Integration via Pega Cloud Services

Supported approaches for flexibility, stability, and security

The business issue

To succeed in a complex and multi-faceted digital landscape, organizations need integration strategies that drive business value using modern and secure methods. Platform integration used to be driven by technology-specific connectors that limited the endpoints and formats of organizational data. While many of those purpose-driven connectors still exist, most organizations are retiring them in favor of newer approaches better suited to today's fast-changing technology.

The solution

Pega developed our modern integration strategy with technological evolution in mind. Pega Cloud Services® does not support many older connector standards, putting the focus instead on web-based standards that provide a more secure connection across the key areas. In this whitepaper, we'll explain how integration via Pega Cloud Services balances technologies to provide you with stable, high-performing, and secure connections to critical business systems, both today and tomorrow.

Pega Cloud Services integration capabilities

Pega Cloud Services integrations require neither the installation of specialized third-party software nor the modification of web container deployment files when compared to legacy connectors. Integrating with Pega applications on Pega Cloud Services results in lightweight and fast connections to critical systems that enable your business processes to reach their full potential.

Web services APIs

Pega recommends RESTful web service APIs as the standard for web service integration, which is why we've built native capabilities exposed as RESTful APIs into the Pega Platform™. The RESTful standard is widely adopted, with examples including OpenID® authentication standard and OpenAPI™ specifications. Pega also supports the simple object access protocol (SOAP) web service standard. While we continue to see the market shift to representational state transfer (REST), and many customers phasing out SOAP out in favor of the RESTful approach, SOAP still enjoys a wide adoption. These specifications enable ease of configuration and maintenance of application interfaces.

The Pega Platform also supports the SAP® iDoc connector using the REST infrastructure to connect to SAP ERP systems using a common data schema to send and receive XML.

Email provider integration

Email integration has existed in the Pega Platform since its inception and remains the most consistently applied integration capability. The scope has broadened as new communications channels emerge, including SMS, chatbots like Amazon Alexa, and more. The Pega Platform email integration capabilities use the SMTP, IMAP, and POP3 standards for communication with on-premises and hosted email providers. This means the existing integration capability works seamlessly in Pega Cloud Services.

Asynchronous messaging integration

Decoupling and consolidating the routing and transmission of messages between producers and consumers enables the development of complex, loosely coupled application networks to increase resilience to node-level connectivity outages. Pega Cloud Services supports interoperability with messaging middleware providers that implement the Java Messaging Service (JMS) specification, such as IBM WebSphere™ MQ. However, since it involves non-HTTP ports, this integration requires a private connection.

Big data and high-bandwidth data management

Pega Cloud Services supports integration with datasets from Apache HBase®, Apache Hadoop®, Apache Cassandra®, and Apache Kafka®, whose compatibility with the platform and decisioning version should be, however, first confirmed in the platform support guide. Big data capabilities in the Pega Platform have traditionally been associated with our real-time decisioning capabilities as used in the Pega Marketing™ CRM application. The configuration of these capabilities in Pega Cloud Services requires the same consideration as other platform integration capabilities because third-party client software must be installed as an extension to the Pega Platform prior to configuration.

Content management and file repositories

In cloud deployments of the Pega Platform, case attachments are stored by default in an online repository that is surfaced in the customer-facing parts of the platform under the name Pega Cloud Services File Storage. However, the default file storage option may be overridden to store case attachments in a cloud repository.

Supported platforms include Azure™ Blob storage, AWS S3™, Box.com, or Microsoft SharePoint™ Online. These providers have known endpoint URLs, so a private connection is not required for interfacing with them. In addition, content management interoperability services (CMIS) connectors can also be configured for case attachment storage. Since CMIS is built on top of the SOAP and REST standards, it is technically a good fit for cloud deployments.

Pega Cloud Services also enables file exchange for customers seeking a hybrid cloud architecture. However, in such case, the existing connect-ftp requires a local FS, as it's not cloud-ready. To support SFTP connections into Pega, for each customer Pega Cloud is using a dedicated SFTP server that can be used in combination with file listener or file data sets. Configuration requires a private connection or Amazon Direct Connect channel when on-premises FTP servers must be isolated from the internet.

Legacy integration options only available for on-premises deployments

Certain integration capabilities have dependencies on specific deployment options and technology choices that work well with an on-premises data center, but present obstacles when used in a cloud operational model.

There are four criteria that drive compatibility with the Pega Cloud Services deployment model:

1. No dependencies on third-party software that may alter the behavior of the Pega Platform runtime environment.
2. No required customizations of container-level configuration that would prevent auto-scaling of server nodes within the Pega node cluster.
3. No use of non-standard ports or dynamic IP addresses that would necessitate the use of a private network connection.
4. No reliance on a local file system for temporary or permanent file storage, because the file system in the cloud environment is transient and may cause data loss if relied upon.

When integration technologies violate one or more of the principles above, the Pega Platform support is not extended for Pega Cloud Services or client-managed cloud deployments.

The following integrations are better served using the technologies supported within the deployment environment:

File connectors
File connectors are not supported, since they are tightly coupled to local file system, and do not support streaming. Use Repository rule APIs to interact with cloud storage providers like Amazon S3™ and Microsoft Azure Blob storage.

Enterprise JavaBeans™ (EJB)
EJB connectors and services are not supported because they require a Java Enterprise Edition (EE) runtime environment to function correctly. On cloud deployments, the Pega Platform uses a Java Standard Edition (SE) runtime environment to streamline operational overhead.

Java EE Connector Architecture (JCA)
JCA connectors are not supported for the same reasons that EJB connectors and services are not supported.

JSR94 services
The JSR94 service API can only be accessed from a third-party process executing in the same runtime environment as the Pega Platform. This is not possible on a managed cloud environment.

Adapting to market needs

Pega has evolved our application delivery method to adapt to the changing requirements of the market. We offer cloud choice to give our customers the flexibility to get maximum value from the Pega Infinity™ portfolio – whether through Pega Cloud Services, our fully managed offering, or a client-managed cloud from a selection of leading cloud infrastructure providers. Our integration strategy has evolved as well, focusing on modern, secure integrations that empower enterprise clients to deliver applications through new channels and keep up with a shifting security and compliance landscape.

To learn more about integrating with Pega Cloud Services, **visit the Pega Community.**

PEGA®

About Pegasystems

We are Pegasystems, the leader in software for customer engagement and operational excellence. Our adaptive, cloud-architected software – built on the unified Pega PlatformTM – empowers people to rapidly deploy, and easily extend and change applications to meet strategic business needs. Over our 30-year history, we've delivered award-winning capabilities in CRM and BPM, powered by advanced artificial intelligence and robotic automation, to help the world's leading brands achieve breakthrough results.

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