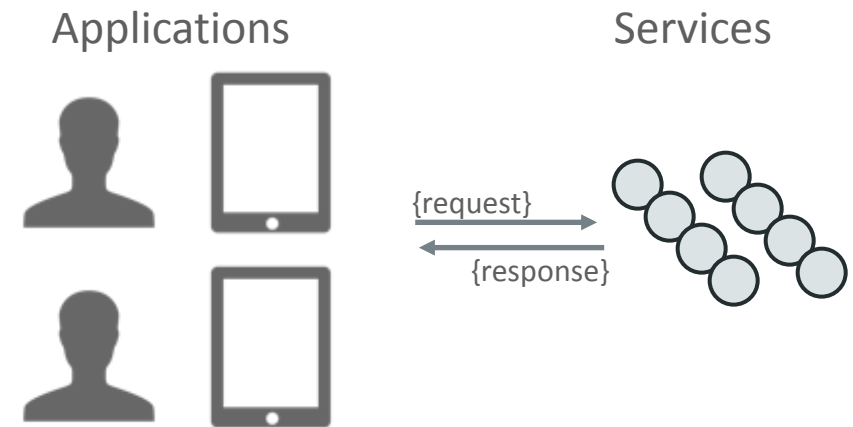# API Platform Cloud Service

Robert Wunderlich
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Integration and API Management

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Safe Harbor Statement

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.
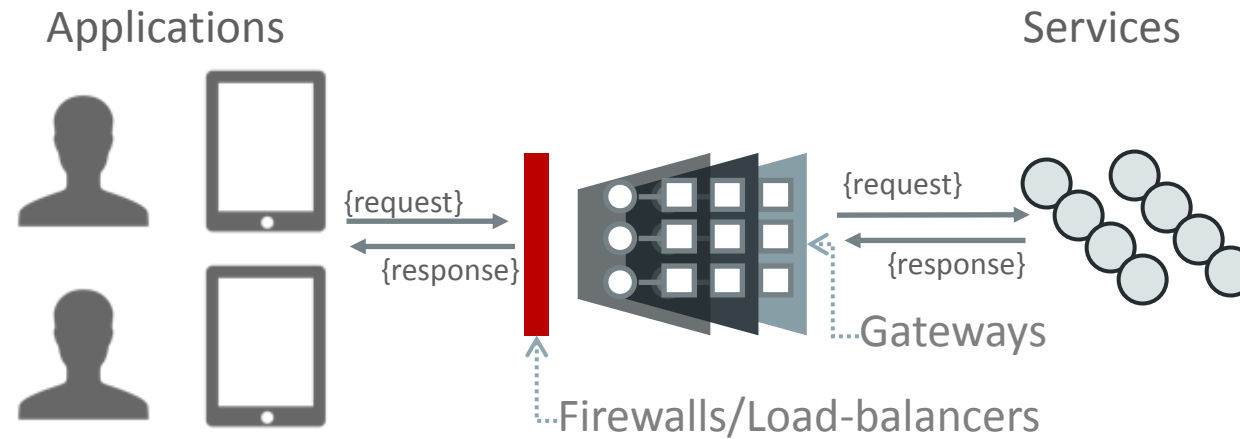
Need for an API

- Security
  - Protect services
- Discovery
  - Promote functionality to developers and partners
- Monitoring
  - Understand how your services are used
- Management

Applications

Services

{request}

{response}

APIs are the Doors to Digital Transformation

Secure, and Control Access to Services

Applications

Services

{request}

{response}

{request}

{response}

Gateways

Firewalls/Load-balancers

API Delivery Lifecycle

- Human Actors
  - API Producers
    - API Designer
      - The Consumer can participate in the shaping of the API
    - API Manager
  - API Managers
  - Gateway Managers
  - API Consumers
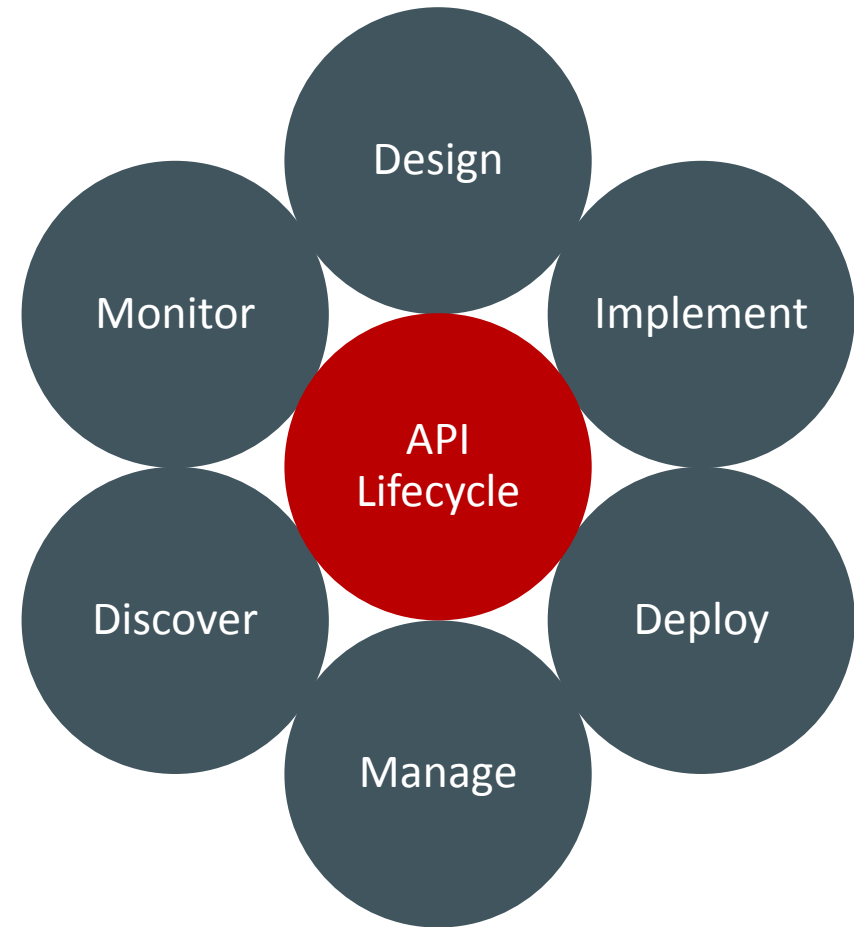
Personas of the API Lifecycle

- API Designer/API Product Manager
  - Gather's the requirements of the consumer.
  - Applies best-practices for API design
  - Documents the API to make it easy to learn how to use
  - Gains agreement with the consumer on the design of the API

Personas of the API Lifecycle

- API Manager/Implementer
  - Creates the API, applying policies to support the design and to ensure security
  - Tests the API
  - Deploys the API
  - Monitors and manages the API

7

Personas of the API Lifecycle

- Gateway Manager
  - Deploys and configures gateway nodes
  - Reviews and approves API deployment requests where necessary
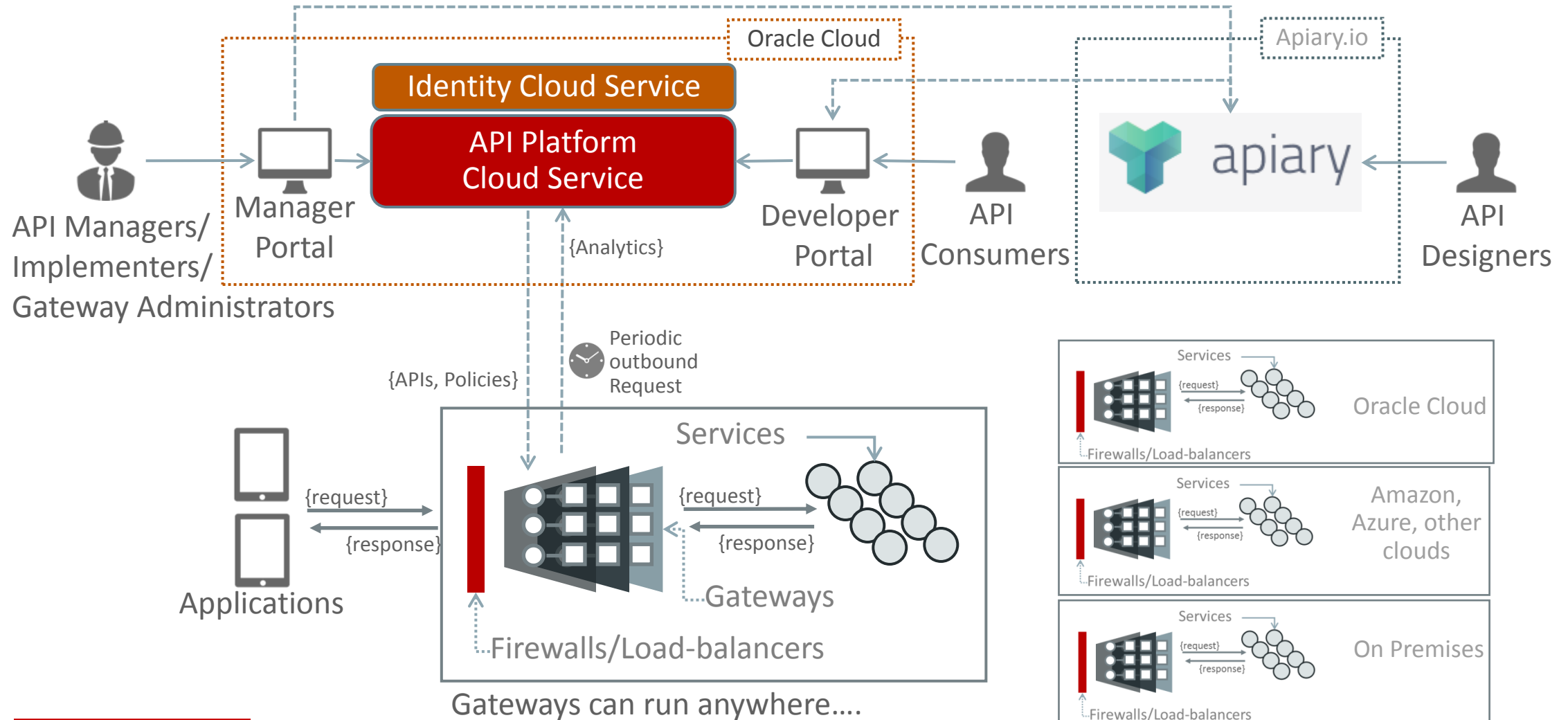 - Monitors and manages the gateway(s)

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Personas of the API Lifecycle

- API Consumer
  - Application developer who needs APIs to meet the requirements of an application.
    - Searches the API catalog to identify existing APIs
    - Registers desired APIs with application(s)
    - May use a tool like Apiary to design new APIs
    - May collaborate with an API Product Manager/API Manager to design the API and capture the requirements.
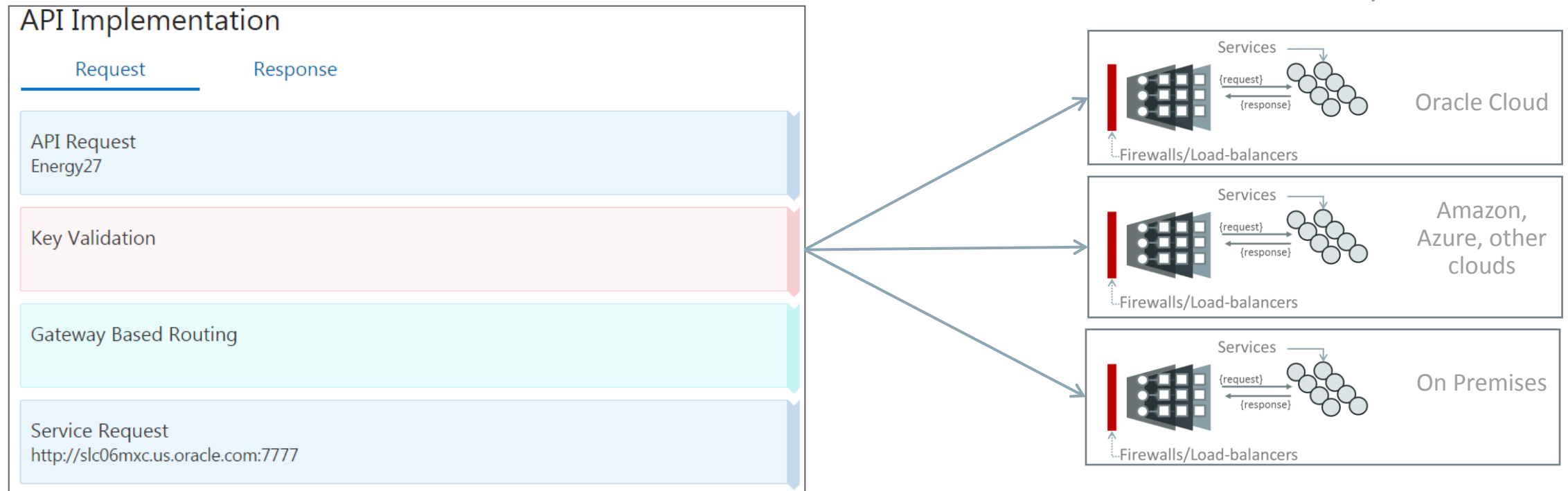
Architecture of API Platform Cloud Service

Centralized API Design, Distributed API Runtime

One design, many instances.

Gateways

API Implementation

| Request | Response |

API Request
Energy27

Key Validation

Gateway Based Routing

Service Request
http://slc06mxc.us.oracle.com:7777

Services
{request}
{response}
Oracle Cloud
Firewalls/Load-balancers

Services
{request}
{response}
Amazon, Azure, other clouds
Firewalls/Load-balancers

Services
{request}
{response}
On Premises
Firewalls/Load-balancers
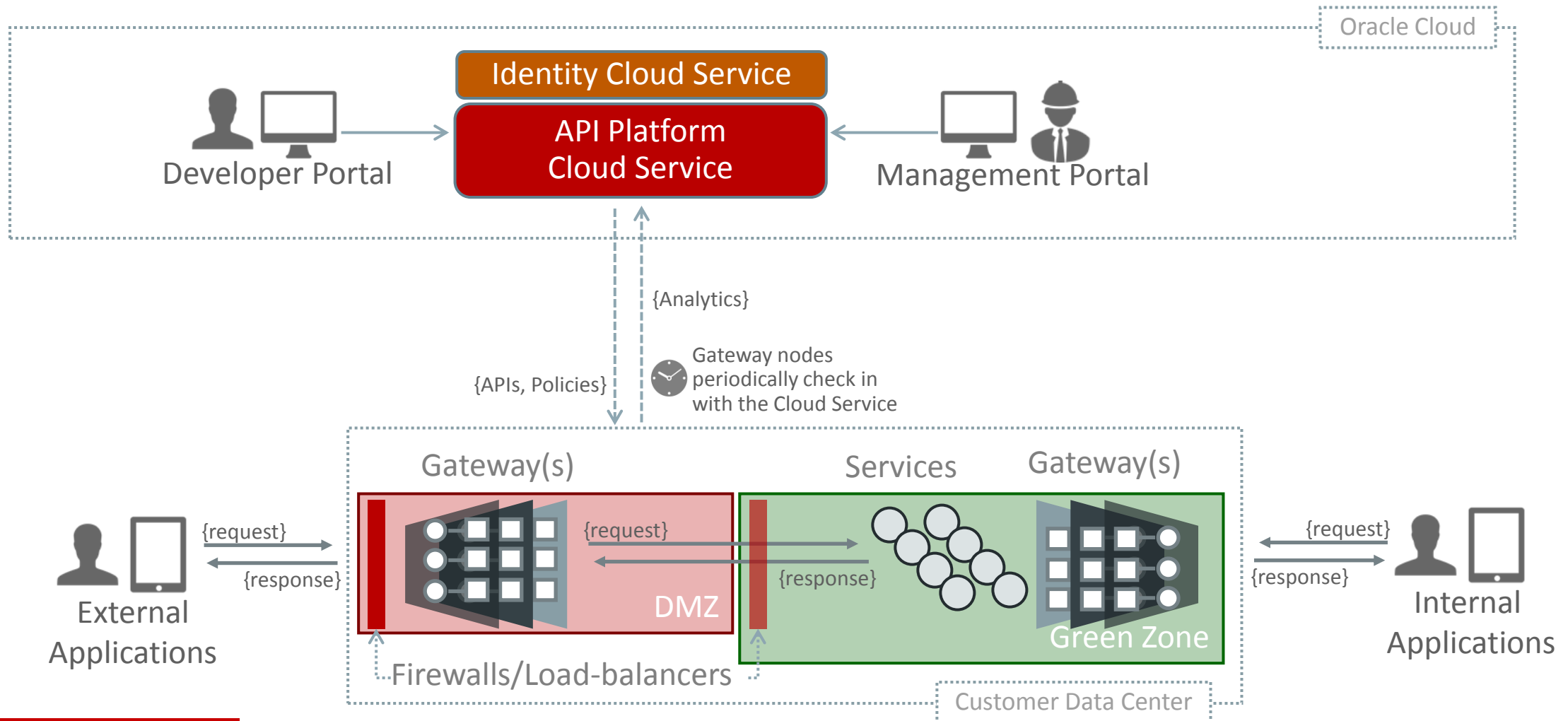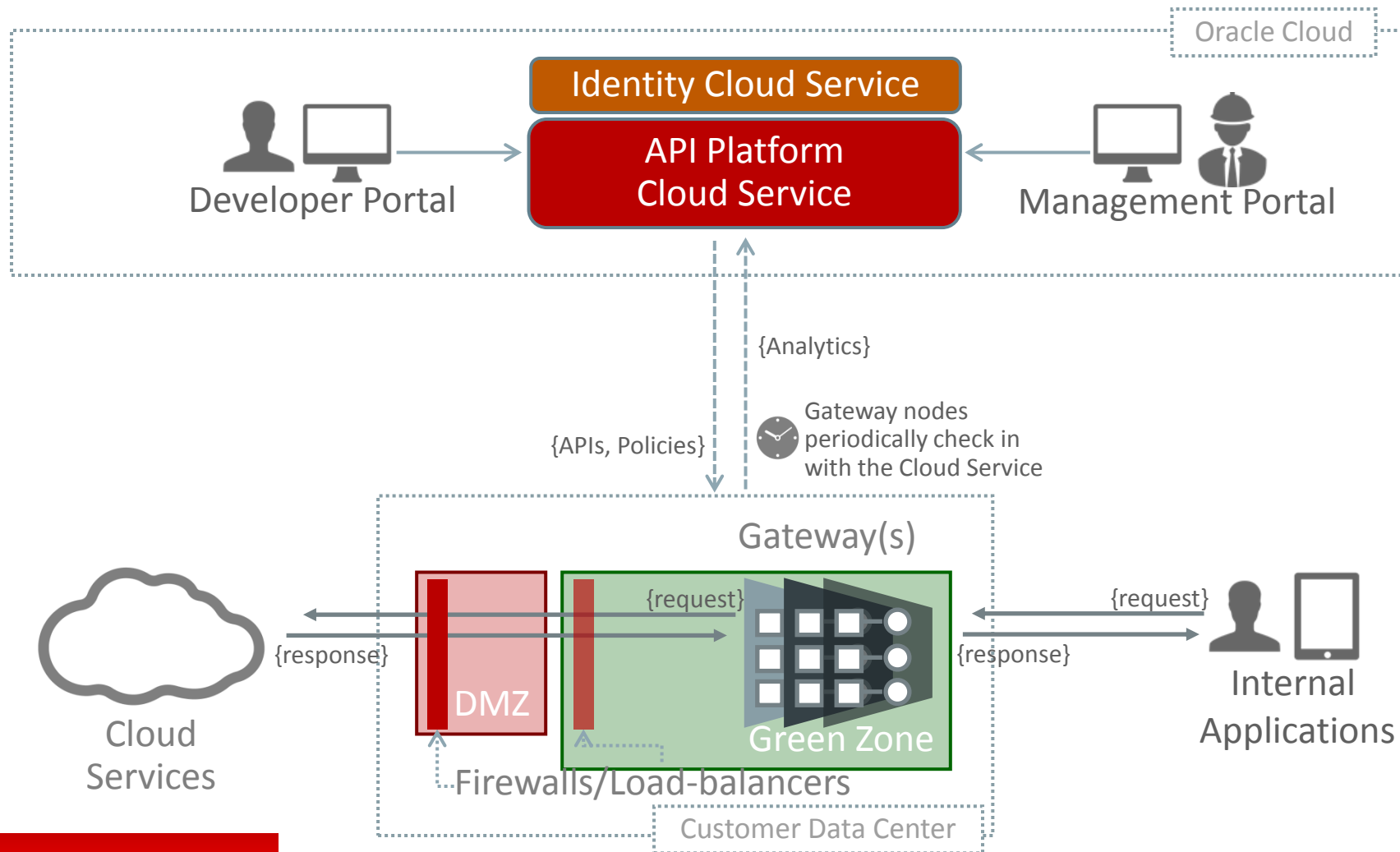
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Creating On-Premise APIs for On-Premise Services
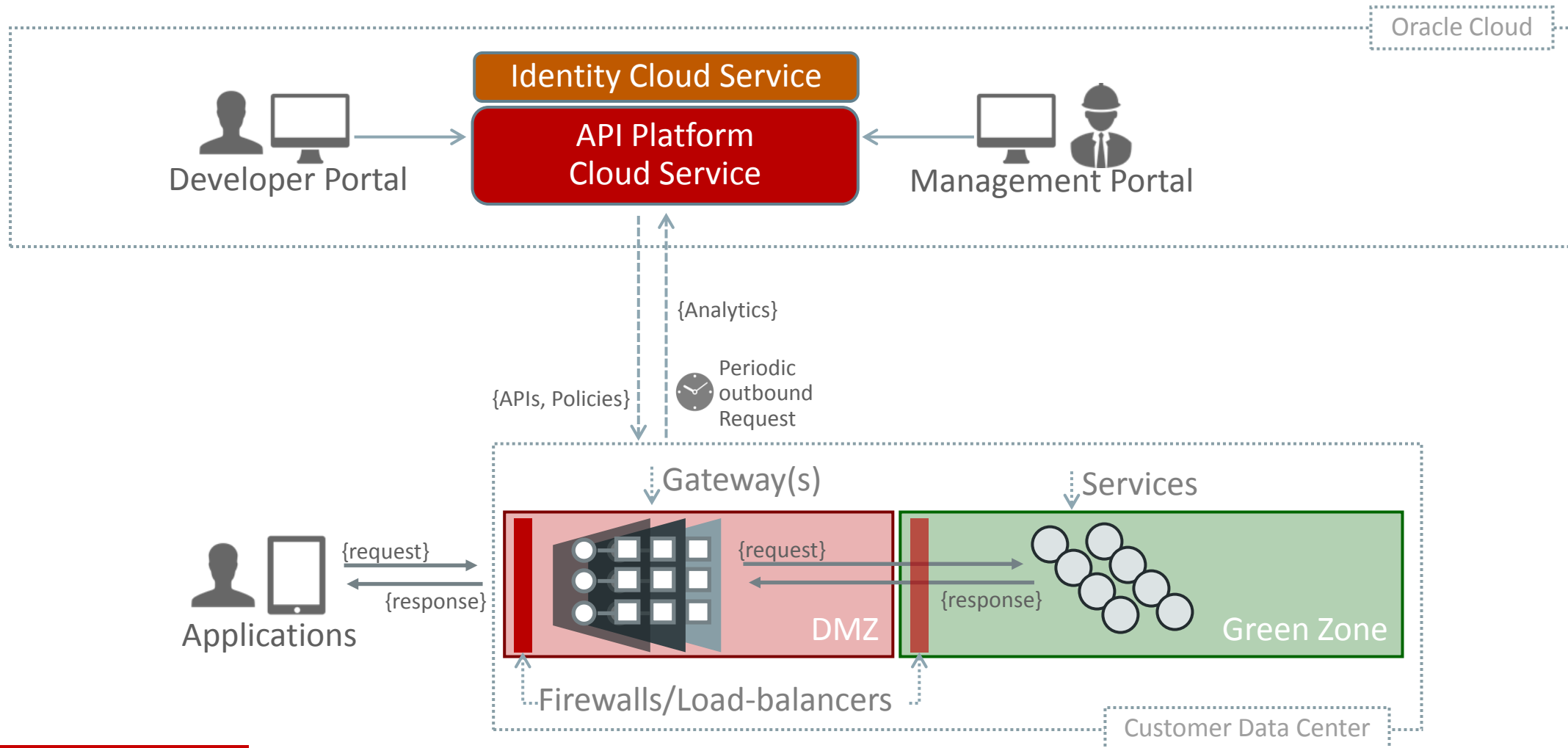
Creating On-Premise APIs for On-Premise Services for Both External and Internal Clients

Oracle Cloud

Identity Cloud Service

API Platform Cloud Service

Developer Portal

Management Portal

{Analytics}

{APIs, Policies}

Gateway nodes periodically check in with the Cloud Service

Gateway(s)

Services

Gateway(s)

External Applications

{request}

{response}

DMZ

{request}

{response}

Green Zone

Internal Applications

{request}

{response}

Firewalls/Load-balancers

Customer Data Center

Creating On-Premise APIs for Cloud Services

Oracle Cloud

Identity Cloud Service

API Platform
Cloud Service

Developer Portal

Management Portal

{Analytics}

{APIs, Policies}

Gateway nodes
periodically check in
with the Cloud Service

Gateway(s)

{request}

{request}

DMZ

Green Zone

{response}

{response}

Cloud
Services

Internal
Applications

Firewalls/Load-balancers

Customer Data Center

API Platform Gateway Placement

Application BaaS Firewall LB API Gateway Integration Backend Service

Monitoring Oauth IDM BI/Analytics
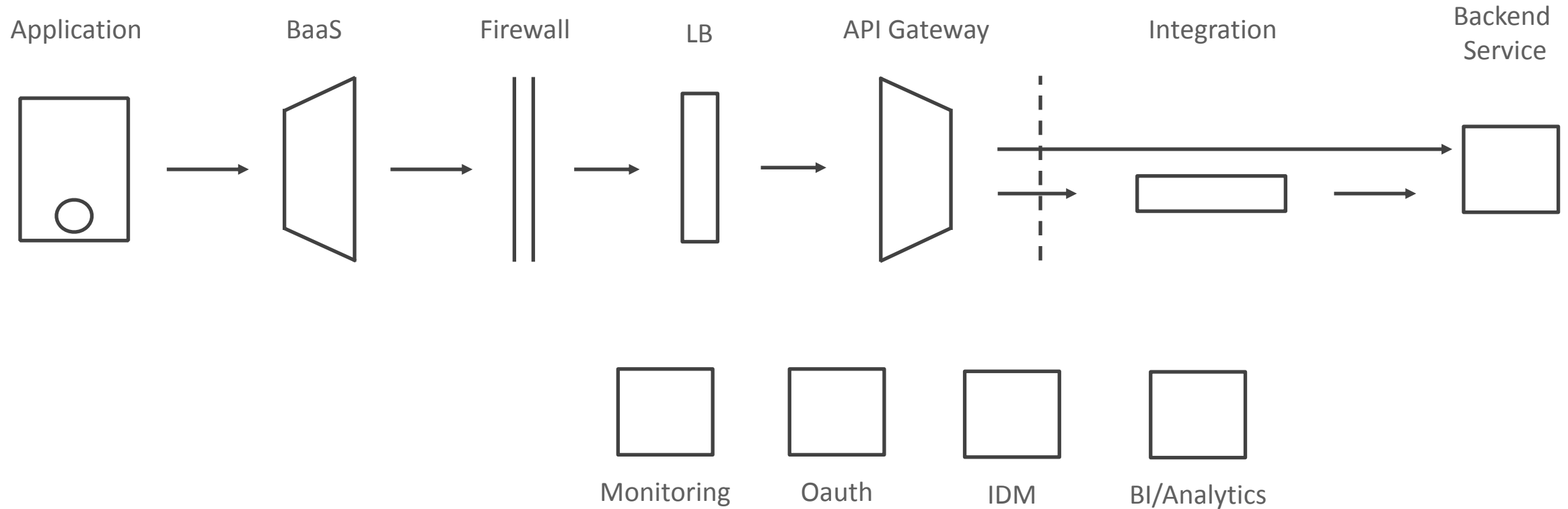
Demo

V1 – Feature Overview

- **API Inventory & Catalog:** Know what APIs are available

- **API Implementation:** Build new APIs using our UI

- **Policies:** 20 top security, quality of service, and routing policies

- **API Deployment:** Deploy, Activate, Deprecate, and Remove APIs

- **Interactive Documentation:** Give API consumers the information they need to succeed

- **User Roles & Grants:** Control access to your APIs with API level entitlements

- **Application Registration & Management:** Manage the applications using your APIs to ensure proper usage

- **Operational Analytics:** 10 charts to see who is using your API, how, and if they are encountering issues

V1 – List of Policies

- **Security**
  - Oauth 2
  - Basic Auth
  - Key Validation
  - IP Filtering
  - Service Auth
  - CORS

- **Traffic Management**
  - API Rate Limiting
  - API Rate Limiting Per Application
  - API Throttling

- **Interface Management**
  - Interface Filtering
  - Method Mapping
  - Redaction
  - Header Validation

- **Routing**
  - Header Based Routing
  - Resource Based Routing
  - Application Based Routing
  - Gateway Based Routing

- **Other**
  - Groovy Script
  - Service Callout
  - Logging

V1 – Initial List of Operational Analytics

- **General**
  - Request Volume
    - Success
    - Reject
    - Error
  - Response Time
    - API Layer
    - Service Layer
  - Payload Size
    - Inbound
    - Outbound
  - Requests by Resource
    - Success
    - Reject
    - Error

- **Rejections & Errors**
  - Policy Rejection Rate
    - Inbound/Outbound
    - By Policy
  - Policy Rejection Distribution
  - Error Rate
    - Service Errors
    - Policy Errors
    - By Error
  - Error Distribution

- **Application**
  - Requests by Application
    - Requests
    - Rejections
    - Errors

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