1.1.2 Adaptive Messaging

Adaptive messaging provides flexible message handling and manipulation between clients and services. For example, a client sends a SOAP message over HTTP through Service Bus, which in turn transforms the message and invokes a back-end EJB. Or a client sends a REST/JSON message over HTTP, and Service Bus transforms the message and invokes a back-end SOAP/XML service (or uses any of the available adapters). Adaptive messaging also supports a variety of communication patterns such as request/response, synchronous and asynchronous, split-join, and publish/subscribe. It supports different patterns for inbound and outbound messages in a single message life cycle.

1.1.3 Service Security

Service Bus ensures service security at all levels, based on Oracle Platform Security Services and Oracle Web Services Manager (OWSM) for web services. You can plug in custom or third-party security components. Built-in capabilities allow flexibility in implementation by enabling security at the following levels:

- Transport-level security, including SSL, basic authorization, and custom security credentials
- Message-level security, including WS-Security, SAML, user ID and password, X509, signing and encryption, and custom security credentials
- Console security, including single-sign-on and role-based access
- Policy security

1.1.4 Service Virtualization

Service virtualization provides agility through message manipulation and control. Service Bus lets you flexibly control messages using validation, transformation, routing based on message content, parallel processing of multiple items in a message, alert triggering, and error handling at different points in a message flow. For example, Service Bus provides the following capabilities:

- XQuery-based policies or callouts to external services for message routing.
- Routing policies that apply to both point-to-point and one-to-many routing scenarios (publish). For publish, routing policies serve as subscription filters.
- Routing table abstracted from pipelines, which enables modification of routes without having to reconfigure pipelines.
- Identity-based routing, to classify clients into user-defined groups and apply routing policies based on these groups.

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- Conditional routing, including dynamic content-based routing of messages and runtime protocol selection.
- Database lookups, which can be used for message enrichment, routing decisions, or customizing the behavior of a pipeline.
- Transformations using XQuery or XSLT maps.