
Summary: Digital Business Platforms (DBPs) consist of managing digital processes, applications, and transactions in a mostly electronic manner and do so by leveraging the latest or emerging digital technologies. We evaluate 23 key providers who are leading the charge in the DBP market.

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Introduction

Traditionally, organizations have competed with standard or best practice processes, applications, and transactions without the benefit of new and emerging digital technologies. While Digital Business Platforms (DBPs) are all about getting work done digitally, they are, more importantly, about dynamic, goal-driven processes and application components that leverage emerging patterns of business while dynamically adjusting the goals as they complete work. More importantly, these platforms can please customers as their needs change and the resources that service customers, processes, and applications can dynamically adapt and optimize in a predictive manner. This research note evaluates 23 providers who are at various stages of DBP enablement.

The race to the digital workplace is about eliminating analog processes. DBPs use cloud-based software and services to manage a wide range of business processes involving people, documents, data, and transactions both inside and outside the firewall. As more processes move to the digital domain, we will see a reduction in the use of people to complete those processes. The issue is not that people will not be necessary; it is that the people left will be super-charged with cognitive powers, predictive analytics, big or fast data, and advanced visualization while interacting with the Internet of Things (IoT). Additionally, DBPs will deliver better development environments that leverage model-directed, component assembly, and robotic program automation (RPA).

Why DBPs?

There are three reasons to embrace the shift to DBPs: business automation, faster time to revenue, and overall cost reduction. The primary driver for the rise in DBPs is the need to make business processes faster while dealing with frequent change and increasing demands for customer-driven approaches. Making resources smarter while leveraging vast amounts of fast data to recognize emerging business patterns, make informed decisions quickly, and take the next best action for better outcomes is the aim of the DBP.

Processes and rigid applications remain one of the largest cost centers in the enterprise. When evaluating the total cost to create, maintain, and run processes, it is in the range of 3-5% of enterprise revenues. The need for differentiating and self-adapting work and process management is high, so DBPs are poised for growth. Aragon expects that the DBP market is poised to grow into a U.S. $50-billion market by 2021 (see Figure 1).
Key Trends

Business Transformation

Digital transformation is about the speed of business. The DBP is about making business activity fully digital. In many cases, optimizing work is tactical, but the impact on the business is strategic. This is why we feel that the DBP is just the tip of the spear when it comes to an overall digital transformation initiative. Exploring the full capabilities of a DBP within the scope of desired outcomes and an organization’s business model is the way to add strategic value. In some cases, organizations will alter their business model to leverage the digital advantages the DBP can bring to them.

Enterprises increasingly understand that leveraging a DBP quickly speeds up transactions while enhancing the customer experience; this signifies that the shift to going fully digital is already starting to occur. The challenge is that the DBP has many onramps to digital success, so picking first steps will likely require a digital transformation plan that describes long-term outcomes and intermediate steps to deliver benefits. Listed below are some possible starting points for digital efforts leveraging a DBP:

![Figure 1: DBP Market Forecast 2016-2021 (in $ millions).](image-url)
▪ Journey Mapping (Customer, Employee, or Partner)
▪ New User Experience (UX, Mobile, or Workbench)
▪ Eliminate Paper (Electronic First Mile Process)
▪ Improved Visualization (Real Time, Augmented Reality, Dashboards/Alerts, SLAs)
▪ Better Exception Management (Process & Rule Adjustments)
▪ Decision & Knowledge Assists (Predictive & Cognitive)
▪ Real-Time Pattern Recognition (IoT, Big Data, & Rules)
▪ Scenario Planning (Simulation & Planned Responses)

**Prediction:** By YE 2019, 65% of enterprises will retire many legacy processes in favor of those based on the DBP, leading to the proliferation of DBPs.

**Business Leaders Driving Change**

The race to compete in the digital era means the rate of change and innovation in enterprises will reach unprecedented levels. CEOs and their senior executives are driving the shift to digital processes, meaning an extreme makeover of processes will abound. Doing business faster is one of these shifts. In many cases, Aragon has witnessed CEOs pushing for DBP-based processes and applications because they have seen DBP action in other markets. The key reasons for pushing the DBP at the executive level include:

▪ Creating new products, services, or business models
▪ Accelerating revenue
▪ Driving efficiencies
▪ Improving profitability
▪ Enhancing the customer experience
▪ Ensuring compliancy
▪ Linking to ecosystems for revenue or operational improvement

**Security is Front and Center**

More than anything, conducting business digitally means security must be at the heart of any DBP process. This includes everything from identity, to cloud security, to mobile apps, big data, and event and content storage and replication.

One of the key things that Aragon sees as a must-have for DBP providers is to replicate data, both structured and unstructured, in multiple locations (i.e. separate data centers). Today, leading providers are offering this, but enterprises still need to examine Service Level Agreements (SLAs) to ensure that the terms of the content storage and replication meet their requirements.
Mobile Apps and DBP

Leading providers have helped to make the transition to DBPs faster, by allowing non-users to interact with processes “for free” – whether on a PC or mobile device. The ease with which DBP mobile apps are allowing basic flows or transactions to be conducted entirely on the go will increase. We have seen this with numerous Sales and Service organizations that have migrated to tablet computers and require many types of DBP applications.

DBP Maturity

The DBP is maturing and is thereby expanding beyond just the initial focus on the sandbox creation of new processes leveraging emerging technologies. DBPs are also capable of institutionalizing these new processes to standard processes that can be leveraged in multiple business units on an enterprise scale. In 2016, Aragon published a Digital Maturity Model that can be used to track digital transformation efforts (see The Digital Maturity Model for the Measurement of Digital Progress).

![Driving to Digital Leveraging a Digital Maturity Model (DMM)](image)

Figure 2: The Digital Maturity Model.

Process Complexity Can Vary

Some processes are easy to convert to digital, while others are more challenging. In 2017, Aragon estimates that less than 12% of all processes are fully digital. The sales process in high tech is clearly an area where there has been significant traction, as well
as the overall category of real estate - one of the most paper-intensive processes outside of insurance contracts.

**DBP and the Cloud**

While enterprises increasingly understand that ensuring data, structured or unstructured, is fully digital speeds up transactions, the challenge is that as more content shifts to DBPs, the need to manage that data and content outside the narrow scope of a specific event (e.g., signing the deal) becomes greater. This means cloud sharing and integration, at an industrial strength level, is essential.

**DBP Market Overview & Key Aspects of Digital Business Platforms**

Digital Business Platforms (DBPs) are new and emerging. DBPs are the convergence of major technology streams and are extremely open so that they can serve as a cornerstone platform. This platform is inclusive of many legacy processes and applications that have served enterprises well in the past and can, in part, be leveraged in new digital solutions. The new digital solutions will include things (IoT), vast amounts of new data, new interactions or sensing, better human interaction, business and IT collaboration features, improved ecosystem connections, superior security, and a continuous stream of emerging digital technologies. The most important difference with DBPs is that they are smart in many different ways and can self-adapt over time.

Each organization can architect and build their own DBP, but Aragon believes that most organizations will buy one or a few open DBPs and link them together along with their legacy and specialty satellite vendors. In general, organizations do not have the time or capital to build a DBP from scratch and their legacy platforms will deteriorate over time. The good parts of legacy may survive surrounded, but most organizations are using either fossilized or burning platforms (see [The Disruptive Rise of the Digital Business Platform](#)).
The key things that buyers are looking for in a Digital Business Platform include:

- **Work management capabilities** (process, cases, workbenches, collaboration, mobile, superior human/machine engagement, physical/logical representation)
- **Smart/teachable, decision optimizing and action features** (poly-analytics, cognition, machine learning, pattern recognition, simulation/optimization, and prediction)
- **Universal big data and ecosystem linkage capabilities** (integration, transformation, Interfaces, model driven, component assembly, and robotic process/program automation)
- **Machine and sensor management** (signal/event management, smart controllers, swarm collaboration, perception, autonomous contextual behavior)
- **Reusable application function** (packages, templates, process snippets, components, cognitive components (CogS), services, APIs, policies, rules/constraints, and micro-services)
- **Emerging technology inclusion** (sandboxes, parallel environments, emerging feature simulation, scenario support, digital twin enablement, and change management support)
- **Security Administration** (global/local identifiers, profiles/preferences, bio-authentication, device authentication, data isolation)

The need to look at which processes and associated resources should be all digital is a critical step. Making it easy for end users is also critical. This is why it is important to
separate the technical backbone of how things happen vs. what users need to accomplish; this is also why Aragon named this platform a Digital Business Platform, not a Digital Technical Platform, though DBPs leverage much technology.

**Tech Spectrum Overview**

The Aragon Research Tech Spectrum is our newest market evaluation tool that graphically represents analysis of both emerging and mature markets and the vendors that participate in them. We use a rigorous analysis of each vendor using two dimensions that enable comparative evaluation of the participants in a given market. The Tech Spectrum looks at a focused set of criteria that helps enterprise planners understand and navigate the market of technology provider options.

The Aragon Research Tech Spectrum for Digital Business Platforms is segmented into three sectors, representing high and low on both the Product/Service and performance dimensions. Vendors fit into one of the following sectors:

**Leaders**

Leaders are the providers who have comprehensive strategies and products/services that align with industry direction and market demand, and who effectively perform against that strategic backdrop. Leaders help to drive a market and in a majority of cases, have a vision for the future.

**Contenders**

Contenders are those providers with strong performance, but with more limited or less complete strategies. Their performance positions them well to challenge for leadership by expanding their strategic focus.

**Promising**

Providers who are Promising have strong strategic understanding and objectives, but have yet to perform effectively across all elements of that strategy. This includes breakout or emerging players who maybe focusing on specific capabilities.
Dimensions of Analysis

The following parameters are tracked in this analysis:

**Performance** represents a vendor’s effectiveness in executing its defined strategy. This includes selling and supporting the defined product offering or service. The performance evaluation includes:

- **Awareness**: Market awareness of the firm and its product.
- **Customer experience**: Feedback on the product, installs, upgrades, and overall satisfaction.
- **Viability**: Financial viability of the provider as measured by financial statements.
- **Pricing and Packaging**: Is the offering priced and packaged competitively?
- **Product**: The mix of features tied to the frequency and quality of releases and updates.
- **R&D**: Investment in research and development as evidenced by overall architecture.

**Strategy** reflects the degree to which a vendor has the market understanding and strategic intent that are at the forefront of market direction. That includes providing the capabilities that customers want in the current offering and recognizing where the market is heading. The strategy evaluation includes:

- Product
- Product strategy
- Market understanding and how well product roadmaps reflect that understanding
- Marketing
- Management team, including time in the job and understanding of the market

Inclusion and Exclusion Criteria

The Aragon Research Tech Spectrum for Digital Business Platforms, 2017 will help clients differentiate the many vendors who offer DBPs to let enterprises manage their processes, applications, and transactions in an all-digital fashion.

The inclusion criteria for this Aragon Research Tech Spectrum are:

- **Revenue**: a minimum of $3 million in primary revenue for Digital Business Platforms or a minimum of $10 million in revenue in a related market (BPM, Analytics, AI, Integration, IoT, Workflow, or Portal/UX Software).
- **Shipping product**: product must be announced and available with 60% or more of the key capabilities listed above in their native product offering.

Aragon Research evaluates markets and the major technology providers that participate in those markets. Aragon makes the determination about including vendors
in our Aragon Research Tech Spectrums with or without their participation in the
Aragon Research Tech Spectrum process.

Technology Providers Appian, GE, Intel, SAP, and Software AG did not respond to
Aragon requests for incremental information and/or did not review the draft of this
research note. Aragon’s analysis is based on its research and use of other valid
sources including:

• **Publicly available information**
• **Discussion with enterprises that use the product**

Non-participation by Technology Providers in the Aragon Research Tech Spectrum
process does not affect their inclusion in this research note. The inclusion criteria listed
in this research note is the determining factor.
Figure 4: The Tech Spectrum™ for Digital Business Platforms, 2017
Leaders

Appian

Appian, based in Washington, D.C., was one of the early pioneers in cloud-based BPM. Today, Appian focuses on helping customers with their digital transformation journeys by leveraging a cloud-based, low code development environment to deliver speed to market business outcomes. Because of a delivery focus, Appian has a significant inventory of customer successes in digital delivery.

In 2016, Appian made moves to expand its Global Cloud Platform with cloud infrastructure and support in both Canada and the UK. Appian leverages analytics for incremental improvement and fast adaption for traditional process applications. Appian also has a mature, case-based approach for emerging work patterns and process. Appian has a strong background with Government and content management-based processes.

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<th>Strengths</th>
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<tr>
<td>Great Vision for Digital Business</td>
<td>Little Vision for Cognitive Features</td>
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<td>Significant Customer Success to Promote</td>
<td>Few Pre-built Solution Applications</td>
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<td>Easy to get a Quick Start for Business Results</td>
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<td>Advanced Speed Development Features</td>
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<td>Easy Provider to Work with for Results</td>
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IBM
IBM, based in New York, was a pioneer in - and continues to push the story around - AI-focused Digital Business Platforms. IBM Watson business units focus on smart digital solutions by leveraging both deep AI and analytics capabilities. IBM has an industrial strength cloud operations platform that also includes a successful and prolific component assembly approach to digital experimentation that can smoothly transition to production operations.

IBM is moving strongly towards a multi-directional, AI-assisted approach to traditional, non-traditional, and visionary digital delivery. It has a big bet on cognitive delivery on an industrial strength cloud platform while pushing forward with multiple emerging technologies new to digital delivery. IBM is bringing together a large portfolio of existing products with new and non-traditional digital technologies.

**Strengths**
- Great Brand - World Wide Presence
- Great Vision for Digital Business
- Significant Software Portfolio
- Immense R&D and Acquisition Funding
- Already Present in Many Organizations
- Strong AI platform with Watson
- Emerging Cognitive AI Dominance with Watson
- Industrial Cloud Presence

**Challenges**
- Complex Offering with Overlapping Features
- High Levels of Training are Required to Create Solutions
Nintex
Nintex, based in Bellevue, Washington, focuses on leveraging quick and easy development of workflow and process by incrementally delivering digital results that leverages point solutions to a growing digital journey. This allows organizations to turn tactical results into strategic efforts. Nintex focuses on the human processes and workflows to move organizations towards aggregate operational productivity and excellence.

In 2016, Nintex launched its workflow cloud platform, which is positioned to offer advanced DTM capabilities for Workflow and Content Automation, which integrates traditional BPM and document generation capabilities into one platform. Nintex has been growing in part due to its Global Reseller Network and because of its brand awareness in Microsoft and Salesforce environments. As a pioneer in Workflow and Content Automation, Nintex is one to watch.

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<th>Strengths</th>
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<tr>
<td>• Easy Provider to Work with for Results</td>
<td>• Worldwide Market Awareness</td>
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<td>• Significant Customer Success to Promote</td>
<td>• Limited AI Execution</td>
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<td>• Easy to get a Quick Start for Business Results</td>
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<td>• Advanced Speed Development Features</td>
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**Pegasystems**

Pegasystems, based in Cambridge, MA, has been a driving force in the shift to Digital Business Platforms. The company pioneered the shift to applying a smart platform to real business solutions and desired outcomes. This approach has driven broad international awareness as well as the rapid growth of smart platforms that leverage process, artificial intelligence, and predictive next best actions for operational efficiency, while providing a platform that is ‘built for change’ so that organizations can build with change in mind. Change is the fuel of digital transformation and Pegasystems is one of the best at change.

Over the last decade, Pegasystems has expanded significantly through acquisitions (Chordiant, Antenna, Meshlabs, OpenSpan) and organic growth. Its focus on real customer engagement has made it a formidable competitor in the CRM space as well as in the horizontal Digital Business Platform space. Because Pegasystems makes sure that all of its acquisitions are fully unified, it is able to deliver a continuous and seamless experience.

<table>
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<tr>
<th>Strengths</th>
<th>Challenges</th>
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<tr>
<td>Innovative Management</td>
<td>Complex to use (lots of levers), although adoption of the Pega Express layer is growing</td>
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<tr>
<td>Emerging Brand Recognition &amp; Presence</td>
<td>Perceived to gravitate toward central control solutions</td>
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<tr>
<td>Integrated Functionality</td>
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<td>Innovative Yet Practical Use of IoT</td>
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<td>Smart Assists for Ease of Use</td>
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<td>Pre-built Smart Solutions</td>
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<td>Change Enabled Architecture</td>
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**PNMsoft, a Genpact company**

PNMsoft, headquartered in London, and a Genpact company, focuses on quickly delivering process-based digital solutions that allow for short-term successes that can be leveraged into larger digital efforts. PNMsoft helped to pioneer the integration of IoT with BPM.

With the recent Genpact acquisition, PNMsoft is poised to move into a larger arena of digital opportunities. PNMsoft’s reputation and track record of success that delivers rapid results will put it in a position to be involved with larger digital efforts. PNMsoft’s partnership with Microsoft, focusing on Azure cloud deployments, and their respective integrations with SharePoint and Dynamics CRM/ERP has helped customers industrialize Microsoft applications.

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<tr>
<td>Great Vision for Digital Business</td>
<td>Worldwide Market Awareness</td>
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<td>Significant Customer Success to Promote</td>
<td>Limited Vision for AI</td>
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<td>Easy to get a Quick Start for Business Results</td>
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<td>Advanced Speed Development Features</td>
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Salesforce
Salesforce, based in San Francisco, focuses on customer relationships, via its sales, marketing, service, and community clouds that are built on top of a powerful, yet easy to use business platform. This platform has significant potential to help organizations in their digital transformation journey.

In 2016, Salesforce bought Metamind, which, along with several other AI-related acquisitions, serves as the basis for Salesforce Einstein, its AI layer that will run across the Salesforce platform. Einstein is the product of more than two years of organic data science work based on a rich data-management backbone. As a result, the Salesforce platform is being expanded and will become more predictive and cognitive to address the changing needs of business. Leveraging Einstein for pre-built processes and applications will deliver initial benefits, but custom development of smart processes applications and components is within reach.

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<th>Strengths</th>
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<tr>
<td>• Great Brand and World Wide Presence</td>
<td>• Complex Offering with Overlapping Partners</td>
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<tr>
<td>• Large Partner Network</td>
<td>• Market Awareness of IoT Prowess</td>
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<tr>
<td>• Out of the Box solutions for Sales, Service, &amp; Marketing</td>
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<tr>
<td>• Easy to Use</td>
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<td>• Open platform</td>
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<td>• Predictive Analytics</td>
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<tr>
<td>• Practically Applied (AI) Einstein</td>
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Software AG
Software AG, based in Darmstadt, Germany, offers a full digital business platform that serves multiple industries. Software AG’s DBP leverages its rich software inventory and key partnerships with IoT to deliver Industry 4.0 and digital solutions. With the recent acquisition of Zementis, an AI rich company, Software AG is poised to add more intelligence to its customers’ digital solutions.

Software AG has a sweet spot in linking companies in commerce ecosystems through shared processes and integration. Software AG has a particular strength in helping organizations with business architecture and Customer Journeys. It has continued to leverage its partnerships, such as with Bosch, to win in the market.

**Strengths**
- World Wide Presence
- Great Vision for Industry 4.0
- Significant Experience in Real time Speed
- Customer Journey Mapping Strength
- Significant Software Portfolio
- Great Linking Ecosystems

**Challenges**
- Complex Offering with Overlapping Features
- High Skill Levels are Required to Create Solutions
TIBCO

TIBCO Software Inc., based in Palo Alto, California, focuses on linking various digital assets and ecosystems in an adaptive, fast, and smart way to allow organizations to evolve to digital. With its strong analytic assets applied to applications and processes, TIBCO is looking to move organizations to a path to digital that leverages speedy adaptability and intelligence driven by poly-analytics. TIBCO has significant case studies in real-time management of IoT networks in transportation and utility management.

TIBCO has been enhancing its Spotfire product family to go beyond BI to leverage visual and streaming analytics and its flagship BusinessWorks for interconnecting IoT, cloud, and on-premises data. One of the things that struck us was its ability to have different layers of analytics interconnected with each other. TIBCO’s component approach to development, which leverages data, APIs, and process fragments, is helping to automate its enterprise.

**Strengths**
- World Wide Presence
- Great Vision for Smart Digital Business
- Significant Experience in Real-time Speed
- Significant Software Portfolio
- Already Present in Many Organizations

**Challenges**
- Complex Offering with Overlapping Features
- High Skill Levels are Required to Create Solutions
- Limited AI capabilities
Contenders

Bonitasoft
Bonitasoft, based in Paris, France, has a strong history and background in BPM. It focuses on fast incremental development of digital processes and applications. Its offering Bonita BPM helps clients with the tactical delivery of digital processes, leading to a habit of positive digital outcomes, leading to an enabled digital journey.

One of Bonitasoft’s core strengths is its speed of modeling and implementing core processes. Bonitasoft is innovating by leveraging its Community Edition, which is a freemium offer. The platform for application development for any domain allows Bonitasoft to participate in multiple industries, such as manufacturing, healthcare, energy, financial, and retail. Its “low code” approach enables developers to integrate applications easily with third-party systems, and to customize user interfaces.

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<th>Strengths</th>
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<tr>
<td>• Build for Innovation and Rapid Development</td>
<td>• Market Awareness Outside Europe</td>
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<td>• Euro Presence</td>
<td>• Limited Vision for AI</td>
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<tr>
<td>• Easy to get a Quick Start for Business Results</td>
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<tr>
<td>• Good user interface designer for flexible and customizable user interfaces</td>
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<tr>
<td>• Developers can code when needed for application customization</td>
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Bosch
Bosch, based in Stuttgart, Germany, focuses on IoT-based solutions helping to deliver Industry 4.0 solutions in manufacturing heavy industries: Mobility, Industrial, Consumer, and Energy/Building Technology. Bosch seeks to leverage connected things to take advantage of sensing, measuring, deciding, and acting on the behavior of things and their related software and firmware.

Bosch focuses on extreme quality and IoT situations with industrial integration of both primary and subsystems in areas such as automotive, by optimizing manufacturing lines and real-time automotive implementation.

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<tr>
<td>• Great Vision for Industry 4.0</td>
<td>• Needs a Worldwide Presence</td>
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<td>• Great Presence in the Auto Industry</td>
<td>• Limited Vision for AI</td>
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<td>• Good Partnering Strategies</td>
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Cisco
Cisco, based in San Jose, California, focuses on the IoT-based delivery on connected things-based applications and systems. Cisco also leverages its network presence in collaborative communications and work management.

Cisco bought leading IoT provider Jasper in 2016 and has continued to invest in IoT, primarily via acquisitions. Cisco Jasper has a large number of customers leveraging its solutions in multiple industries, including Agriculture, Automotive, Healthcare, Industrial, Cities, and Transportation. With its acquisition of AppDynamics, which will close in early 2017, Cisco will be able to leverage its presence through the measurement of the multitude of devices in the network of connected things.

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<th>Strengths</th>
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<tr>
<td>• Brand &amp; Worldwide Presence</td>
<td>• Digital Strategy is Evolving</td>
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<td>• Customer Journey Led Methods</td>
<td>• Continue to Build Digital Momentum</td>
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<td>• Focus on IoT</td>
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<td>• Presence at the edge</td>
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<td>• Partner channel</td>
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GE
GE, based in Boston, focuses on managing and optimizing networks of connected things, particularly those things that are manufactured by GE. GE is also building significant intelligence in its own products so that they can self-optimize and manage themselves. Given the GE product lines and its historical focus in areas such as transportation, GE has a keen focus on industrial IoT.

GE has been primarily offering its Predix Platform as the core offering. One of its key strengths is being able to process large amounts of key data in real-time. The key focus areas for Predix include asset management, manufacturing, cyber security, and manufacturing operations like HMI and scada. In 2016, GE bought Wyse, an AI Provider focused on Service, as well as ServiceMax, a leading Service Provider that integrates with Salesforce. Right now, GE is dependent on outside process and application management software.

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<tr>
<td>• Brand &amp; Awareness</td>
<td>• Not Known for Software Excellence Yet</td>
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<tr>
<td>• Worldwide Presence</td>
<td>• More Case Studies Outside of GE’s Product Lines</td>
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<td>• Great Execution in the IoT Arena</td>
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<td>• Great Vision for Connected Things</td>
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<tr>
<td>• Emerging Connected Devices Strategy</td>
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Google
Google, based in Mountain View, California, focuses on internet-related services and products supported by the cloud. Google has a sizable portfolio of solid software that is growing towards great, and it is making the products more integrated with each other over time.

The Google Cloud Platform serves as a core infrastructure for enterprises to lift and shift current workloads, and to build next generation applications. This includes compute, storage, database, networking, and its flagship capabilities in big data and machine and deep learning. Google has thousands of companies running applications on the Google Cloud, but many large enterprises are still learning about all the capabilities Google has to offer. With Google’s investments in machine learning and support staff for creating useable solution sets of Google technology, we expect to see more focus on its overall platform capabilities.

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<th>Strengths</th>
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<tr>
<td>• Brand</td>
<td>• Awareness of full capabilities among enterprises</td>
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<td>• Innovative Practices</td>
<td>• Combining individual components into a full platform</td>
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<td>• Universal Presence</td>
<td>• Breadth of partner ecosystem still expanding</td>
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<td>• Significant Portfolio of Software</td>
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<td>• Visionary in AI</td>
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<td>• Open Technologies</td>
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<tr>
<td>• Easy to Start with a Freemium Model</td>
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<tr>
<td>• Industry Leading Security Expertise</td>
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<tr>
<td>• Self-Service, Real-time Analytics</td>
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ITESOFT/W4
ITESOFT/W4, based in Paris, France, focuses on smart process applications that have an infrastructure designed for business agility and process optimization. ITESOFT/W4 is aimed at giving organizations a jumpstart with jumpstart solutions around back-end processes, content, and first mile capture.

With the combination of a first mile company and a back office process capability with some significant investment in emerging technologies, linkages with IoT, and a significant rule engine, the ITESOFT/W4 combination together offers a solid DBP. This has allowed ITESOFT/W4 to excel in areas such as storage and records assignment, supplier collaboration, and fraud detection.

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Strong Integrated Architecture</td>
<td>• Market Awareness Outside Europe</td>
</tr>
<tr>
<td>• Euro Presence</td>
<td>• Larger Install Base</td>
</tr>
<tr>
<td>• Inventory of Customizable Applications</td>
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</tbody>
</table>
iVEDiX

iVEDiX, based in Rochester, New York, provides a business platform that can be used to rapidly build enterprise applications across all vertical markets. The iVEDiX platform contains a set of tools that empowers developers to rapidly create applications that incorporate instant state data combined with operational data, visualized analytics, customized workflows, and user empowerment/experience. The iVEDiX platform can be leveraged by developers and enterprise customers to rapidly build applications in any vertical market, with IoT and healthcare applications being the most visible to date.

Unique to the market, iVEDiX incorporates a dynamically adaptable data structure (meta-meta model) that defines the workbench-like experience and inclusion of new knowledge, information, and data related to the actual experience or the workflow being managed. iVEDiX applications are eminently adaptable, which satisfies the growing trend in enterprise businesses to deliver more customized and user-defined applications. In the healthcare industry, examples of applications built using the iVEDiX platform include use cases like the Physicians Workbench, Public Health Analytics, and Asset Management. These applications provide users with comprehensive insight into real-time information and the ability to predict future outcomes. Enterprises that are looking to find or build specific applications and workflows that are driven by the combination of analytics and an engaging mobile experience would be wise to look at iVEDiX.

**Strengths**
- Excellent Workbench Like Interface
- Excellent Integrated Dashboards and visualizations
- Unique dynamic data architecture
- Emerging IoT strength

**Challenges**
- Overall Market Awareness
- Leverage Early Customer Success Stories
Kofax
Kofax, located in Irvine, California, had previously been known for document capture processes that fit well with image and printing devices. However, over the past 5 years, Kofax has expanded its capabilities substantially through multiple acquisitions and now offers comprehensive DBP capabilities. The company is strategically focused on what it calls “first mile” processes that link key customer engagement experiences, such as onboarding, claims and enrollment, with back-end processes to provide end-to-end visibility, efficiency, and faster customer fulfillment. The overall Kofax enterprise software product family now includes process and content management, robotics, CCM, eSignature, and analytics, integrated as a Digital Business Platform offering.

The Kofax back-end analytics and adapter set are significant strengths that the company can leverage in the future. Kofax offers a number of smart process capabilities as part of its Digital Business Platform in areas such as claims, onboarding, mortgage, and trading. While Kofax Kapow provides robotic process automation (RPA), Kofax needs more focus in its roadmap on Artificial Intelligence.

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>• DBP Offering Completeness</td>
<td>• Messaging and Positioning</td>
</tr>
<tr>
<td>• Inventory of Excellent Software</td>
<td>• Limited Vision for AI</td>
</tr>
<tr>
<td>• Robotic Process Automation, integrated to full BPM capability</td>
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<tr>
<td>• Significant Customer Success to Promote</td>
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<tr>
<td>• Process Intelligence &amp; Business Intelligence</td>
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</tbody>
</table>
Microsoft

Microsoft, based in Redmond, Washington, focuses on providing software for a multitude of devices locally and an industrial strength cloud platform to support digital business. Microsoft has significant functionality that soundly represents software needed in a digital transformation; however, it does not work together seamlessly.

Microsoft has been investing heavily in its Azure Cloud Platform, which has a number of options for machine learning and cognitive processes, which it markets as a service. Both Office 365 and Dynamics 365 can leverage the Cortana Intelligence Suite as well as integrations from partners. Many enterprises and Microsoft partners leverage the Microsoft Cloud Platform for building digital business applications.

<table>
<thead>
<tr>
<th>Strengths</th>
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<tbody>
<tr>
<td>Brand &amp; Awareness</td>
<td>Product Silos interfere with Customer Success</td>
</tr>
<tr>
<td>Worldwide Presence</td>
<td>Limited Digital Success Stories</td>
</tr>
<tr>
<td>Great Execution in the Cloud Arena</td>
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<tr>
<td>Significant Inventory of Software Products</td>
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<tr>
<td>Emerging AI Delivery</td>
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<tr>
<td>Already in Many Organizations</td>
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Oracle

Oracle, based in Redwood City, CA, focuses on creating an industrial strength cloud approach to support its vertical applications and its technological infrastructure software. Oracle has a reputation for database, integration, and enterprise management software horizontally. Vertically, Oracle has prowess in ERP, CRM, Sales Management, and Merchant Operations.

Oracle continues adding to its customer base and richness in applications, and continues to migrate customers to its Cloud offering. The Oracle Cloud offers a complete set of applications that allow for the building of digital business applications, which can be customized with its process management functionality. One of Oracle’s key strengths is in Oracle Policy Automation (OPA), which is one of the more advanced offerings on the market to automate policy.

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<tr>
<td>Brand &amp; Awareness</td>
<td>Software and Hardware Silos</td>
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<tr>
<td>Worldwide Presence</td>
<td>Need Other Oracle Components for a Solution</td>
</tr>
<tr>
<td>Significant Inventory of Applications to Leverage</td>
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</tr>
<tr>
<td>Significant Inventory of Infrastructure software</td>
<td></td>
</tr>
<tr>
<td>Emerging Cloud Presence</td>
<td>Limited Vision for AI</td>
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</tbody>
</table>
SAP
SAP, based in Walldorf, Germany, focuses on providing business applications in the cloud. Vertically, SAP has prowess in ERP, CRM, and various vertical industries. SAP is building a cloud infrastructure leveraging the cloud and big data for business visibility leveraging advanced visualization approaches. Some of the world’s largest enterprises depend on SAP’s ERP capabilities because of the size and scope of the transaction capabilities it offers.

While SAP has been on a big push to leverage Hana with an existing install base, its main focus to date on enhancing its ERP application with more digital business capabilities has been via a machine learning partner program, which it announced in November of 2016. We expect SAP to make more announcements relative to SAP Clea in 2017.

### Strengths
- Brand & Awareness
- Worldwide Presence
- Significant Inventory of Applications to Leverage
- ERP Install Base

### Challenges
- Limited Vision for AI
- Expensive
Promising

Axway
Axway, headquartered in Phoenix, Arizona, focuses on developing digital experiences through the enablement of highly integrated, intelligent, and collaborative interactions among connected organizations and ecosystems. The Axway AMPLIFY™ data integration and engagement platform is used to connect data securely from anywhere, build mobile apps, and leverage diverse signals, events, and data for pattern recognition, real-time decision-making, and predictive insights.

The Axway AMPLIFY platform uses an API-first approach to unite an organization’s employees and external developers, suppliers, and partners into a secure, cloud-enabled environment where they can collaborate and innovate on digital services together. The capabilities of the platform include an integration foundation, full lifecycle API management, app development, and embedded, predictive analytics. Some of the industries that Axway has focused on are banking, automotive, healthcare, life sciences, and manufacturing. In January 2016, Axway acquired mobile app development platform, Appcelerator, which it has integrated into AMPLIFY. This enhanced Axway’s ability to deliver mobile-first business and consumer applications.

**Strengths**
- Significant Inventory of Software Infrastructure
- Emphasis on Operational Intelligence & Analysis
- Open Approach to Partner
- European presence

**Challenges**
- Marketing Presence in DBP
- Leverage AI
Infor

Infor, based in New York, focuses on providing vertical industry applications in the cloud. Infor Cloud Suite is specifically tuned to deliver solutions in a number of industries, which is significantly wider than many best practice software organizations. There are sixteen specific Cloud suite offerings. Examples include Cloud Suite Automotive, Cloud Suite Food and Beverage, Cloud Suite Hospitality, and Cloud Suite Industrial. Infor is well known for great design thinking driven by the collaboration of over 200 customer experience designers mostly sourced outside of enterprise IT.

In 2016, Infor received a cash infusion of $2.5 billion from Koch Industries. While the deal is expected to close in early 2017, this additional capital will allow Infor to innovate across its vast application suite. Infor partners with Amazon for much of its Cloud capabilities and we expect it to leverage much of the machine learning capabilities that Amazon offers.

**Strengths**
- Significant Inventory of Applications
- Open Approach to Partner
- Ability to Customize and Personalize

**Challenges**
- Marketing Presence in DBP
- Leverage AI
- Significant Inventory of Applications

Intel

Intel, based in Santa Clara, California, focuses on making computing chips that drive various devices. As more control is pushed to edge, programmable and smart chips will play a bigger role in digital solutions. IoT and security will be greatly impacted by new and emerging chips.

Intel has doubled-down on its investments in its IoT group, which is chartered with designing and building chips for various connected devices. Some of its focus includes the automated driving group and its retail group. Intel is leveraging its overall Intel IoT Platform, which it positions as its reference architecture. Overall, Intel is as much of a supplier as it is a participant in the Digital Business Platform market.

**Strengths**
- Worldwide Presence & Financial Strength
- In Many Solutions Already
- Programmable Processors
- IoT focus

**Challenges**
- Software Presence
- Limited AI Focus
**Nvidia**

Nvidia, based in Santa Clara, California, focuses on GPU computing platforms that accelerate the processing of workloads like artificial intelligence, deep learning, video gaming, self-driving cars, intelligent drones and virtual and augmented reality. From the cloud to the data center to the edge, programmable GPU accelerators play a bigger role in digital solutions. IoT, cloud computing, artificial intelligence and security will be greatly impacted by accelerated computing.

Nvidia has a range of GPU product line: Tesla Products power HPC and AI workloads in enterprise and cloud service provider data centers, Quadro is used to accelerate enterprise graphics intensive application and desktop virtualization, Tegra is embedded in intelligent drones and robotics and GeForce delivers on the procession demands of perhaps the most exacting audience, gamers! Nvidia is as much of a supplier as it is a participant in the Digital Business Platform market.

**Strengths**
- Worldwide Presence
- In Many Gaming Solutions Already
- Deep Learning & NLP Solutions
- Software programmable GPUs with CUDA
- Cutting Edge Virtual and Augmented Reality

**Challenges**
- Application Presence
- Embed in More Digital Platforms
Aragon Advisory

- Organizations can use either use the DBP as an architecture or a framework for comparing the functionality of various vendors.
- Organizations will likely pick one or two cornerstone DBP vendors to augment with customizations to support their business model.
- Enterprises need to look at both short term and long-term DBP needs when selecting a provider.
- Enterprises need to ensure that any DBP provider is open, cooperative, easy to use, supports agile change, smart, predictive, works at real time speeds, is built for innovation and is context sensitive, all the while being enterprise cloud-based.
- Enterprises need to look at their customer, employee, and partner journeys to identify preferences to consider mobile workbench approaches.

Bottom Line

The analog era is winding down. The DBP has emerged as the most effective way to support digital transformations and reduce cost at the same time. Enterprises should evaluate the DBP providers in this report to see how they can drive and increase business results.