# Critical Capabilities for Enterprise Integration Platform as a Service

> IT and business units are using enterprise iPaaS offerings to integrate not only applications and data, but also ecosystems, APIs and events. This report evaluates the diverse capabilities of 17 vendors' offerings to help software engineering leaders select suitable technologies for their use cases.

**This Critical Capabilities is related to other research:**

Magic Quadrant for Enterprise Integration Platform as a Service

View All Magic Quadrants and Critical Capabilities

## Overview

### Key Findings

- Software engineering leaders are using enterprise integration platform as a service (EiPaaS) offerings to support an expanding range of use cases — not only to integrate data and applications, but also to integrate ecosystems, APIs and events.

- Most EiPaaS offerings specialize in delivering strong capabilities for some integration use cases. No single EiPaaS offering comprehensively supports all use cases.

- Although most EiPaaS vendors provide strong capabilities for connectors, messaging and data format standardization, their support for data quality, electronic data exchange (EDI), APIs, ecosystems and integrator workbenches, among other things, is less consistent.

### Recommendations

Software engineering leaders responsible for evaluating integration technologies should:

- Identify their organization's key integration use cases by prioritizing their short-term and long-term integration goals and needs.

- Determine which capabilities are required to support all their use cases by assessing the core product functionality that EiPaaS solutions provide.

- Select technologies to support a hybrid integration platform (HIP) model by implementing multiple, specialized EiPaaS solutions when suitable for the use case, particularly when the use case has time-sensitive or tactical integration requirements.

## What You Need to Know

An EiPaaS delivers a suite of capabilities to support application integration, data integration, B2B gateways and — increasingly — API and event enablement. However, not all EiPaaS technologies are created equal. Some EiPaaS suites excel primarily at addressing and sharing data or integrating applications, while others excel at enabling APIs. EiPaaS vendors are expanding their integration capabilities to support a broader range of use cases. Although some EiPaaS offerings deliver strong capabilities across several use cases, many are still evolving capabilities to support use cases outside their niche.

Customer demand for EiPaaS offerings remains high, as midsize organizations and (increasingly) large enterprises use this technology to support both line-of-business and enterprisewide initiatives. Gartner estimates that the iPaaS market generated $3.47 billion in revenue during 2020 and grew by 38.7% compared with 2019. We estimate that the iPaaS market will exceed $9 billion in revenue by 2025. [1]

EiPaaS offerings are becoming increasingly popular as they offer capabilities that enable subscribers to implement data, application, API, ecosystem and event integration projects across cloud and on-premises endpoints. Organizations are using these capabilities to develop, deploy, execute, manage and monitor integration flows that connect multiple endpoints, so that they can work together.

Demand for EiPaaS offerings has remained strong during the pandemic, as organizations have embraced multicloud and HIP approaches to automate processes, accelerate digital transformation, respond to drastic business changes, contain costs and increase flexibility.
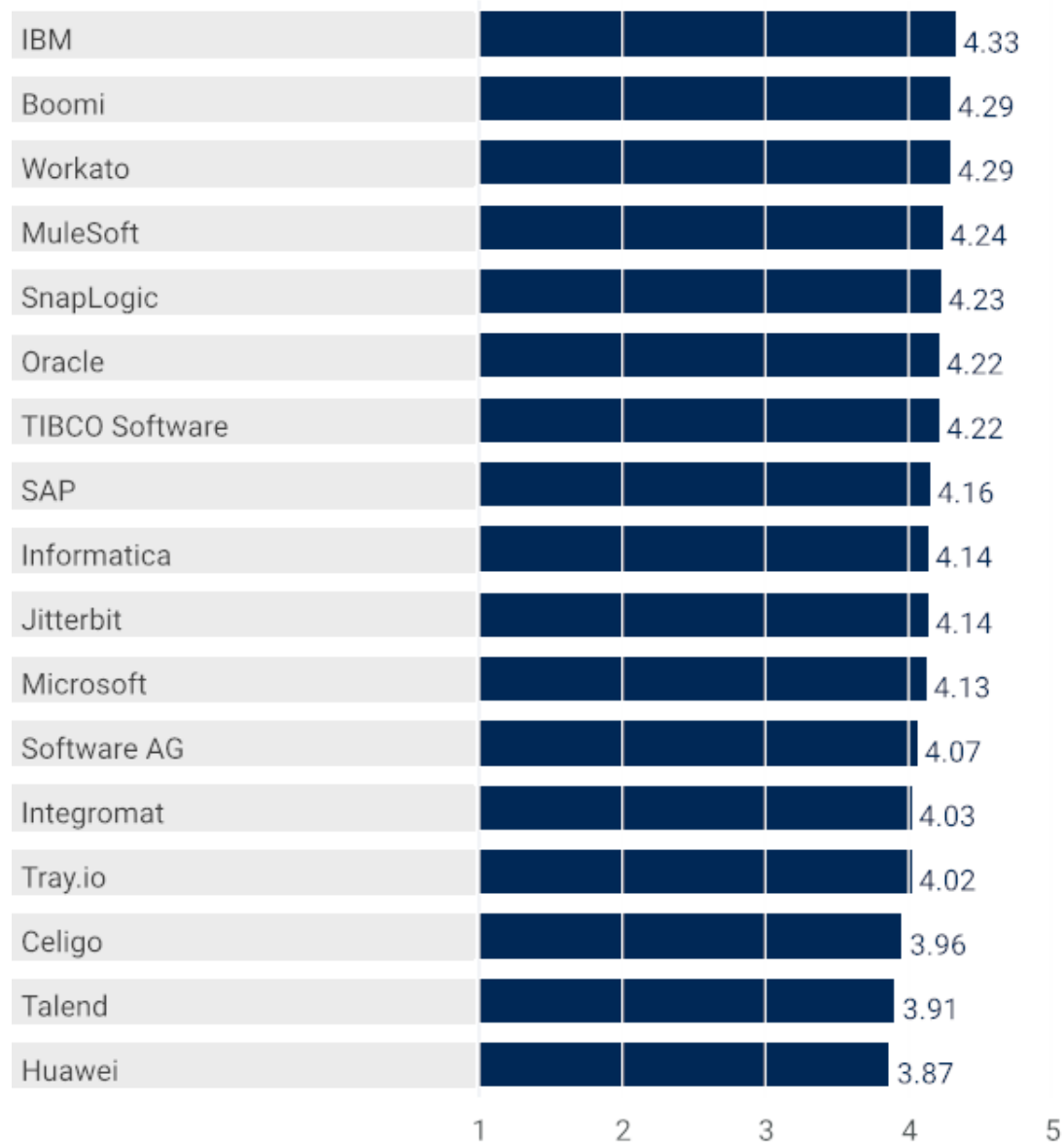
Gartner analysts assessed each vendor in this Critical Capabilities report on the basis of the vendor's answers to our product questionnaire, our insights into usage and adoption, client inquiries, Gartner events, research communities, and various other sources and interactions. A vendor's critical capability ratings and use-case scores reflect the degree to which clients consider that its capabilities meet their needs, along with the evaluations of Gartner's analysts.

## Analysis

## Critical Capabilities Use-Case Graphics

### Vendors' Product Scores for Application Integration Use Case

Product or Service Scores for Application Integration

| Vendor | Score |
|--------|-------|
| IBM | 4.33 |
| Boomi | 4.29 |
| Workato | 4.29 |
| MuleSoft | 4.24 |
| SnapLogic | 4.23 |
| Oracle | 4.22 |
| TIBCO Software | 4.22 |
| SAP | 4.16 |
| Informatica | 4.14 |
| Jitterbit | 4.14 |
| Microsoft | 4.13 |
| Software AG | 4.07 |
| Integromat | 4.03 |
| Tray.io | 4.02 |
| Celigo | 3.96 |
| Talend | 3.91 |
| Huawei | 3.87 |

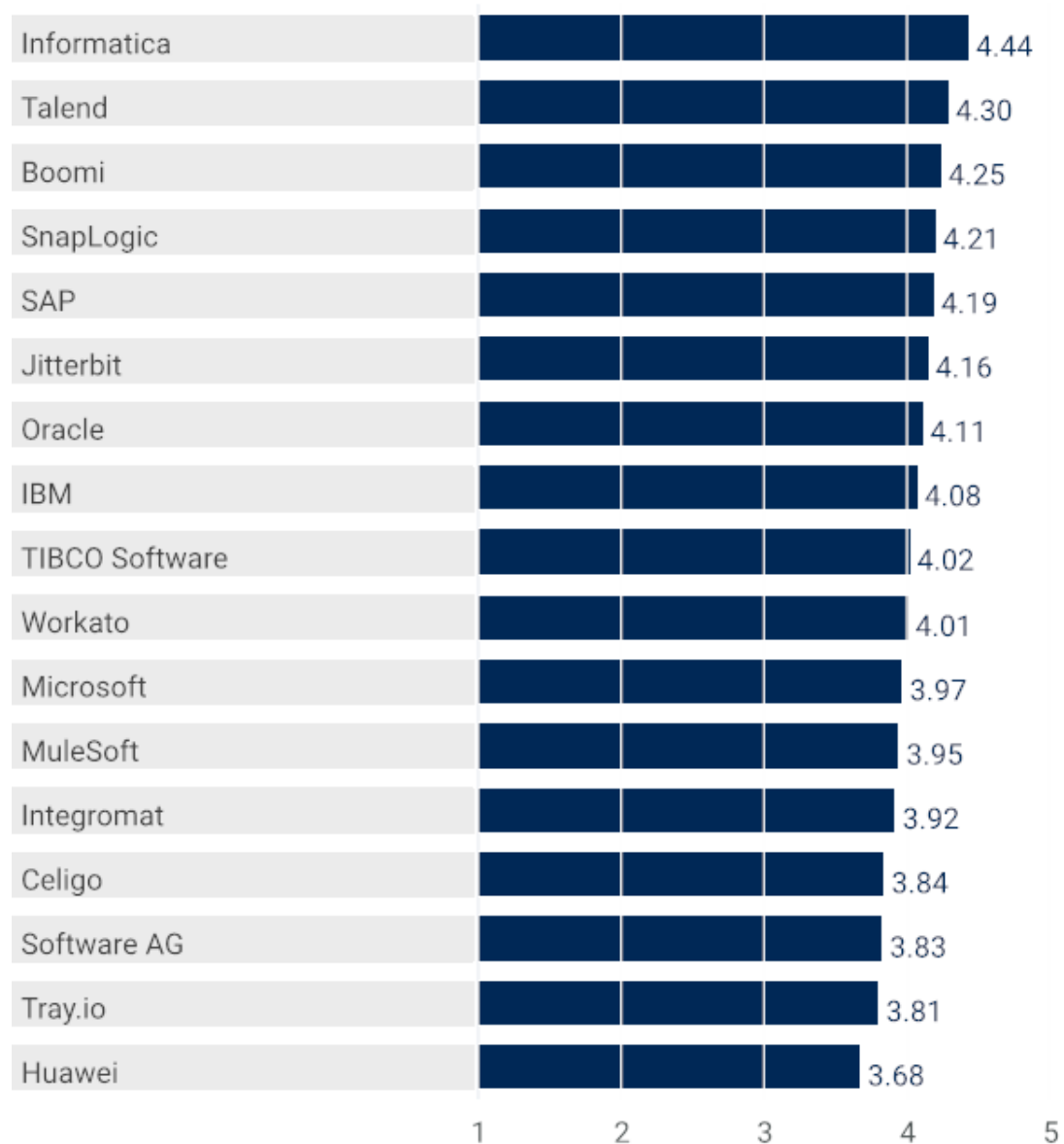As of 23 September 2021                                    © Gartner, Inc

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Source: Gartner (October 2021)

**Vendors' Product Scores for Data Consistency and Sharing Use Case**

Product or Service Scores for Data Consistency and Sharing

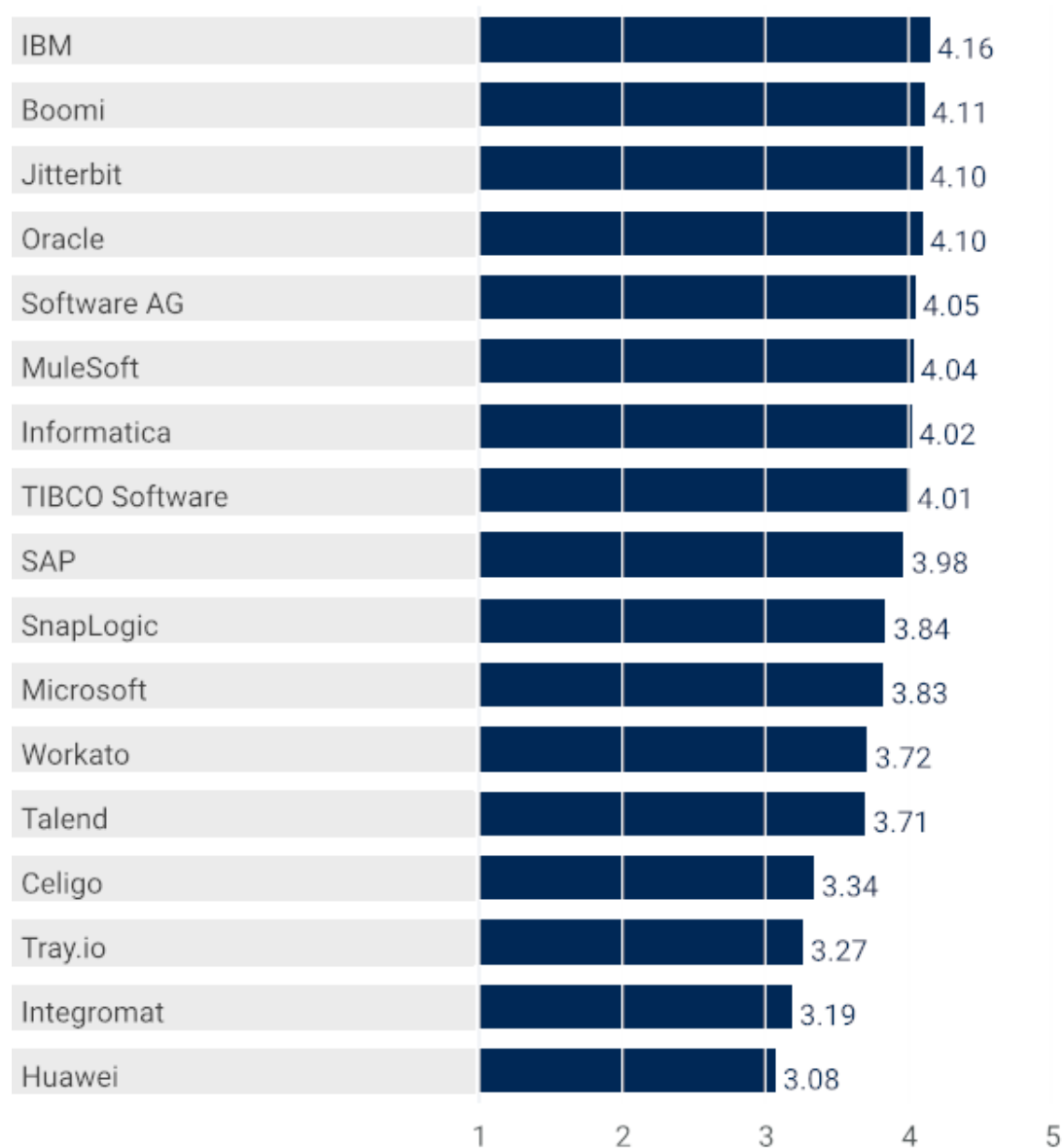| Vendor | Score |
|---|---|
| Informatica | 4.44 |
| Talend | 4.30 |
| Boomi | 4.25 |
| SnapLogic | 4.21 |
| SAP | 4.19 |
| Jitterbit | 4.16 |
| Oracle | 4.11 |
| IBM | 4.08 |
| TIBCO Software | 4.02 |
| Workato | 4.01 |
| Microsoft | 3.97 |
| MuleSoft | 3.95 |
| Integromat | 3.92 |
| Celigo | 3.84 |
| Software AG | 3.83 |
| Tray.io | 3.81 |
| Huawei | 3.68 |

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**Vendors' Product Scores for B2B Ecosystem Integration Use Case**

Product or Service Scores for B2B Ecosystem Integration

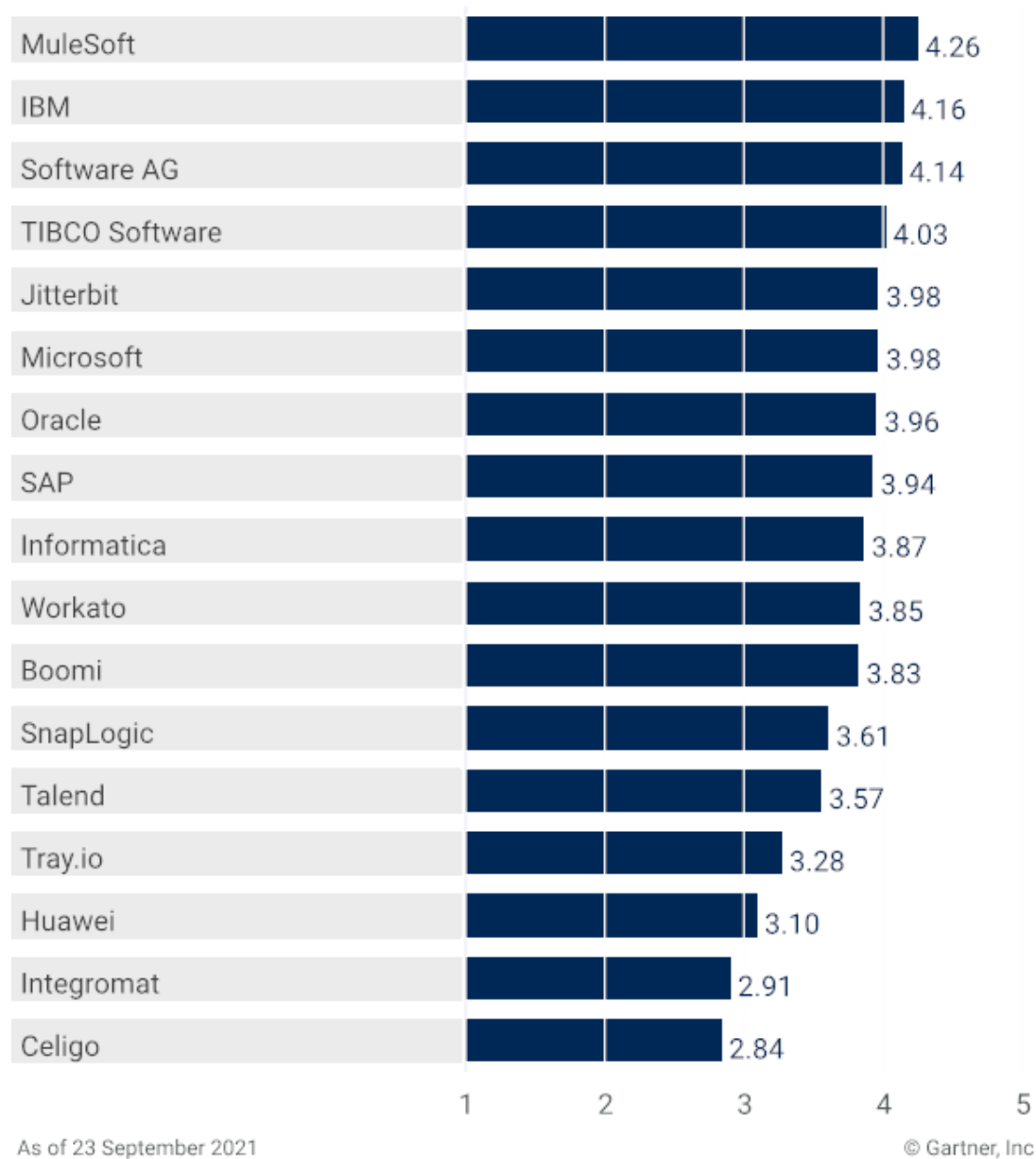| Vendor | Score |
|--------|-------|
| IBM | 4.16 |
| Boomi | 4.11 |
| Jitterbit | 4.10 |
| Oracle | 4.10 |
| Software AG | 4.05 |
| MuleSoft | 4.04 |
| Informatica | 4.02 |
| TIBCO Software | 4.01 |
| SAP | 3.98 |
| SnapLogic | 3.84 |
| Microsoft | 3.83 |
| Workato | 3.72 |
| Talend | 3.71 |
| Celigo | 3.34 |
| Tray.io | 3.27 |
| Integromat | 3.19 |
| Huawei | 3.08 |

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**Vendors' Product Scores for API-Based Integration Use Case**

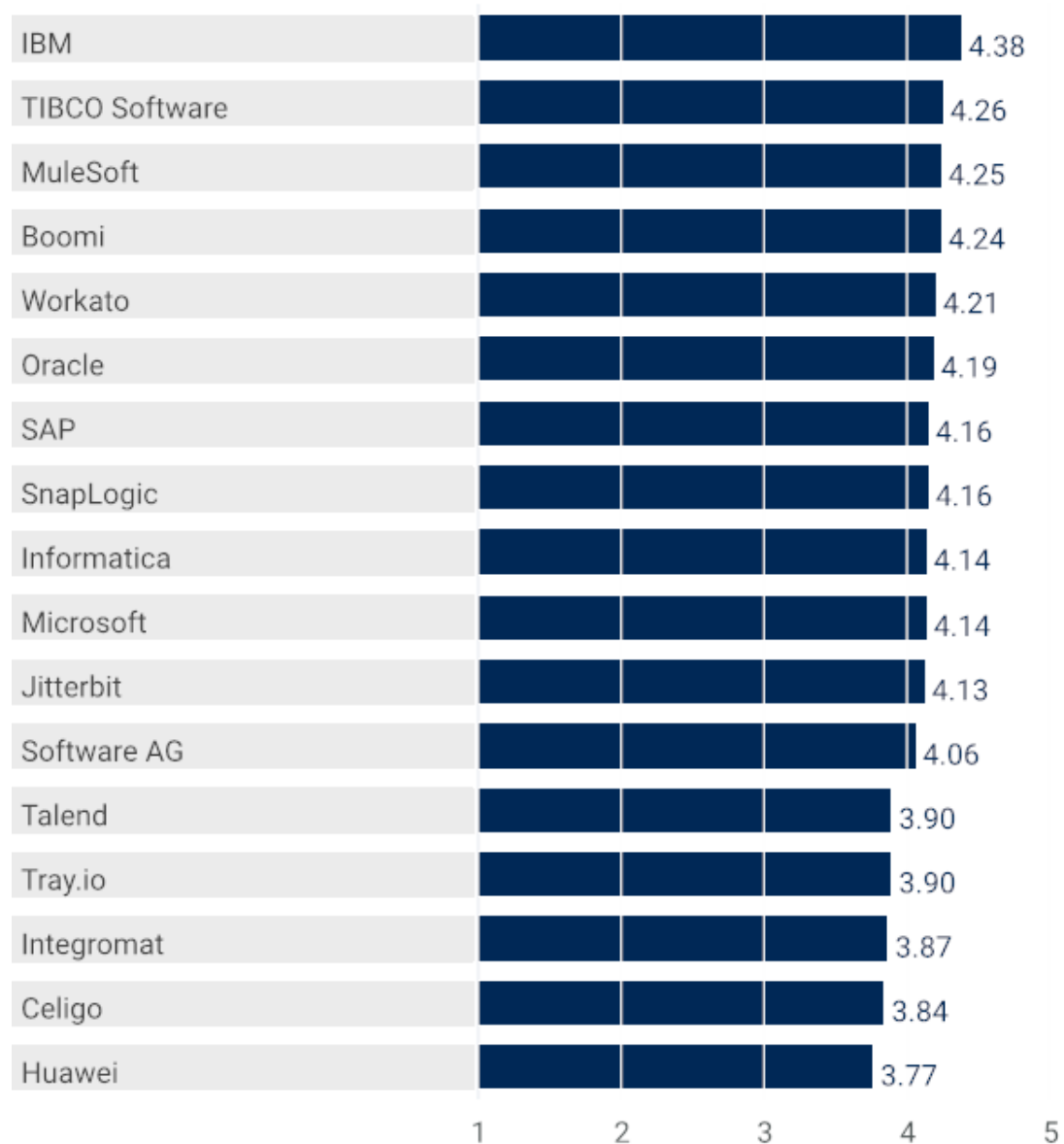Product or Service Scores for API-based Integration

| Vendor | Score |
|---|---|
| MuleSoft | 4.26 |
| IBM | 4.16 |
| Software AG | 4.14 |
| TIBCO Software | 4.03 |
| Jitterbit | 3.98 |
| Microsoft | 3.98 |
| Oracle | 3.96 |
| SAP | 3.94 |
| Informatica | 3.87 |
| Workato | 3.85 |
| Boomi | 3.83 |
| SnapLogic | 3.61 |
| Talend | 3.57 |
| Tray.io | 3.28 |
| Huawei | 3.10 |
| Integromat | 2.91 |
| Celigo | 2.84 |

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**Vendors' Product Scores for Event Integration Use Case**

Product or Service Scores for Event Integration

| Vendor | Score |
|---|---|
| IBM | 4.38 |
| TIBCO Software | 4.26 |
| MuleSoft | 4.25 |
| Boomi | 4.24 |
| Workato | 4.21 |
| Oracle | 4.19 |
| SAP | 4.16 |
| SnapLogic | 4.16 |
| Informatica | 4.14 |
| Microsoft | 4.14 |
| Jitterbit | 4.13 |
| Software AG | 4.06 |
| Talend | 3.90 |
| Tray.io | 3.90 |
| Integromat | 3.87 |
| Celigo | 3.84 |
| Huawei | 3.77 |

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## Vendors

### Boomi

Boomi's EiPaaS offering is the AtomSphere Platform. It provides application, data and B2B/EDI integration, API management, low-code application development and master data management (MDM).

On 2 May 2021, Francisco Partners and TPG Capital — two private equity firms — entered into a definitive agreement to acquire Boomi. The acquisition was completed on 1 October 2021.

Boomi has strong capabilities for data and application connectivity on a productive integrator workbench supporting integration flows of data and message routing/orchestration. The AtomSphere platform also provides capable file transfer, EDI and protocol mapping that address data interchange and standardization. However, Boomi offers limited functionality for API policy management and enforcement for ecosystem management, relative to other capabilities.

Boomi's AtomSphere Platform received its highest score for the application integration use case. Its next-highest scores are for the data consistency and sharing and event integration scenarios. It scored less well for the API-based integration use case.

### Celigo

Celigo's EiPaaS offering is integrator.io. Its platform focuses on enabling both IT and business users to build self-service-oriented integration, such as integration of Salesforce with NetSuite. Celigo integrator.io provides prepackaged integrations and connectors using Celigo Integration Apps and Quickstart Templates, and an Integration App Framework to build custom integration apps.

Celigo's EiPaaS helps customers in need of improved productivity by enabling nontechnical and business users with self-service integration. Celigo's integrator.io provides easy-to-use features for file transfer, messaging and EDI, as well as the ability to customize flows. However, its community management and data quality support are limited relative to other capabilities.

Celigo integrator.io received its highest score for the application integration use case. It also received good scores across other use cases, although less so for the API-based integration scenario.

**Huawei**

Huawei's EiPaaS offering is ROMA Connect. It provides industry suites for the government, higher education, manufacturing and energy sectors, with strong application and data integration capabilities and a versatile integrator workbench.

Huawei's core functionality includes its connectors, messaging and data format standardization. Users often leverage these features of ROMA Connect in conjunction with custom application offerings. The suite also provides strong protocol mapping and data mapping and transformation capabilities. Huawei ROMA Connect provides adequate EDI and data quality capabilities, but some customers have expressed a need for improved community management capabilities.

Among our use cases, Huawei ROMA Connect scored the highest for application integration, followed by data consistency and event integration. It received lower scores for the ecosystem and API-based integration use cases.

**IBM**

IBM's EiPaaS offering is IBM Cloud Pak for Integration as a Service. The modular suite offers application integration, API integration and management, enterprise messaging, event streaming and file transfer for enterprise IT teams and integrators. IBM also offers App Connect on IBM Cloud to help line-of-business users create automations and integrations using its no-code tooling.

IBM's evolving suite of products provides strong capabilities for connectors, messaging/event broker, data manipulation, routing/orchestration and API policy management/enforcement, particularly where Cloud Pak for Integration as a Service provides synergy with IBM's broader automation capabilities. However, its ecosystem management and integrator workbench capabilities are areas for improvement, particularly for implementations with simpler deployment and integration requirements.

IBM's EiPaaS received its highest score for the event integration and application integration use cases, followed by the API-based and ecosystem integration scenarios. It scored lower for data consistency and sharing.

**Informatica**

Informatica's EiPaaS offering is Informatica Intelligent Cloud Services (IICS). It provides cloud-native capabilities for integrating data, applications, APIs and ecosystems. IICS operates on a common microservices-based, AI-powered platform environment in a multicloud and HIP model.

IICS is built on Informatica's metadata-driven AI engine, CLAIRE, a unified platform that uses converged integration patterns to address complex scenarios. It provides strong support for diverse endpoint connectivity, data interchange, mapping and transformation and data quality assurance. IICS excels at providing data interoperability and data quality for governance support. Informatica also draws on its data management capabilities to compose services for events. However, it is less highly rated for its community and B2B support, particularly in relation to EDI and API management.

IICS received its highest score for the data consistency and sharing use case, followed by the event integration scenario. It scored lower for API-based integration.

**Integromat**

Integromat provides a no-code visual builder that enables both IT and business users to integrate systems, APIs and business processes. Celonis acquired Integromat in October 2020.

Integromat has strong capabilities for application and data connectivity, file/message delivery and its integrator workbench, particularly in its prebuilt integrations and templates for citizen integrator opportunities. These capabilities enable users to build integrations and flows using Integromat's visually responsive, tree-like no-code development interface. Integromat also offers more than 750 prebuilt integrations templates and solutions to assist business users in connecting applications and sharing data. However, its ecosystem support is limited, related to requirements involving EDI and community management.

Integromat received its highest score for the application integration use case. It also received good scores for the event integration and data consistency and sharing use cases. However, it scored lower for the API-based integration and ecosystem integration use cases.

**Jitterbit**

Jitterbit's EiPaaS offering, Harmony, provides data integration, process automation and API support in a single platform. Jitterbit addresses integration needs with packaged solutions. It offers a set of predefined templates and diverse "recipes" to accelerate the development of integration flows.

Jitterbit has strong capabilities for its connectors, data/file movement, mapping and transformation and routing/orchestration supported by protocol and format interchange. Harmony API Integration Platform also provides strong features for data manipulation, ecosystem management and protocol mapping. Although Jitterbit has made substantial investments in application composition, further improvements are needed to its API policy management and enforcement capabilities.

Jitterbit Harmony API Integration Platform received its highest scores for the event integration and application integration use cases, followed by data consistency and ecosystem integration. It scored lower for API-based integration.

**Microsoft**

Microsoft's EiPaaS offering is Azure Integration Services. It combines Azure Logic Apps with Azure API Management, Azure Service Bus (a message queuing and publish-subscribe service), Azure Event Grid (a massive event ingestion service) and Azure Data Factory (for data integration).

Microsoft's strengths in routing/orchestration and API policy management/enforcement support customer needs for application and business task automation, messaging and event brokerage. Microsoft also provides strong capabilities for its connectors, data transformation and facilitating protocol mapping. However, in relation to B2B requirements, Microsoft's EiPaaS is rated lower for its EDI and ecosystem management capabilities.

Microsoft Azure Integration Services received its highest scores for the application integration and event integration use cases, followed by the API-based integration and data consistency/sharing scenarios. It scored lower for B2B ecosystem integration.

**MuleSoft**

MuleSoft's EiPaaS offering is Anypoint Platform. It combines integration and full-life-cycle API management. MuleSoft is owned by Salesforce but operates as an independent unit. MuleSoft complements its EiPaaS with other components. These include:

- Anypoint Exchange — A marketplace of APIs and integration assets that can accelerate development and facilitate collaboration and sharing

- Anypoint MQ — Cloud messaging

- Anypoint Design Center — Integration and API design and implementation interfaces to support a spectrum of user personas

MuleSoft offers Flow Designer for ad hoc integrators, API Designer for API developers and Studio for integration specialists. Its new low-code integration tool, MuleSoft Composer, is currently available for Salesforce, and the vendor plans to make it available as a stand-alone offering in the near future.

MuleSoft's primary strength is enabling API-based integration in the context of supporting full-life-cycle API management and multicloud deployment. It has strong capabilities for messaging, routing/orchestration and API policy management/enforcement. This provides a common environment for integrators to obtain, discover and collaborate on reusable artifacts of APIs, integration flows and connectors. However, its support for EDI for B2B support is limited relative to its other capabilities.

MuleSoft Anypoint Platform received its highest score for the application integration use case, followed by the API-based integration and event integration scenarios. It scored lower for the data consistency/sharing and ecosystem integration.

**Oracle**

Oracle's EiPaaS offering comprises Oracle Integration (including Process, Insight, File Server, B2B and Visual Builder Studio), Oracle Cloud Infrastructure (OCI) API Gateway, Oracle GoldenGate, Oracle SOA Suite on Marketplace, OCI Streaming, OCI Data Integration and Oracle IoT Cloud Service. With an increasing focus on digital integration hub enablement, Oracle is enriching its recipes and business accelerators for digital solutions, including HCM, ERP, SCM and CX applications, with prebuilt adapters and flows.

Oracle has strong capabilities for routing/orchestration and data interchange standardization, supported by capable connectivity, file movement, messaging and data manipulation. However, its ecosystem management and integrator workbench capabilities are areas in need of improvement, as users desire increased ease of deployment and operation across Oracle's broad portfolio.

Oracle's EiPaaS received its highest score for the application integration use case, followed by the event integration and data consistency and sharing scenarios. It scored lower for API-based integration and ecosystem integration.

### SAP

SAP's EiPaaS offering is SAP Integration Suite, part of SAP Business Technology Platform. It addresses application, data, B2B, business-to-government, IoT and API-based integration, and provides event broker support via a partnership with Solace. SAP's API Business Hub provides access to integration packs, APIs and events that target specific business processes.

SAP's EiPaaS offering supports integration in conjunction with its broad portfolio, including stream analytics, IoT integration, batch and real-time data replication and synchronization. SAP Integration Suite provides strong capabilities for connectors, messaging/event broker, routing and orchestration in conjunction with data manipulation capabilities, including interchanging, mapping and transformation. However, its EDI support and ecosystem management are regarded less favorably than its other capabilities.

SAP Integration Suite received its highest scores for the application integration, event integration and data consistency use cases. It scored lower for B2B ecosystem integration and API-based integration.

### SnapLogic

SnapLogic's EiPaaS offering is Intelligent Integration Platform. It offers a standard edition that provides all core functions for limited consumption, and an enterprise edition that adds API management, B2B integration, big data support and data science capabilities.

SnapLogic has strong capabilities for its connectors, file/message delivery and protocol mapping. In conjunction with capable data manipulation, SnapLogic addresses data- and message-oriented integration and uses machine learning (ML) for automation and guidance via its Iris AI, which helps accelerate development of integration flows. However, due to the requirements of B2B and ecosystem support, SnapLogic needs to improve its community management, EDI and API policy management and enforcement capabilities.

SnapLogic Intelligent Integration Platform received its highest score for the application integration use case, followed by the event integration and data consistency and sharing scenarios. It scored lower for API-based integration and ecosystem integration.

### Software AG

Software AG's EiPaaS offering is webMethods.io. It includes B2B and API capabilities. Software AG also provides a headless version that can be embedded within software components, and it supports integration with the Software AG Cumulocity IoT platform.

Software AG addresses complex integration scenarios for large organizations. It has strong capabilities for its connectors, protocol mapping, routing and orchestration, API policy management/enforcement and community management. However, due to data management requirements, Software AG needs to improve its data mapping and transformation and data quality support.

Software AG webMethods.io received its highest score for the API-based integration use case, followed by the application integration and event integration scenarios. It scored lower for the data consistency and sharing use case.

**Talend**

Talend's EiPaaS offering comprises Cloud Data Integration, Cloud Data Management, Cloud Data Loader, Cloud Real-Time Big Data Integration, Cloud Data Catalog and Cloud API Services (which has enterprise service bus [ESB] and EDI support). These tools are offered as stand-alone products or as a part of Talend Data Fabric, an overarching platform of Talend's cloud-based and on-premises offerings.

Talend's EiPaaS provides strong capabilities for diverse connectivity, data mapping and transformation. These build on the vendor's established on-premises data integration and data quality technologies for managing shareable patterns across integration use cases. These capabilities also provide synergy between Talend's EiPaaS and its other Data Fabric products for cloud and on-premises integration and hybrid deployments. However, Talend's offering has limited capabilities for routing/orchestration, EDI and ecosystem management to support the integration of composite applications, on-premises application-to-application integration and process management.

Talend's EiPaaS suite received its highest score for the data consistency and sharing use case. It scored well for all other use cases, although relatively lower for API-based integration.

**TIBCO Software**

TIBCO's EiPaaS offering is TIBCO Cloud Integration. It provides functionality for integrating applications, data, APIs, B2B and IoT, and accelerates business process automation.

TIBCO leverages its experience in integration to support application modernization and deployment flexibility. It has strong capabilities for its connectors, protocol mapping, messaging and routing/orchestration. It also scored well for API policy management/enforcement, data interchange and mapping and transformation. However, its capabilities for ecosystem partner community management and its integrator workbench are areas for improvement. TIBCO is investing in providing users with more advances in the development and management of integration artifacts across different EiPaaS components.

TIBCO Cloud Integration received its highest scores for the event integration and application integration use cases, followed by API-based integration and data consistency/sharing. It scored lower for the ecosystem integration use case.

**Tray.io**

Tray.io's EiPaaS offerings are Tray Platform and Tray Embedded. These offerings provide a wide range of prepackaged integrations and connectors, as well as the ability to build custom integrations. Tray.io's customer base comprises an increasing number of independent software vendors (ISVs) that use Tray.io Embedded to provide integration within their solutions.

Tray.io's prepackaged integration recipes help users to automate their business applications and processes. It draws on its ease of use to deliver strong capabilities for connectors, message flows and data mapping and transformation. Tray.io provides great flexibility for implementing application and process automation. However, it provides limited capabilities for EDI support and ecosystem management.

Tray.io's EiPaaS received its highest score for the application integration use case, followed by event integration and data consistency/sharing. It received lower scores for ecosystem and API-based integration.

**Workato**

Workato's EiPaaS offerings are Enterprise Suite (for enterprise-level or IT-driven adoptions) and Workato Workspace (for line-of-business or departmental-driven development). Workato's enterprise iPaaS supports common scenarios such as data integration, messaging, API management, EDI (via partnership) and bot-assisted managed file transfer. It also supports advanced scenarios, including chatbot-enabled human tasks, collaboration tool integration, robotic process automation and machine learning/natural language processing-enabled integration.

Workato has strong capabilities for automating integration tasks that require efficient use of connectors, protocol mapping and data manipulation between various endpoints. However, its EDI capabilities for supporting B2B requirements are less highly rated.

Workato's EiPaaS offering received its highest score for the application integration use case. It also received excellent scores for the event integration and data consistency and sharing scenarios. However, it received a lower score for the B2B ecosystem integration use case.

## Context

More and more organizations are adopting EiPaaS as a strategic alternative to classic integration platform software for a growing number of use cases. Buyer demand for EiPaaS is intensifying, as on-premises technologies are not delivering fast enough to support new customer integration needs for distributed/connected applications, data, APIs, ecosystems and events.

Most established, on-premises integration platform providers offer an EiPaaS. To meet market pressures and surpass their competitors, ambitious vendors are continuously extending their functionality. Vendors are increasingly packaging their suites of capabilities as multiple offerings or unified platforms with the goal of serving different use cases, integration requirements and industries.

As integration challenges continue to grow in scale and complexity, organizations are adopting EiPaaS as part of a hybrid integration platform model. Software engineering leaders can benefit from leveraging specialized EiPaaS offerings, especially for use cases with time-sensitive or tactical integration requirements.

## Product/Service Class Definition

Gartner defines enterprise integration platform as a service (EiPaaS) as a combination of integration technology functionalities that are delivered as a suite of cloud services and designed to support enterprise-class integration initiatives. An EiPaaS must provide high availability, disaster recovery, security, SLAs and technical support from the provider. It must also enable users to develop and execute multiple integration scenarios by providing support for multiple personas. The EiPaaS vendor must fully manage platform operations, patching and upgrades.

EiPaaS offerings are public, stand-alone products that subscribers use directly, as opposed to integration capabilities embedded in another offering (such as a SaaS application or application PaaS).

## Critical Capabilities Definition

**Connectors**

The ability to establish connectivity to a range of applications, data structures and protocols via a variety of adapters and interfaces.

Diverse connectors include adapters and interfaces to applications (such as Adobe, Infor, Microsoft, Oracle, Salesforce, SAP, ServiceNow, and Workday) and data structures (such as AWS Aurora, Cassandra, Couchbase, IBM, Microsoft, MongoDB, Oracle, OData, Graph connectors and other sources like Hadoop). They also include protocols such as HTTP, FTP, TCP/IP, AMPQ, JMS and ODBC.

**File Transfer/Movement**

The ability to distribute files between file systems on a triggered, scheduled or manual basis.

**Messaging/Event Broker**

The ability to connect, process and distribute messages and events between a variety of endpoints.

This enables publish-subscribe, message queueing or other means of interoperability with streams/events, including encapsulating or integrating data/application flows in-stream/event for diverse use.

**Protocol Mapping**

The ability to map between any combination of endpoint protocols, such as file-to-message or application-connector-to-data-source.

**Data Interchange Standards**

The ability to apply intermediary functions to messages in order to standardize data representations based on defined standards, industry or regulatory requirements. Standards include OAGi OAGIS, Microsoft CDM, SAP IDOCs, HL7 FHIR, EDIFACT, SWIFT and FIX.

**Data Mapping and Transformation**

The ability to map, transform, aggregate and split data between a range of different data formats and standards.

This functionality encompasses syntactic conversion and semantic transformation, including built-in functions, as well as the ability to extend transformation functions with custom-coded logic and XML support.

### Data Quality

The ability to assess the quality of data flowing through the platform and its endpoints, and to perform data quality improvements in contexts such as business operations and analytics.

Data quality functions ensure that data is fit for purpose in applicable contexts, such as business operations, analytics and emerging digital business scenarios.

### Routing and Orchestration

The ability to route data between a range of endpoints and orchestrate the flow of information across those endpoints.

This enables the execution and delivery of process logic spanning multiple back-end services or applications with the aim of implementing composite services or automated system-to-system processes. These could range from short-term processes (which take seconds or minutes) to long-term processes (which take hours, days or weeks).

### API Policy Management & Enforcement

The ability to define, manage and enforce policies such as authentication, authorization and accounting, data masking, traffic shaping and throttling.

This governs integration flows and APIs, manages policy and enforces the management of integration artifacts and flow execution. It enables control over different types of API usage and enforces security and compliance policies.

### EDI Support

The ability to integrate with B2B-specific data formats and protocols, including the interpretation and creation of message formats and flows applicable to electronic data interchange (EDI). It covers the common administrative transactions of interenterprise data sharing.

**Ecosystem Partner Community Mgmt.**

The ability to manage ecosystems and partner communities, including customers, suppliers and service providers, and to access services via tools like community portals. This provides self-service access and automated onboarding of partners.

This capability also includes the ability to support ecosystem-related features, such as enabling the B2B trading partner community, enabling business roles to share data and integrating processes that influence the vitality of ecosystems.

**Integrator Workbench**

The ability to facilitate integration development and collaboration across multiple personas, such as integration specialists, ad hoc integrators and citizen integrators, and to provide support for high productivity.

High productivity is supported with features such as packaged integration processes, use of AI (including augmented integration, guidance and user experience), simplified diagnostics and issue resolution.

## Use Cases

**Application Integration**

Application integration focuses on joining different application and data endpoints. It is often event-driven (triggered by changes within an application or data endpoint).

Application integration enables independently designed applications to work together in the form of orchestrated flows that support varying interaction patterns across application services. This includes communication and movement of messages between endpoints, support for fundamental web and web services standards, consumer and provider endpoint connectivity, message validation, mapping, transformation and enrichment.

**Data Consistency and Sharing**

Data consistency and sharing focuses on connecting independent data structures, including the ability to ingest, transform, combine and provision data.

**B2B Ecosystem Integration**

Ecosystem integration focuses on exchanging data such as payments, orders and supply chain information electronically between business ecosystems and partners.

Ecosystem integration is growing in importance as organizations rely more on links between B2B and partners to enter new markets and increase their competitive advantage. Effective ecosystem integration processes involve people from non-IT roles, which require quick onboarding for trading partners and trading community management. Increasingly, nontechnical users need access to, control over and visibility into the operation of these B2B solutions.

**API-based Integration**

API-based integration creates APIs, accesses endpoints, implements governance, unifies inconsistent APIs from independent sources, builds and manages composite services.

APIs are increasingly used to support integration efforts across on-premises, cloud, mobile and IoT endpoints.

**Event Integration**

Event integration focuses on event-driven architecture, including set-up of event publisher and subscriber relationships and interoperability with streams/events.

Event integration also includes provisioning of integrated data and application flows in-stream/event to enable downstream consumption or analysis.

## Vendors Added and Dropped

**Added**

- Integromat

- Huawei

**Dropped**

- Adaptris

- Cloud Elements

# Inclusion Criteria

## Table 1: Weighting for Critical Capabilities in Use Cases

(Enlarged table in Appendix)

| Critical Capabilities | Application Integration | Data Consistency and Sharing | B2B Ecosystem Integration | API-based Integration | Event Integration |
|---|---|---|---|---|---|
| Connectors | 10% | 10% | 5% | 5% | 10% |
| File Transfer/Movement | 6% | 3% | 6% | 0% | 0% |
| Messaging/Event Broker | 15% | 5% | 3% | 4% | 20% |
| Protocol Mapping | 12% | 3% | 3% | 3% | 5% |
| Data Interchange Standards | 10% | 10% | 7% | 5% | 10% |
| Data Mapping and Transformation | 12% | 28% | 15% | 5% | 15% |
| Data Quality | 5% | 28% | 3% | 0% | 5% |
| Routing and Orchestration | 20% | 3% | 7% | 5% | 20% |
| API Policy Management & Enforcement | 0% | 0% | 12% | 35% | 5% |
| EDI Support | 0% | 0% | 17% | 5% | 2% |
| Ecosystem Partner Community Mgmt. | 0% | 0% | 17% | 30% | 3% |
| Integrator Workbench | 10% | 10% | 5% | 3% | 5% |
| As of 23 September 2021 | | | | | |

Source: Gartner (October 2021)

This methodology requires analysts to identify the critical capabilities for a class of products/services. Each capability is then weighted in terms of its relative importance for specific product/service use cases.

## Critical Capabilities Rating

Each of the products/services that meet our inclusion criteria has been evaluated on the critical capabilities on a scale from 1.0 to 5.0.

**Table 2: Product/Service Rating on Critical Capabilities**

(Enlarged table in Appendix)

| Critical Capabilities | Boomi | Celigo | Integromat | Huawei | IBM | Informatica | Jitterbit | Microsoft | MuleSoft | Oracle | SAP | SnapLogic | Software AG | Talend | TIBCO Software | Tray.io | Workato |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Connectors | 4.6 | 4.3 | 4.0 | 4.2 | 4.5 | 4.7 | 4.4 | 4.3 | 4.4 | 4.6 | 4.3 | 4.6 | 4.1 | 4.3 | 4.7 | 4.3 | 4.5 |
| File Transfer/Movement | 4.0 | 4.0 | 4.1 | 3.4 | 4.5 | 4.3 | 4.6 | 3.8 | 4.1 | 4.7 | 3.6 | 4.4 | 4.0 | 4.0 | 3.9 | 4.0 | 4.5 |
| Messaging/Event Broker | 3.9 | 4.2 | 4.0 | 4.2 | 4.7 | 3.9 | 4.1 | 4.3 | 4.4 | 4.1 | 4.0 | 4.3 | 3.9 | 3.7 | 4.5 | 4.0 | 4.4 |
| Protocol Mapping | 4.4 | 4.0 | 4.0 | 4.3 | 4.0 | 3.7 | 4.2 | 4.0 | 4.5 | 4.2 | 4.1 | 4.1 | 4.1 | 3.5 | 4.3 | 4.0 | 4.3 |
| Data Interchange Standards | 4.3 | 4.0 | 4.0 | 4.2 | 4.1 | 4.4 | 4.3 | 4.0 | 4.1 | 4.3 | 4.4 | 4.4 | 4.1 | 4.3 | 4.2 | 4.0 | 4.2 |
| Data Mapping and Transformation | 4.6 | 4.0 | 4.2 | 3.6 | 4.6 | 4.7 | 4.4 | 4.0 | 4.0 | 4.2 | 4.4 | 4.5 | 3.9 | 4.6 | 4.2 | 4.1 | 4.3 |
| Data Quality | 3.9 | 3.4 | 3.5 | 3.3 | 3.3 | 4.6 | 4.0 | 3.7 | 3.5 | 3.9 | 4.0 | 3.8 | 3.3 | 4.5 | 3.6 | 3.1 | 3.2 |
| Routing and Orchestration | 4.5 | 3.8 | 4.1 | 3.6 | 4.6 | 3.9 | 4.0 | 4.4 | 4.5 | 4.4 | 4.2 | 4.0 | 4.4 | 3.4 | 4.4 | 4.1 | 4.4 |
| API Policy Management & Enforcement | 3.5 | 2.5 | 3.0 | 3.5 | 4.5 | 3.6 | 3.8 | 4.3 | 4.7 | 4.0 | 4.0 | 3.4 | 4.3 | 3.6 | 4.2 | 3.6 | 4.0 |
| EDI Support | 4.3 | 3.3 | 2.0 | 1.7 | 3.9 | 3.5 | 4.0 | 3.0 | 3.4 | 4.2 | 3.7 | 3.3 | 4.0 | 3.0 | 3.8 | 1.5 | 2.0 |
| Ecosystem Partner Community Mgmt. | 3.6 | 2.0 | 1.8 | 2.0 | 3.6 | 3.9 | 4.0 | 3.6 | 3.9 | 3.6 | 3.6 | 3.2 | 4.0 | 3.2 | 3.6 | 2.4 | 3.5 |
| Integrator Workbench | 4.0 | 3.7 | 4.0 | 3.6 | 3.8 | 3.7 | 3.5 | 4.0 | 3.9 | 3.5 | 4.1 | 4.0 | 4.2 | 3.8 | 3.4 | 4.0 | 4.2 |
| As of 23 September 2021 | | | | | | | | | | | | | | | | | |

Source: Gartner (October 2021)

Table 3 shows the product/service scores for each use case. The scores, which are generated by multiplying the use-case weightings by the product/service ratings, summarize how well the critical capabilities are met for each use case.

**Table 3: Product Score in Use Cases**

(Enlarged table in Appendix)

| Use Cases | Boomi | Celigo | Integromat | Huawei | IBM | Informatica | Jitterbit | Microsoft | MuleSoft | Oracle | SAP | SnapLogic | Software AG | Talend | TIBCO Software | Tray.io | Workato |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Application Integration | 4.29 | 3.96 | 4.03 | 3.87 | 4.33 | 4.14 | 4.14 | 4.13 | 4.24 | 4.22 | 4.16 | 4.23 | 4.07 | 3.91 | 4.22 | 4.02 | 4.29 |
| Data Consistency and Sharing | 4.25 | 3.84 | 3.92 | 3.68 | 4.08 | 4.44 | 4.16 | 3.97 | 3.95 | 4.11 | 4.19 | 4.21 | 3.83 | 4.30 | 4.02 | 3.81 | 4.01 |
| B2B Ecosystem Integration | 4.11 | 3.34 | 3.19 | 3.08 | 4.16 | 4.02 | 4.10 | 3.83 | 4.04 | 4.10 | 3.98 | 3.84 | 4.05 | 3.71 | 4.01 | 3.27 | 3.72 |
| API-based Integration | 3.83 | 2.84 | 2.91 | 3.10 | 4.16 | 3.87 | 3.98 | 3.98 | 4.26 | 3.96 | 3.94 | 3.61 | 4.14 | 3.57 | 4.03 | 3.28 | 3.85 |
| Event Integration | 4.24 | 3.84 | 3.87 | 3.77 | 4.38 | 4.14 | 4.13 | 4.14 | 4.25 | 4.19 | 4.16 | 4.16 | 4.06 | 3.90 | 4.26 | 3.90 | 4.21 |
| As of 23 September 2021 | | | | | | | | | | | | | | | | | |

Source: Gartner (October 2021)

To determine an overall score for each product/service in the use cases, multiply the ratings in Table 2 by the weightings shown in Table 1.

## Evidence

[1] Forecast: Enterprise Infrastructure Software, Worldwide, 2019-2025, 2Q21 Update

## Critical Capabilities Methodology

This methodology requires analysts to identify the critical capabilities for a class of products or services. Each capability is then weighted in terms of its relative importance for specific product or service use cases. Next, products/services are rated in terms of how well they achieve each of the critical capabilities. A score that summarizes how well they meet the critical capabilities for each use case is then calculated for each product/service.

"Critical capabilities" are attributes that differentiate products/services in a class in terms of their quality and performance. Gartner recommends that users consider the set of critical capabilities as some of the most important criteria for acquisition decisions.

In defining the product/service category for evaluation, the analyst first identifies the leading uses for the products/services in this market. What needs are end-users looking to fulfill, when considering products/services in this market? Use cases should match common client deployment scenarios. These distinct client scenarios define the Use Cases.

The analyst then identifies the critical capabilities. These capabilities are generalized groups of features commonly required by this class of products/services. Each capability is assigned a level of importance in fulfilling that particular need; some sets of features are more important than others, depending on the use case being evaluated.

Each vendor's product or service is evaluated in terms of how well it delivers each capability, on a five-point scale. These ratings are displayed side-by-side for all vendors, allowing easy comparisons between the different sets of features.

Ratings and summary scores range from 1.0 to 5.0:

1 = Poor or Absent: most or all defined requirements for a capability are not achieved

2 = Fair: some requirements are not achieved

3 = Good: meets requirements

4 = Excellent: meets or exceeds some requirements

5 = Outstanding: significantly exceeds requirements

To determine an overall score for each product in the use cases, the product ratings are multiplied by the weightings to come up with the product score in use cases.

The critical capabilities Gartner has selected do not represent all capabilities for any product; therefore, may not represent those most important for a specific use situation or business objective. Clients should use a critical capabilities analysis as one of several sources of input about a product before making a product/service decision.

## Document Revision History

Critical Capabilities for Enterprise Integration Platform as a Service - 21 September 2020

Critical Capabilities for Enterprise Integration Platform as a Service - 19 June 2019

## Recommended by the Authors

Some documents may not be available as part of your current Gartner subscription.

How Products and Services Are Evaluated in Gartner Critical Capabilities

Magic Quadrant for Enterprise Integration Platform as a Service

Market Guide for Application Integration Platforms

Ensure Your Integration Strategy Supports Modern Integration Trends

Innovation Insight for Self-Integrating Applications

Market Share: Integration Software Technologies, Worldwide, 2020

# Table 1: Weighting for Critical Capabilities in Use Cases

| Critical Capabilities ↓ | Application Integration ↓ | Data Consistency and Sharing ↓ | B2B Ecosystem Integration ↓ | API-based Integration ↓ | Event Integration ↓ |
|---|---|---|---|---|---|
| Connectors | 10% | 10% | 5% | 5% | 10% |
| File Transfer/Movement | 6% | 3% | 6% | 0% | 0% |
| Messaging/Event Broker | 15% | 5% | 3% | 4% | 20% |
| Protocol Mapping | 12% | 3% | 3% | 3% | 5% |
| Data Interchange Standards | 10% | 10% | 7% | 5% | 10% |
| Data Mapping and Transformation | 12% | 28% | 15% | 5% | 15% |
| Data Quality | 5% | 28% | 3% | 0% | 5% |
| Routing and Orchestration | 20% | 3% | 7% | 5% | 20% |
| API Policy Management & Enforcement | 0% | 0% | 12% | 35% | 5% |
| EDI Support | 0% | 0% | 17% | 5% | 2% |

| Critical Capabilities ↓ | Application Integration ↓ | Data Consistency and Sharing ↓ | B2B Ecosystem Integration ↓ | API-based Integration ↓ | Event Integration ↓ |
|---|---|---|---|---|---|
| Ecosystem Partner Community Mgmt. | 0% | 0% | 17% | 30% | 3% |
| Integrator Workbench | 10% | 10% | 5% | 3% | 5% |
| As of 23 September 2021 | | | | | |

Source: Gartner (October 2021)

## Table 2: Product/Service Rating on Critical Capabilities

| Critical Capabilities | Boomi | Celigo | Integromat | Huawei | IBM | Informatica | Jitterbit | Microsoft | MuleSoft | Oracle | SAP | SnapLogic | Software AG | Talend | TIBCO Software | Tray.io | Workato |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Connectors | 4.6 | 4.3 | 4.0 | 4.2 | 4.5 | 4.7 | 4.4 | 4.3 | 4.4 | 4.6 | 4.3 | 4.6 | 4.1 | 4.3 | 4.7 | 4.3 | 4.5 |
| File Transfer/Movement | 4.0 | 4.0 | 4.1 | 3.4 | 4.5 | 4.3 | 4.6 | 3.8 | 4.1 | 4.7 | 3.6 | 4.4 | 4.0 | 4.0 | 3.9 | 4.0 | 4.5 |
| Messaging/Event Broker | 3.9 | 4.2 | 4.0 | 4.2 | 4.7 | 3.9 | 4.1 | 4.3 | 4.4 | 4.1 | 4.0 | 4.3 | 3.9 | 3.7 | 4.5 | 4.0 | 4.4 |
| Protocol Mapping | 4.4 | 4.0 | 4.0 | 4.3 | 4.0 | 3.7 | 4.2 | 4.0 | 4.5 | 4.2 | 4.1 | 4.1 | 4.1 | 3.5 | 4.3 | 4.0 | 4.3 |
| Data Interchange Standards | 4.3 | 4.0 | 4.0 | 4.2 | 4.1 | 4.4 | 4.3 | 4.0 | 4.1 | 4.3 | 4.4 | 4.4 | 4.1 | 4.3 | 4.2 | 4.0 | 4.2 |
| Data Mapping and Transformation | 4.6 | 4.0 | 4.2 | 3.6 | 4.6 | 4.7 | 4.4 | 4.0 | 4.0 | 4.2 | 4.4 | 4.5 | 3.9 | 4.6 | 4.2 | 4.1 | 4.3 |

| Critical Capabilities | Boomi | Celigo | Integromat | Huawei | IBM | Informatica | Jitterbit | Microsoft | MuleSoft | Oracle | SAP | SnapLogic | Software AG | Talend | TIBCO Software | Tray.io | Workato |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Data Quality | 3.9 | 3.4 | 3.5 | 3.3 | 3.3 | 4.6 | 4.0 | 3.7 | 3.5 | 3.9 | 4.0 | 3.8 | 3.3 | 4.5 | 3.6 | 3.1 | 3.2 |
| Routing and Orchestration | 4.5 | 3.8 | 4.1 | 3.6 | 4.6 | 3.9 | 4.0 | 4.4 | 4.5 | 4.4 | 4.2 | 4.0 | 4.4 | 3.4 | 4.4 | 4.1 | 4.4 |
| API Policy Management & Enforcement | 3.5 | 2.5 | 3.0 | 3.5 | 4.5 | 3.6 | 3.8 | 4.3 | 4.7 | 4.0 | 4.0 | 3.4 | 4.3 | 3.6 | 4.2 | 3.6 | 4.0 |
| EDI Support | 4.3 | 3.3 | 2.0 | 1.7 | 3.9 | 3.5 | 4.0 | 3.0 | 3.4 | 4.2 | 3.7 | 3.3 | 4.0 | 3.0 | 3.8 | 1.5 | 2.0 |
| Ecosystem Partner Community Mgmt. | 3.6 | 2.0 | 1.8 | 2.0 | 3.6 | 3.9 | 4.0 | 3.6 | 3.9 | 3.6 | 3.6 | 3.2 | 4.0 | 3.2 | 3.6 | 2.4 | 3.5 |
| Integrator Workbench | 4.0 | 3.7 | 4.0 | 3.6 | 3.8 | 3.7 | 3.5 | 4.0 | 3.9 | 3.5 | 4.1 | 4.0 | 4.2 | 3.8 | 3.4 | 4.0 | 4.2 |
| As of 23 September 2021 | | | | | | | | | | | | | | | | | |

Source: Gartner (October 2021)

## Table 3: Product Score in Use Cases

| Use Cases | Boomi | Celigo | Integromat | Huawei | IBM | Informatica | Jitterbit | Microsoft | MuleSoft | Oracle | SAP | SnapLogic | Software AG | Talend | TIBCO Software | Tray.io | Workato |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Application Integration | 4.29 | 3.96 | 4.03 | 3.87 | 4.33 | 4.14 | 4.14 | 4.13 | 4.24 | 4.22 | 4.16 | 4.23 | 4.07 | 3.91 | 4.22 | 4.02 | 4.29 |
| Data Consistency and Sharing | 4.25 | 3.84 | 3.92 | 3.68 | 4.08 | 4.44 | 4.16 | 3.97 | 3.95 | 4.11 | 4.19 | 4.21 | 3.83 | 4.30 | 4.02 | 3.81 | 4.01 |
| B2B Ecosystem Integration | 4.11 | 3.34 | 3.19 | 3.08 | 4.16 | 4.02 | 4.10 | 3.83 | 4.04 | 4.10 | 3.98 | 3.84 | 4.05 | 3.71 | 4.01 | 3.27 | 3.72 |
| API-based Integration | 3.83 | 2.84 | 2.91 | 3.10 | 4.16 | 3.87 | 3.98 | 3.98 | 4.26 | 3.96 | 3.94 | 3.61 | 4.14 | 3.57 | 4.03 | 3.28 | 3.85 |
| Event Integration | 4.24 | 3.84 | 3.87 | 3.77 | 4.38 | 4.14 | 4.13 | 4.14 | 4.25 | 4.19 | 4.16 | 4.16 | 4.06 | 3.90 | 4.26 | 3.90 | 4.21 |
| As of 23 September 2021 | | | | | | | | | | | | | | | | | |

Source: Gartner (October 2021)