

bounti^{XP}

Integration Architecture





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Introduction

It is crucial to recognise the role that data integration plays in enabling synergies between bountiXP and its clients.

This document is focused on high-level application integration and architecture that abstracts business logic to more effectively broker processes and services.

To achieve operational efficiency and data integrity, this document will focus on:

- Facilitating data integration across multiple platforms.
- Future-proofing a solution in terms of:
 - o Business functionality and evolution based on best practices of a layered enterprise – functional, business processes and data.
 - o Continuous evolution of integration to render it more service-oriented and customer-focused with a view to achieve greater flexibility.
- Linking business processes with system workflows and data entities (such as product attributes/definitions) across multiple client systems.
- Enabling faster time to implement the solution as well as new services operationally.

Figure 1 represents the various components of which the bountiXP platform comprise and illustrates the relationships.

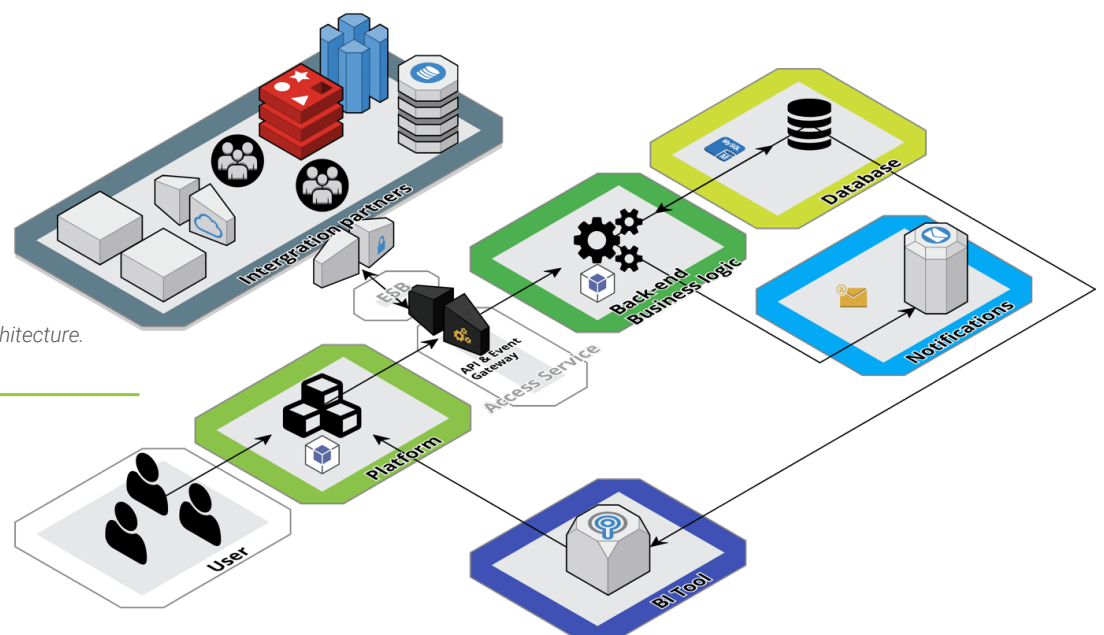


Figure 1 – bountiXP architecture.

bountiXP Approach

The bountiXP approach to the business integration architecture is based on the following principles:

- Adopt layered Service Oriented Architecture (SOA) for business integration:
 - o Common service-oriented run time environment with distributive integration using Enterprise Service Bus (ESB).
 - o Layered integration architecture into multiple stacks of services that can be delivered using ESB.
- Follow the basic Service Oriented Architecture principles for each layer such as loosely coupled, re-usable and sharable, abstract/opaque and secured.
 - o Use service-oriented integration patterns for maximum re-usability:
- Leverage existing application and infrastructure.
- Increase in interoperability between distinct integration technologies.

Layers of Service and Business Integration Architecture

Integration entails logical partitions of the overall integration architecture into multiple stacks of services that will be implemented independently.

The key services in the integration architecture are:

Access Service

This service layer enables application, technology and database abstraction so that complex accessing logic is hidden from other service layers. This is a foundation service layer for the business integration solution, which exposes application functionalities and data as a reusable service.

Application access service – This service layer exposes application level functionalities as a reusable service across multiple platforms. This layer is for enabling the use of technology such web services.

Data access service – This service layer exposes application data services as a reusable reference data service. This is done via direct integration with application data and provides federated queries. bountiXP uses this service layer for the integration of reporting and BI tools respectively.

Enterprise Service Bus (ESB)

This layer forms the foundation of the service-based business integration offering basic infrastructure for service assembly, service creation and registry as well as protocol support. This service layer includes:

Monitoring service – This layer provides the component and message monitoring services required for the operational support of a solution based on business integration.

Incoming event service – This layer provides the independent layer to Validate, Enrich, Transform, Route and Operate the services. It also transforms secure message content to meet the requirements of each service endpoint.

Technical service – This layer provides the common services layer required for the implementation of services including exception handling, logging, security, fault-tolerance, auditing and tracing.

Multi-Channel Integration Service

This service layer manages the integration of various delivery channels with core business integration services via front-end and backend integration.

B2B Integration Service

This layer provides the basic services required for implementing B2B transactions as part of business processes. It ensures that B2B transactions have security assurance between applications, B2B partner management as well multiple B2B protocol support for seamless integration.

Monitoring & Analytics Service

This layer tracks the events and activities that are generated from the execution of business processes to ensure continuous improvement.

Integration Solutions

Enterprise client integration requirements are extensive and vary from client to client.

Primary concerns include:

- Low-level connectivity across a broad range of data formats, transport, and protocols to ensure engagement with any system of record they currently own or acquire, regardless of age or platform diversity.
- Data integrity by using transactions to ensure systems of record are kept in a consistent state.
- Technical API or service exposure to a limited audience of other applications using techniques, such as RESTful APIs and web services.
- Enterprise messaging facilities to provide delivery of critical business data between systems across multiple platforms.

APIs are the glue of any cloud-based solution and bountiXP is no different. APIs support the implementation of new channels, empower existing and new partnerships, drive innovation and promote collaboration between platforms and services.