order flow.** EDI-based networks historically got the bulk of their transaction volume from manufacturers sending their direct materials purchase orders and related documents using EDI. But this pattern is vulnerable as SAP Ariba, Tradeshift, and other networks start encouraging manufacturers to use their networks instead due to lower cost or higher value.
- › **Invoice networks are focusing on value-added services.** Invoice networks are taking over the direct-material invoice transactions once routinely sent through EDI networks. Invoice networks handle all invoices, not just those for direct materials, and can provide error-checking, data transformation, and dynamic discounting and trade financing.
- › **Industry-based networks are capturing a rising share of supply chain documents.** Manufacturers used to send their EDI pipes to exchange supply-chain documents with their suppliers. But industry-based networks are siphoning these transactions away by increasingly offering supply-chain management apps linked to their networks.

Different EDI-Based Networks Take Different Tacks

In response, EDI-based networks have de-emphasized their EDI networks, increased their emphasis on B2B integration software and managed services, added selective end-point product or network-based applications, and in some cases started to offer analytical services. As they do so, they come into competition with other vendors, for example with Cleo and TrueCommerce in B2B integration, or the raft of eProcurement or eCommerce vendors in end-point applications. Here are profiles of the most significant EDI-based business networks (see Figure 6):

- › **Comarch builds a P2P suite on top of its European EDI-based network.** Comarch is a Polish-based tech services vendor that operates an EDI network for manufacturers, retailers, consumer electronics, and consumer packaged goods companies in Eastern Europe, Germany, France, Italy, Spain, Russia, Turkey, and in other countries. It has visibility into most but not all transactions in order to provide data transformation, VAT calculation, data enrichment, and other services. It has developed eProcurement, eInvoicing, and contract life-cycle management offerings for buyers, using its network for document transaction and additional services like invoice archiving. It is starting to explore additional network-based solutions like master data management and analytics solutions. Like other EDI-based networks, it also offers B2B integration managed services offering, but is not emphasizing this revenue source as much due to good revenue growth for its EDI transport and end-point products.
- › **IBM Supply Chain Business Network stresses analytics.** IBM has rebranded Sterling B2B Collaboration Network, the world's second largest EDI-based business network, with the Watson Supply Chain label to emphasize the ability to use Watson AI tools to provide more insight into supply chain transactions. Its integration broker platform of EDI gateways, communications, and file exchanges handles all of its estimated 5 billion transactions, and generates over half of the unit's revenues. Over half of the transactions are decrypted and transformed, and the Business

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Transaction Intelligence feature, offered to managed services customers at no extra charge, provides visibility into clients' own documents flowing over the network in real-time and in context. As IBM gains more permission to aggregate anonymized transaction data, it will be able offer visibility into an expanded flow of supply chain data from more and more network clients, while utilizing other IBM assets like Weather Channel data to offer a Supply Chain Insights solution for proactive insights and supply chain disruption management. Its end-point solutions include IBM Order Management for suppliers and IBM Supply Chain Business Network AddOn for eInvoicing for buyers. Its clients can be found in all industries and in all geographies, but mostly in the US and Europe.

- › **Liaison Technologies expands from EDI and B2B integration to data management.** While other EDI-based vendors are exploring value-added services, Liaison offers its ALLOY Platform to provide turnkey managed services for all patterns of integration coupled with data management capabilities and regulatory compliance. From a B2B networks perspective, this enables Liaison to focus on document delivery, messaging security and reliability, data translation and transformation, and B2B and application-to-application integration. Over 70% of Liaison's revenues come from managed integration services, 10% comes from B2B integration software subscriptions, and 20% from network transaction services (including fees added to Liaison's managed services offering). It specializes in life sciences and healthcare, retail, manufacturing, and distribution and logistics, with 70% of its revenues coming from the US and 30% from Europe.
- › **OpenText Business Network shifts toward managed services.** OpenText has the world's largest business network in terms of connected buyers and suppliers and transaction flow. It has built this network through acquisitions, starting with EasyLink in 2012, then GXS in 2014, ANXeBusiness in 2016, and, most recently, Covisint in 2017. Still, the core Trading Grid EDI business of transport of direct materials purchase documents between buyers and suppliers generates only 1 to 2 cents per transaction and accounts for a shrinking one-half of its revenues. Indeed, its network revenues would be flat without the acquisitions of ANX and Covisint. Instead, a rising majority of its business network revenues come from its managed services offering for handling all the integration and operational issues of connecting with suppliers, including its managed file transfer business.² The remainder comes from its B2B integration software and SaaS apps for multimodal transportation management, order management, invoice management, and supplier information management. With a significant minority of its contracts not allowing it visibility into transaction data for purposes of aggregated, anonymous analysis of trends and patterns, it does not yet offer network analytics products apart from client-specific analysis.

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FIGURE 6 Who's Who In EDI-Based Business Networks

EDI-based business networks	2016 key metrics	Revenues from document routing and transport	Revenues from end-point solutions	Revenues from network-based solutions
Comarch	1,000 buyer clients; 100,000 active suppliers; 600 million transactions; NA on 2016 transaction value	Per document fees	eProcurement; AP invoicing; contract life-cycle management	Archiving of AP and AR invoices; master data management; supply-chain financing
IBM Supply Chain Business Network	Forrester estimates 20,000 buyer clients; 400,000 suppliers; 5 billion transactions; \$2 trillion in transaction value	Initial setup fee plus a tiered, volume-based monthly fee	Order management; AP invoicing	B2B supply chain collaboration; supply chain insights for risk management
Liaison	7,500 buyer clients; 14,000 active suppliers; 719 million transactions; \$368 billion in transaction value	FCF: flat rate per month for suppliers, with no charge for interconnects; fees to buyers to store and forward EDI documents	None	Invoice data management
OpenText Business Network	65,000 customers — both buy and sell side; 600,000 suppliers, 20 billion transactions and \$7 trillion in transaction value per year	Initial setup fee plus a tiered, volume-based monthly fee	AP invoicing, AR invoicing; supply chain applications such as P2P transaction management; vendor managed inventory; and internal logistics visibility	Price synchronization; master product catalog management; deduction management; community management; supply chain visibility

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FIGURE 6 Who's Who In EDI-Based Business Networks (Cont.)

EDI-based business networks	Revenues from network-based analytics	Revenues from network integration and connectivity	Key industries and geographies
Comarch	None	B2B integration managed services and software	Manufacturing, retail, consumer electronics, and CPG; Eastern Europe, Germany, France, Russia, and Turkey
IBM Supply Chain Business Network	Business Transaction Intelligence; Partner performance	B2B integration managed services and software	Retailers and manufacturers; North America, Latin America, and Europe
Liaison	None	B2B integration managed services and software	Life sciences, financial services, retail; North America and Europe
Open Text Business Network	Supplier performance analytics	B2B integration managed services and software	Discrete or process manufacturers, automotive, high tech, CPG, retail, wholesale commercial banking; Americas, Europe, and Japan

PO/Invoice Business Networks Pursue Diverging Strategies

In cross-industry PO and invoice supplier networks, we are seeing three main trends:

- › **SAP Ariba, Basware, and Tradecraft expand their scale and scope of offering.** These three vendors — mostly SAP Ariba and Basware, but more recently Tradecraft (backed by \$75 million raised in 2016) — have gobbled up a rising proportion of total business network revenues. Tradecraft used part of this capital to acquire IBX, an ePurchasing and business network vendor that had been part of Capgemini. We expect the growth of these three vendors to accelerate in 2017 and 2018, bringing their share of total business network revenues to 33% by 2018 (see Figure 7).
- › **Other vendors are trying to match this growth.** JAGGAER, Mercado Eletronico, and Perfect Commerce (which merged with PROACTIS and took its name) are taking steps to expand their transaction volume as well as their network revenue growth.
- › **A third strategy is specialization in invoices or supply chain documents.** Vendors like Nipendo, OpusCapita, Taulia, Transcepta, and Tungsten Network focus mostly on invoice delivery and processing, along with ancillary services for dynamic discounting and/or trade finance. Infor GT Nexus is taking a slightly different tack, concentrating on the intersection of the physical-goods supply chain and the financial supply chain.

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Here are profiles of the most significant PO and invoice business networks (see Figure 8):

- › **SAP Ariba has the largest and most advanced PO/invoice supplier network.** Since its acquisition by SAP in 2013, SAP Ariba has expanded the number of buyers using the network by more than 2,600 in 2016. SAP Ariba has been encouraging its ERP manufacturing customers to use the Ariba Network, and SAP Ariba has introduced a pricing schedule that makes the network competitive with ERP-based networks in terms of the annual cost to suppliers. Those steps have significantly increased the transaction value and volumes for the Ariba Network, as well as its network revenues. SAP Ariba offers several network-based solutions to complement its existing eProcurement and eInvoicing products, including Ariba Discovery (a tool for suppliers to be alerted to buyers' tenders), Ariba Pay (tracking of payments), SAP Ariba Supply Chain Collaboration (order, forecast, quality, and inventory), and invoice factoring and dynamic discounting. It has a supplier risk and compliance management solution under development that combines third-party risk data with information from network activity.
- › **Basware expands the scale of its invoice-centric business network.** Basware continues to be one of the leaders of eInvoicing solutions, as well as a leader in eProcurement systems. It extended its network from primarily delivering of electronic invoices to support of POs as well. It has also expanded its scope from Finland and other Nordic countries to much of Northern Europe and the US through interoperability agreements with other public networks. It has similar numbers of buyers and suppliers to Ariba's network, but slightly fewer transactions and much less network revenue due to its per-transaction fee structure. It has several network-based offerings, including supplier master data enrichment and management, dynamic discounting, and payment/invoice matching (Basware Pay), as well as some network-based analytics offering like working capital optimization and supply data enrichment. However, it has yet to offer a platform for clients to create their own apps as Tradeshift does.
- › **Infor GT Nexus aids retailers and manufacturers with invoices and supply chain docs.** Acquired by Infor in 2015 and integrated with Infor's ePurchasing and supply management apps, GT Nexus connects the supply chain for goods with the financial supply chain for invoicing and payment. Infor and GT Nexus offer a portfolio of apps, including procure-to-pay apps, supply chain finance, inventory management, transportation management, work-in-process tracking and packing, supply chain collaboration, supply chain visibility, and supply chain intelligence. The network comes as part of these applications and operates with a single object information model that is shared among buyers, suppliers, logistics providers, and banks to coordinate shipping, logistics, custom clearance, invoicing, payments, and similar activities. It also provides a PaaS platform on which clients can build custom apps, such as quality control inspections, foreign exchange hedging, and factory social-policy compliance tracking.
- › **JAGGAER enhances its PO/invoice business network with new analytics offerings.** JAGGAER, formerly known as SciQuest, has long had a supplier network that connected clients using its own eProcurement system as well as firms using other eProcurement systems to suppliers used by

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universities, life sciences firms, and healthcare providers as well as other commercial industries. These organizations value the JAGGAER supplier network, especially for its coverage of vendors of lab equipment, chemicals, and similar science-related products and services. It does not charge suppliers for access to the network, and levies modest fixed connection fees on buyers. Recently, JAGGAER has started to provide customers with enhanced visibility and insight based on data from its network transactions.

- › **Mercado Eletronico operates a supplier network in Latin America and Europe.** This Brazilian-based business network provides eProcurement and eInvoicing solutions and a network for document exchange between buyers and suppliers. It has expanded into Argentina, Chile, Colombia, Mexico, Portugal, Spain, and the US. It has added network-based applications for master data management, supplier master data management, and catalog management.
- › **Nipendo builds an invoice network around its P2P automation platform.** Nipendo is a B2B collaboration vendor, headquartered in Boston, that is building a robotic process automation platform for purchase-to-pay processes that replace manual work and human decision making with software bots in direct and indirect spend categories. Its clients are primarily industry and manufacturing enterprises in the US, Europe, and Israel, and Nipendo has launched some complementary applications for B2B payments over blockchain technology. Its client and supplier base is still small compared to other vendors.
- › **OpusCapita provides a complete procure-to-pay suite of solutions with its network.** A subsidiary of Posti Group, the Finnish postal authority, OpusCapita provides a wide-range of SaaS solutions related to procurement, invoice, and payment to clients in Europe, North America, and Australia. Its global business network is heavily focused on invoice and payments, but it also handles POs and supply chain documents connecting buyers and suppliers globally. Following the acquisition of jCatalog in 2016, OpusCapita is now a full suite provider of procure-to-pay solutions including RFQ, supplier information management, catalog management, eProcurement, AP eInvoicing, payments tracking, and cash management, as well as catalog management and AR eInvoicing for suppliers.
- › **PROACTIS expands its PO and invoice network for US and European firms.** PROACTIS — the result of a reverse merger between UK-based PROACTIS and US-based Perfect Commerce — has made a point of making its supplier network accessible to buyers using an eProcurement or purchasing app, not just its own eProcurement or eInvoicing solution, and its network revenues come primarily from the buyer-side. Its 2015 acquisition of Hubwoo significantly increased its number of buyers, suppliers, and transactions, and it has one of the largest number of active suppliers of all the PO/invoice networks spread across North America, Europe, and Australia/New Zealand. But it has yet to develop network-based applications or network analytics offerings.
- › **Taulia offers AP eInvoicing and working capital management on its no-fee network.** Taulia focuses on digitizing the financial supply chain, with solutions that support dynamic payments, invoice automation, and predictive analytics. Its solutions all rest on the Taulia Business Exchange

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Leaders Exploit Scope And Scale, While Competitors Push Collaboration And Specialization

network for invoice submission, with 1.37 million supplier connections, though Taulia derives no revenues for invoice or PO delivery. Instead, its revenues come from Taulia Invoicing, an AP eInvoicing solution, and/or Taulia Working Capital, which supports dynamic discounting and supply financing, using over 50 bank lending partners. It is introducing Polaris, a predictive intelligence system for helping firms optimize their working capital programs, though so far it is including Polaris as a no-fee enhancement to its products.

- › **Tradecraft's acquisition of IBX shakes up the business network market.** A combination of aggressive organic growth and the acquisition of Sweden-based IBX has pushed Tradecraft into the top tier of business networks. Neither Tradecraft nor IBX charge suppliers for electronic invoice delivery to buyers, but instead generate network revenues by charging buyers for delivery of electronic invoices. In addition, the combined firms offer eProcurement, AP eInvoicing, and sourcing solutions, as well as an expanding set of more than 100 network-based apps built on (or being transitioned to) the Tradecraft platform, including order management, CloudScan (paper), collaborative workflow, supplier management, catalog content management, master data management, early payment requests, dynamic discounting, and basic logistics as well as a digital invoice status dashboard, reducing number of query calls in regards to late payments and other. Its clients are mostly in the Nordics, Germany, the UK, and the US, with a growing presence in China.
- › **Transcepta stays focused on AP eInvoicing.** Transcepta's roots as an invoice delivery network for suppliers to deliver electronic invoices to buyers still dominate its operations. It supports a wide-range of invoice and PO delivery models, including EDI, XML, CSV, PDF conversions, and its own invoice virtual printer for suppliers to send their electronic invoice data for Transcepta for delivery and paper invoice. It has added its own AP eInvoicing, dynamic discounting, and supplier information management solutions, but they represent less than half of its revenues. Its partnership with Oracle makes it the preferred network vendor for Oracle customers that use Oracle procurement or invoicing products. It offers its service to suppliers at no charge, with buyers paying based on the number of suppliers they are connected with.
- › **Tungsten Network develops a portfolio of invoice-related buyer and supplier offerings.** Tungsten began as a network for delivering validated invoices from suppliers to buyers using any eInvoicing solution, with a focus on large multinationals with both US and European operations. That remains its core business, though it has now added its own AP eInvoicing solution along with options for dynamic discounting. From its beginning, it has had a strong supplier focus, starting with its tools for suppliers to present electronic invoices to customers who wanted them, to its full AR eInvoicing solution, its payment/invoice matching, and arrangements with leading banks to provide supplier financing. In addition, it has a spend analysis offering for buyers or suppliers based on the invoice data that that Tungsten Network delivers.

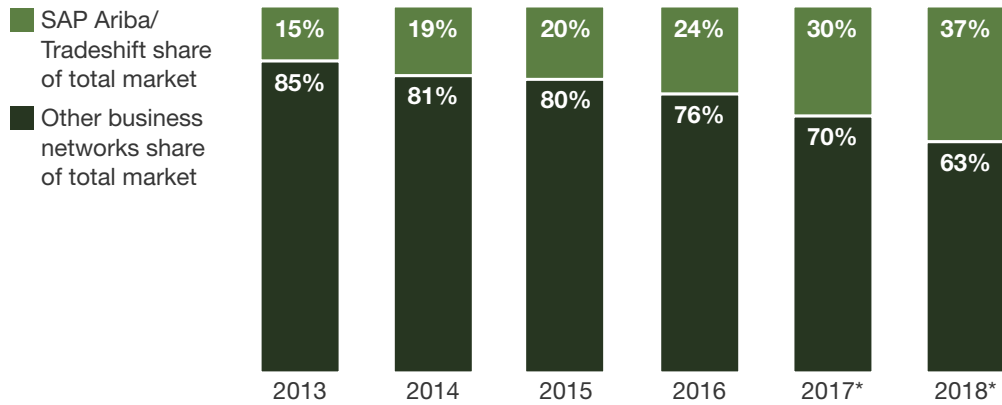
Vendor Landscape: B2B Business Networks, 2017 To 2018

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FIGURE 7 SAP Ariba And Tradeshift Cause Other PO/Invoice Network Vendors To Change Strategy

Business network revenues by vendor

(Percentage share of total market)



*Forrester forecast

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FIGURE 8 Who's Who In PO/Invoice Business Networks

PO/invoice-based business networks	2016 key metrics	Revenues from document routing and transport	Revenues from end-point solutions	Revenues from network-based solutions
SAP Ariba	2,600 buyer clients; 250,000 active suppliers; 129 million transactions; \$913 billion in transaction value	Suppliers pay 0.1% of value of when bilateral transactions exceed 20 POs and \$10,000 per year, with a cap of \$10,000 per year.	eProcurement; AP eInvoicing	Payment/invoice matching (Ariba Pay); supplier/buyer matching (Ariba Discovery)
Basware	2,700 buyer clients; 290,000 active suppliers; 108 million transactions; \$520 billion in transaction value	Per document fees: €0.3 to €0.5 euro per transactions	eProcurement, AP eInvoicing; order management; AR eInvoicing; working capital management	Dynamic discounting; payment/invoice matching (Basware Pay); supplier/buyer matching
Infor GT Nexus	400 buyer organizations; 25,000 active suppliers; 90 million transactions; \$500 billion in transaction value	Suppliers pay an annual fee in the hundred dollars range.	eProcurement; inventory visibility; shipment consolidation and planning; planned and actual demand	Supply/demand forecast collaboration; shipment tracking; rating and tendering; payment management; work-in-progress and ASN; customs compliance
JAGGAER	Forrester estimates 600 buyer clients; 525,000 active suppliers; 20 million transactions; \$41 billion in transaction value	No charges to suppliers, fixed connection fees for buyers	eProcurement; AP eInvoicing	None
Mercado Eletronico	6,000 buyer clients; estimated 100,000 active suppliers; estimated 12 million transactions; \$24 billion in transaction value	Unknown	eProcurement; AP eInvoicing	Master data management (MDM); master catalog management (MCM); catalog management

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FIGURE 8 Who's Who In PO/Invoice Business Networks (Cont.)

PO/invoice-based business networks	2016 key metrics	Revenues from document routing and transport	Revenues from end-point solutions	Revenues from network-based solutions
Nipendo	Forrester estimates about 20 buyer clients; 18,000 active suppliers; 3 million transactions; \$12 billion in transaction value	Per transaction fee for the buyers and a freemium model for suppliers; with a per transaction fee to suppliers for premium offering	AR financing; B2B payments; working capital management; construction management system	Dynamic discounting
OpusCapita	6,000 buyer clients; 65,000 active suppliers; 200 million transactions; \$664 billion in transaction value	Transaction fees to both buyers and suppliers	eProcurement; AP eInvoicing; AR eInvoicing; product information management; catalog content management	Supply chain finance
PROACTIS (formerly Perfect Commerce)	205 buyer clients; 422,000 active suppliers; 14 million transactions; \$46 billion in transaction value	85% of revenues from buyers; 15% from suppliers	eProcurement, AP eInvoicing	None
Taulia	105 buyer clients; Forrester estimates over 400,000 active suppliers and over 70 million transactions; \$287 billion in transaction value	None	AP eInvoicing, working capital management	Supply chain finance; dynamic discounting
Tradeshift (including IBX)	Forrester estimates 1,800 buyer clients; 90,000 active suppliers for IBX; 470,000 active suppliers for Tradeshift; 70 million transactions; \$180 billion in transaction value	No charges to suppliers; all revenues from buyers	eProcurement; AP eInvoicing	Payment/invoice matching (Tradeshift Pay); supply chain finance
Transcepta	Forrester estimates over 60 buyer clients; 108,000 active suppliers; 45 million transactions; \$60 billion in transaction value	No charges to suppliers; buyer fees based on the number of suppliers	AP eInvoicing; dynamic discounting	Supplier information management
Tungsten Network	175 buyer clients; 203,000 active suppliers; 16 million transactions; \$197 billion in transaction value	40% of revenues from buyers; 60% from suppliers	AP eInvoicing; AR eInvoicing; working capital management	Payment/invoice matching

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FIGURE 8 Who's Who In PO/Invoice Business Networks (Cont.)

PO/invoice-based business networks	Revenues from network-based analytics	Revenues from network integration and connectivity	Key industries and geographies
SAP Ariba	Spend analytics, supplier risk analytics	None	All industries, but especially manufacturing; North America, Latin America, Europe, and parts of Asia Pacific
Basware	Spend analysis; working capital optimization; supplier data enrichment	None	All industries; Nordics, Germany, UK, US, Brazil, Mexico, and Australia
Infor GT Nexus	None	None	CPG companies and retailers with Asian supply chains; US and some European
JAGGAER	Solution mapping; suppliers/buyers	None	Manufacturing, life healthcare, distribution, CPG, retail, higher education, government; US, UK, AZ, NZ, and Europe primarily
Mercado Electronico	None	None	All industries; Brazil, Portugal, Spain, Argentina, Colombia, Chile, and US

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FIGURE 8 Who's Who In PO/Invoice Business Networks (Cont.)

PO/invoice-based business networks	Revenues from network-based analytics	Revenues from network integration and connectivity	Key industries and geographies
Nipendo	Predictive analytics; vendor ratings	B2B integration services	Industries: high-tech, pharmaceutical, healthcare, aerospace and defense, energy, CPG, financial services Geographies: US, Europe, and Israel
OpusCapita	None	None	All industries; primarily Europe and some expansion into US
PROACTIS (formerly Perfect Commerce)	None	None	All industries; US, France, Germany, the UK, Australia, and New Zealand
Taulia	Working capital optimization	None	All industries; Europe and US
Tradeshift (including IBX)	Supplier risk analytics	None	All industries; Europe and US
Transcepta	Working capital optimization	None	All industries; US, Europe, and Asia
Tungsten Network	Spend analytics; working capital optimization	None	Multinational firms with trans-Atlantic operations; US and Europe

Vertical Industry Business Networks Deepen Their Industry App Portfolios

Most of the vendors in this category started life as industry-owned exchanges in the dot.com days of the late 1990s. While transportation of POs and invoices still is part of their offering, in most cases they emphasize supply chain documents and collaboration, where their industrial expertise and connections give them competitive advantage. But they face competition from PO/invoice networks like Ariba or Infor starting to build vertical focus, and from the EDI-based networks looking to add industry-specific applications and analytics. In response, these vendors will pursue three paths.

- › **Expand into adjacent verticals.** Elemica has already expanded from chemicals into the tire and rubber industry; Exostar has added pharmaceuticals to its historic client base of aerospace; and SupplyOn has expanded from the automotive industry into aerospace, railroad equipment, and other transportation equipment.
- › **Shift into network applications.** E2open and One Network are the leading examples, with the former becoming a supply chain management application vendor that happens to have a network attached and the latter a network that happens to have a suite of supply chain management apps. GHX and SPS Commerce are busily adding supplier and buyer applications that connect to their networks.

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- › **Deepen their focus on their core verticals.** Cortex and Oildex will continue to concentrate on oil and gas, where invoices have a heavy supply-chain dimension because oil and gas firms depend on the oil-field services vendors that support their operations.

Here are profiles of the largest vertical industry business network vendors (see Figure 9).

- › **Cortex is a Canadian eInvoicing business for oil and gas and other industries.** Cortex offers its network services to over 10,000 trading partners in oil and gas, mining, and sports and entertainment industries. Based in Alberta, Canada, the Cortex network supports the exchange PO, invoice, and related documents between buying and supplying organizations while supporting industry-specific standards like PIDX. Unlike other invoice network vendors, it does not offer its own AP eInvoicing solution, making it attractive for buyers of AP eInvoicing solutions who want a network independent of what eInvoicing and/or eProcurement solution they utilize. Cortex has partnerships with workflow vendors like Amalto, Pandell, DocVue, and Powervision, as well as FundThrough for payments and Enternyinvoice.com for data entry automation.
- › **E2open shifts toward a supply chain management app portfolio.** E2open, which leading tech vendors initially founded as a trading platform and a network for exchanging supply chain documents, POs, and invoices, has steadily evolved into a leading supply chain management app vendor through a series of acquisitions. Acquisitions since the start of 2016 include Terra Technology, a demand sensing vendor; Orchestro, a point-of-sale analytics vendor; and Steelwedge Software, a sales and operations planning vendor. E2open has also broadened its industry focus to include consumer products, industrial manufacturing, oil and gas, retail, life sciences, and aerospace and defense. It does not charge either party fees for accessing the network. Instead its revenues come from its portfolio of hosted applications, including endpoint apps for buyer supply chain management such as demand sensing and planning, supply planning and response, sales and operations planning, and inventory optimization. Some of applications are network apps with full collaboration between buyers and suppliers, such as forecast and order collaboration, inventory visibility, and transportation visibility. But because each client has its own instance of the applications, E2open does not yet offer the kind of network-based analytics based on aggregated data that other networks are starting to provide.
- › **Elemica offers order and logistics management to chemical and process industries.** The result of a 2009 merger between Elemica, a chemicals industry transaction hub and shared sourcing platform, and RubberNetwork, a similar industry-owned exchange for the tire industry, Elemica combines its QuickLink business network with its SmartLink portfolio of supply chain execution and visibility applications. For buyers, its offerings include PO management, AP invoice management, eSourcing, and logistics management. For suppliers, it offers sales order management, AR eInvoicing, and rail car fulfillment. More advanced offerings that leverage its network as a collaboration hub include certificate-of-analysis collaboration, delivery forecast collaboration, vendor managed inventory, global supply management for shipment tracking and inventory management, and time-slot management.

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- › **Exostar uses its identity management platform for its aerospace and pharma network.** To meet the needs of its aerospace and defense owners and clients, Exostar developed high-security document exchange and collaboration services based on its identity management platform, which it has extended to life sciences firms and other firms with high-security requirements. It generally leads with its identity and access management platform, but it has also attracted clients for its supply chain collaboration and management solutions, which combines secure network services for PO, invoice, and advanced shipping notices and other supply chain documents with endpoint solutions for eProcurement, eSourcing, supplier risk management, and AP eInvoicing from Wax Digital and Perfect Commerce (now PROACTIS) or supply chain management systems from E2open. It offers network-based applications for collaborative order management and digital rights management and has introduced a supplier risk assessment offering focused on cybersecurity compliance tracking.
- › **GHX streamlines healthcare's purchasing, invoicing, and supply chain processes.** GHX has become the largest healthcare-focused business network in the US and Canada, and continues to add customers in five European countries. Its core activity is PO and invoice delivery between 47,000 healthcare providers and 15,000 active suppliers of healthcare-related products and services. It also has supplier-focused applications like eCommerce, AR eInvoicing, and sales data analytics. For buyers, it offers eProcurement, AP eInvoicing, contract and price management; and supply chain optimization. And for both parties it has network collaboration apps for supply chain comparative performance, vendor credentialing service, compliance monitoring, master data management, and implantable device supply chain coordination. GHX also offers network analytics in areas like supply chain performance benchmarking and distribution of vendors' market share data.
- › **Oildex provides the largest network for eInvoicing for oil and gas companies.** Oildex provides financial accounting software for the oil and gas industry and moved into the business network market through its 2015 acquisition of ADP's Procure-to-Pay unit. ADP had bought this unit in 2010 when it was DO2, a Calgary-based invoice network provider with an eInvoicing solution targeted at oil and gas companies. The Oildex network is the "tail" on the Oildex OpenInvoice "dog," generating about 20% of Oildex's revenues. Partners provide invoice factoring and dynamic discounting and health and safety documentation and insurance to its clients.
- › **One Network offers a digital business network platform.** This enables global companies to optimize their supply networks, reduce inventory, plan, execute, and collaborate with all business partners in real time and without costly implementations and integrations. Started in 2002 with a vision of providing a collaboration network platform for buyers and suppliers, One Network has become a business network serving over 60,000 customers in industries like automotive and industrials, defense, electronics, government, and healthcare with logistics and supply chain solutions. It provides network-based solutions for demand forecasting, supply forecasting, order management, fulfillment, logistics coordination, and inventory management, among others. One Network operates on a subscription pricing model to major firms, manufacturers, and logistics providers.

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- › **SPS Commerce is a collaboration and application hub for retailers and suppliers.** SPS Commerce is a long-time EDI provider for the retail industry, but it was an early mover in getting clients to let it view the document contents it was delivering. Its complete visibility into the order flow enables it to help buyers and suppliers to reconcile work-flow calculations, collaborate on logistics and shipping, and provide critical workflow alerts when disruptions occur. On top of PO and invoice delivery, it now offers a sourcing product (for matching buyers and suppliers), an assortment product that replaces a catalog, a fulfillment product for order management), and an analytics product for demand trends. It supports all retail segments, but with concentrations in groceries, industrial distribution, drug stores, and convenience stores. Its clients are primarily US-based, but it has a growing business in Australia and Asia, with a smaller presence in Europe.
- › **SupplyOn is a specialist for supply chain management for discrete manufacturing.** SupplyOn is a German-based business network serving the automobile, aerospace, machine and industrial goods, and electronics industries through document flow, collaboration, and both end-point and network apps. It handles the flow of POs, invoice, and supply chain documents for transportation management, quality management, and supply chain performance management (supply chain monitoring, event management). Its 2017 acquisition of NEWTRON, a small German purchase-to-pay vendor, adds more functionalities to the already existing eProcurement, eSourcing, and AP invoicing solution. It connects manufacturers like Airbus Group, BMW, Bosch, Continental, and Siemens with 60,000 suppliers for direct materials in time-sensitive production systems, and over 100,000 suppliers of indirect materials. It is expanding its already existing offices and market positions in the US and in China.

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FIGURE 9 Who's Who In Vertical Industry Networks

Industry business networks	2016 key metrics	Revenues from document routing and transport	Revenues from end-point solutions	Revenues from network-based solutions
Cortex	96 buyer organizations; 8,322 active suppliers; 11 million transactions; \$10 billion average total invoice value/year	Charge to suppliers and buyers. Per document fees and fixed connection fees.	None	Partners provide payment solutions. Document preapproval and contracted rate agreements
E2open	Forrester estimates 160 buyer clients; about 30,000 active suppliers; over 200 million transactions, 90% supply-chain related; over \$250 billion in transaction value; 5,000 carriers and 400 3PLs are also in the SPS network	None	Demand sensing and planning; supply planning and response; order promising and allocation; sales and operations planning; inventory optimization; transportation forecasting; demand signal management; and retail analytics	Forecast collaboration; inventory collaboration and visibility; eInvoicing collaboration; contract compliance; buy-sell order management; transportation visibility; quality and traceability
Elemica	Forrester estimates 70 buyer organizations; 60,000 active suppliers; 400 million in transactions, 95% supply-chain related; \$400 billion in transaction value	No information	eProcurement; eSourcing; AP eInvoicing; order management; logistics management; AR management; vendor-managed inventory	Certificate of analysis collaboration; delivery forecast collaboration, global supply management for shipment tracking and inventory management; time slot management
Exostar	Forrester estimates 103 buyer organizations; 45,000 active suppliers; 28 million transactions; \$100 billion in transaction value	80% of revenues from buyers (annual subscription fees); 20% from suppliers (transaction fees for more than 100 transactions per year)	eProcurement; AP eInvoicing; eSourcing; vendor managed inventory; collaborative order management	Global supply management for shipment tracking and inventory management; advanced shipping notices; supply chain finance

Vendor Landscape: B2B Business Networks, 2017 To 2018

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FIGURE 9 Who's Who In Vertical Industry Networks (Cont.)

Industry business networks	2016 key metrics	Revenues from document routing and transport	Revenues from end-point solutions	Revenues from network-based solutions
GHX	47,000 buyer organization facilities; 15,000 active supplier divisions; 136 million transactions; \$87 billion in transaction value	Revenues from document routing and transport to read: Fixed subscription fees for unlimited volumes for both buyers and suppliers, based in part on organizational size	For buyers: eProcurement; AP eInvoicing; contract and price management; supply chain optimization; For suppliers: AR eInvoicing; sales data analytics; eCommerce	Supply chain comparative performance; vendor credentialing service and compliance monitoring; master data management; implantable device supply chain; credentialing
Oildex (formerly ADP P2P)	Forrester estimates about 200 buyer organizations; 30,000 active suppliers; 17.5 million transactions; \$123 billion in transaction value	No charges to suppliers; all revenues from buyers	AP eInvoicing	Partners provide factoring and dynamic discounting, and health and safety documentation and insurance
One Network	Forrester estimates 1,000 buyer clients; about 49,000 active suppliers; over 1,000 million transactions; over \$1 trillion in transaction value	Subscription based on scope and level of usage across solutions. Suppliers who work with only one customer have their fees covered as part of the subscription from that "hub" customer. Carriers pay a subscription price based on tiers of transaction volumes.	Demand sensing and planning; supply planning and response; order promising and allocation; sales and operations planning; inventory optimization; transportation forecasting	300 custom-built supply chain apps

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FIGURE 9 Who's Who In Vertical Industry Networks (Cont.)

Industry business networks	2016 key metrics	Revenues from document routing and transport	Revenues from end-point solutions	Revenues from network-based solutions
SPS Commerce	Forrester estimates over 5,000 buyer clients; about 30,000 active suppliers; over 200 million transactions; over \$200 billion in transaction value; 5,000 carriers and 400 3PLs are also in the SPS network	Fixed connection fees: suppliers pay on average \$300 per month	eSourcing; supply chain visibility; carrier integration; barcode labeling and branded packing slips	Item-management services that feeds into product information management; community management
SupplyOn	120 buyer organizations; 30,000 active suppliers; 14 million transactions; \$123 billion in transaction value	Fixed connection fees for buyers based by module and number of suppliers and provide 70% of revenues; 30% of revenues from suppliers, who are charged by the module and number of transactions	eProcurement, AP eInvoicing, eSourcing	Supply chain collaboration; supply chain performance management (supply chain monitoring, event management); transportation management

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FIGURE 9 Who's Who In Vertical Industry Networks (Cont.)

Industry business networks	Revenues from network-based analytics	Revenues from network integration and connectivity	Key industries and geographies
Cortex	None	None	Upstream and downstream oil and gas, manufacturing, sports and entertainment and construction; North America
E2open	None	None	High-tech, industrial manufacturing, consumer goods, retail, aerospace and defense, oil and gas, and life sciences; North America, Europe, and Asia
Elemica	None	None	Chemicals, tire and rubber; North America and Europe
Exostar	Supplier risk assessments	None	Aerospace and defense, pharmaceuticals; US and Europe
GHX	Purchased services analytics, vendor market share data; supply chain comparative performance	Integration fees for both buyers and sellers, based in part on the complexity of the integration	Healthcare providers, medical equipment and other providers of health care goods and services; US, Canada, and Europe
Oildex (formerly ADP P2P)	None	None	Upstream and downstream oil and gas; North America
One Network	None	None	Automotive, industrials, retail, consumer goods, restaurants, health and pharma, high-tech, and defense; North America, Europe, Australia, and Africa
SPS Commerce	Point of sale data analytics	B2B integration managed services and software	Retail, groceries, pharmaceuticals; North America, Europe, and Australia
SupplyOn	None	None	Automotive, transportation equipment; mostly European clients, but some in North America

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Future Value Propositions Will Result In Six Networks

As we have shown in the review of the various business network vendors, different business networks are creating different value propositions. As this happens over the next couple of years, our current three categories of business networks will no longer be a useful taxonomy. Instead, by 2019, we expect six new categories of business networks will emerge. CIOs and their business partners will need to adapt their business network relationships to these changes:

- › **B2B integration networks.** Vendors like Liaison and OpenText will end up here, using their networks as one option for buyers and suppliers to connect with each other but also offering other options like managed file transfers. But their main business will be as B2B integration managed service providers that help companies manage all their external connection and internal integration to those connections. Their network business will increasingly become the tail on their B2B integration MSP or integration software dogs.
- › **B2B application platforms.** These vendors will use their network as both the hub for shared network applications and the opportunity to provide end-point applications. Basware, Comarch, Exostar, GHX, and Tradeshift are most likely to end up with this model.
- › **B2B analytics platforms.** With its emphasis on Watson, IBM is heading in this direction, though it could take a detour to becoming a B2B integration network. SAP Ariba also has aspirations of playing this role, combining its network scale and transaction volume with IBM Watson and SAP Leonardo AI tools to provide spend analytics, supplier risk and performance analytics, and market analytics to both buyers and suppliers.
- › **Supply chain coordination platforms.** This is where many of the vertical industry networks are focused, including Elemica, E2open, SPS Commerce, and SupplyOn. Infor GT Nexus will also end up here.
- › **Invoice and financing networks.** Nipendo, Taulia, Transcepta, and Tungsten are already competing in this category.
- › **PO and invoice delivery networks.** Cortex, JAGGAER, Mercado Eletronico, Oildex, OpusCapita, and PROACTIS will continue to concentrate in PO and invoice delivery, either as their core business (Cortex) or as complements to their eProcurement and eInvoicing solutions.

Recommendations

Optimize Your Business Networks To Your Specific Situation

The ideal is for a firm to have one channel for handling all purchasing, invoicing, and supply chain activities with business partners. That ideal has never been close to a reality for suppliers, which generally have to connect with a dozen or more different networks for different business customers.

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But it is also starting to become less than ideal for buying firms as well. As business networks either have or gain visibility into transactions, they can provide network-based applications and analytics specific to those transactions.

For B2B buyers, look beyond supplier connectivity in your network choices:

- › **Evaluate value drivers beyond supplier coverage.** In the past, a buying organization chose a network based on just two considerations: 1) which network provides the easiest integration with the ERP's purchasing module (for direct materials) and/or eProcurement system (for indirect materials); and 2) which network has the most existing links to our suppliers? But as business networks have evolved, network-based applications and network-based analytics for master product or supplier data management, risk management, supply chain coordination, working capital management, or catalog management can provide compelling reasons to shift from one business network to another.
- › **Use low-cost alternatives that can still deliver capability.** While the Ariba Network has become one of the largest non-EDI-based networks, there are many alternatives as this report has shown. The Ariba Network does have attractive features, like easy access for SAP users and the potential for superior supplier risk management and network-based spend analysis, but it is more expensive than other networks from the supplier perspective. Moreover, most of the vertical industry networks offer better supply chain management support than the Ariba Network, and other networks provide better support for dynamic discounting and working capital management.
- › **Allow your EDI network vendor to "interrogate your data."** Out of habit or concerns about data privacy, many firms still refuse to let their EDI network vendor have visibility into the transactions sent across those networks. We can certainly understand that these firms may want to avoid changes in what have been well-established processes and smoothly functioning integrations. But changing your contract with your existing EDI-based network provider to allow it to have visibility into those transactions is a minor change that will deliver benefits to your firm in terms of easier data transformation for integration purposes and reduced PO or invoice errors, and potentially in improved network-based analytics using aggregated client transaction data.
- › **Take advantage of vertical industry networks if there is one for your industry.** The half dozen vertical industry networks that we profiled combine deep industry expertise, a portfolio of relevant endpoint and network-based applications, and adoption by key buyers and suppliers in each industry. The biggest risk with these networks is that they may try to spread into adjoining industries, where they lack similar degrees of industry expertise and credibility, and lose focus as a result.
- › **Choose an invoicing specialist network for your invoices.** Firms have often chosen to use the same network for outbound PO and inbound invoices because there's just one connection to manage and invoices can be matched with POs. But these benefits are starting to pale compared with advantages of using an invoicing network with strengths in dynamic discounting, invoice factoring, and invoice financing. Managing several points of integration with different networks is

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getting simpler, and matching POs and invoices in the network is less important when the buyer already has an invoicing solution that can match the invoice with the PO, the receipt, and the contract and route unmatched invoices to the right person for approval.

For suppliers, develop a network strategy to deal with many network connections:

- › **Develop a B2B integration managed services offering.** Sad to say, suppliers will have to connect to multiple business networks and key customers for as far as we can see. This is a massive integration challenge. B2B integration software offered by most of the EDI-based networks can help make this challenge more manageable, and their managed services offerings make it even easier, albeit at a higher cost. Pick a solution from a vendor with network that already connects the largest number of customers to you, and you may well have those network connection fees included in the cost of the MSP solution.
- › **Influence your customers to minimize the number of networks you support.** With your largest customers, you may have no choice but to use the business network that those customers want you to use. But with other customers, you may have the ability to influence the network through which they send POs to you and receive invoices from you. A business network like SAP Ariba that levies relatively high fees on suppliers like you may still be a good choice if it connects you to most of your key customers, or if services like Ariba Discovery or Ariba Pay are valuable to you. A business network like JAGGAER, Taulia, Transcepta, or Tradeshift that has no supplier fees may turn out to be a poor choice if it fails to invest in value-added services for suppliers.
- › **Use an AR invoicing solution to get control of and value from your invoices.** These solutions not only generate electronic invoices for clients who want them, they keep track of the status of each sent invoice, record the steps in the client's invoice approval process, and keep track of the advanced payment notices when invoices are approved. The last step is critical for suppliers that want to take advantage at scale of the benefits of dynamic discounting and working capital management.

Vendor Landscape: B2B Business Networks, 2017 To 2018

Leaders Exploit Scope And Scale, While Competitors Push Collaboration And Specialization

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Supplemental Material

Companies Interviewed For This Report

We would like to thank the individuals from the following companies who generously gave their time during the research for this report.

Basware

GHX

Comarch

IBM

Cortex

Infor GT Nexus

E2open

JAGGAER

Elemica

Liaison Technologies

Exostar

Nipendo

Vendor Landscape: B2B Business Networks, 2017 To 2018

Leaders Exploit Scope And Scale, While Competitors Push Collaboration And Specialization

Oildex	SupplyOn
OpenText	Taulia
One Network	Tradeshift
PROACTIS (formerly Perfect Commerce)	Transcepta
SAP Ariba	Tungsten Network
SPS Commerce	

Endnotes

- ¹ Forrester has projected that employee-initiated B2B eCommerce in the US will increase from \$855 billion in 2016 to \$1.13 trillion in 2020. But this forecast explicitly excluded purchases through EDI based networks or from eProcurement systems. See the Forrester report "[B2B eCommerce: A Trillion Dollars For The Taking.](#)"
- ² One sign of OpenText's emphasis on its MSP is its 2015 partnership with SAP and Ariba to offer its B2B integration managed services offering to SAP Ariba clients, even though SAP Ariba has been trying to bring OpenText EDI clients over to the Ariba Network. One benefit for OpenText from this partnership was its takeover of the operations of the French B-process invoice network from SAP Ariba.

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