WSO2CON 2025

Staying Ahead: Modernization Through Seamless Integration



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Director - Engineering
WSO2

Modernization & Integration

Story of GlobalLogi



Story of GlobalLogi

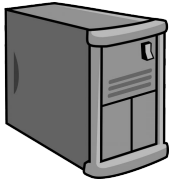


Inventory

Legacy, but they do the job..!



Shipment Tracking



Order Management

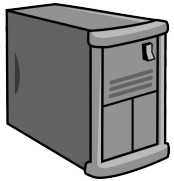
New Requirements



Inventory



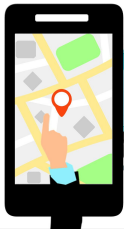
Shipment Tracking



Order Management



Track from a Mobile App



Schedule Shipments From Web



Understanding Legacy Challenges



- Outdated architectures
- Security risks
- High maintenance costs
- Difficulty in scaling

Why Not Replace?



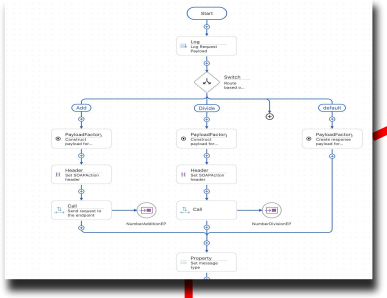
- Critical data and processes
- Proven reliability
- Cost and risk of replacement
- Complex dependencies
- Loss of expertise
- Cultural resistance

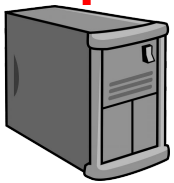
Leveraging Integration for Seamless Modernization



Inventory

Integration





Order Management



Shipment Tracking

Track from a Mobile App



Schedule Shipments From Web



The Role of Integration in Modernization

The Role of Integration in Modernization

Integration is the ***bridge*** that connects legacy systems to modern technology.



The Role of Integration in Modernization

Stability



Integration

Innovation

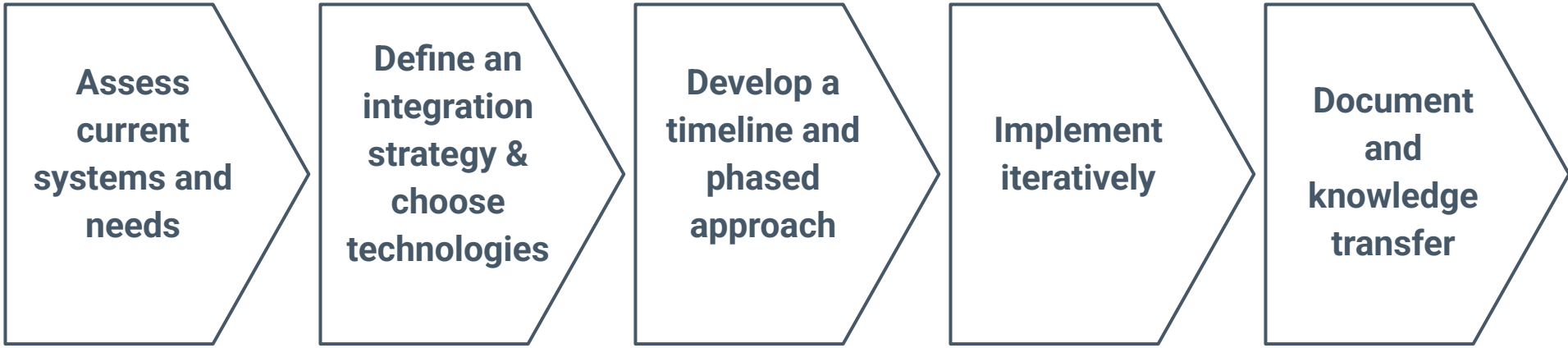


Leveraging Integration for Seamless Modernization

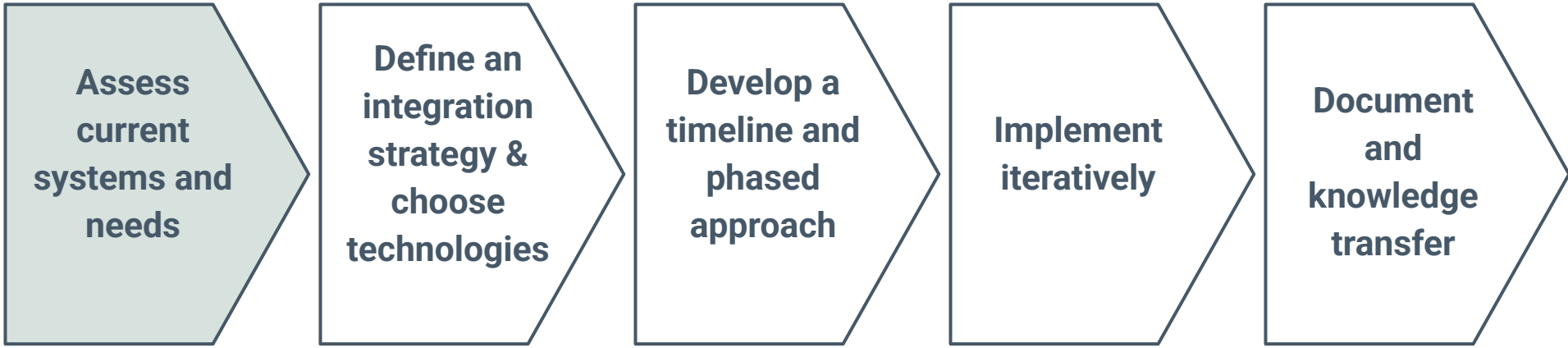
- Minimize Disruption
- Cost Efficiency
- Enhanced Flexibility
- Preservation of Legacy Value
- Scalability

Framework for Modernization Through Integration

Framework for Modernization Through Integration



Step 1: Assess current systems and needs



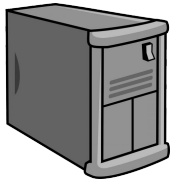
Step 1: Assess current systems and needs



Inventory

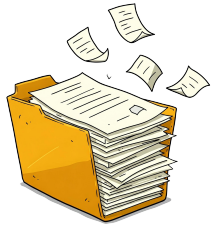


Shipment Tracking



Order Management

Current Systems



Documentation



People



AI

Track from a Mobile App

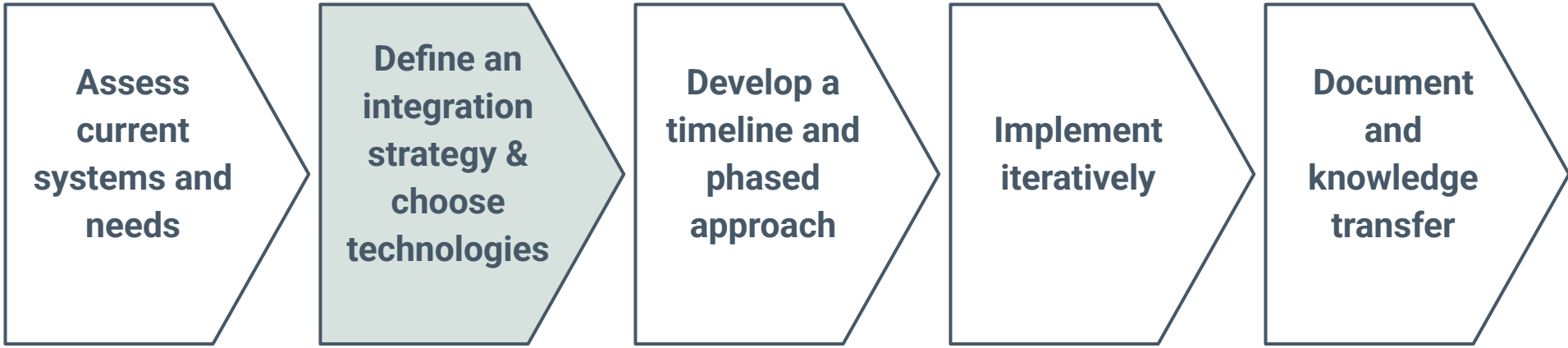


Schedule Shipments From Web

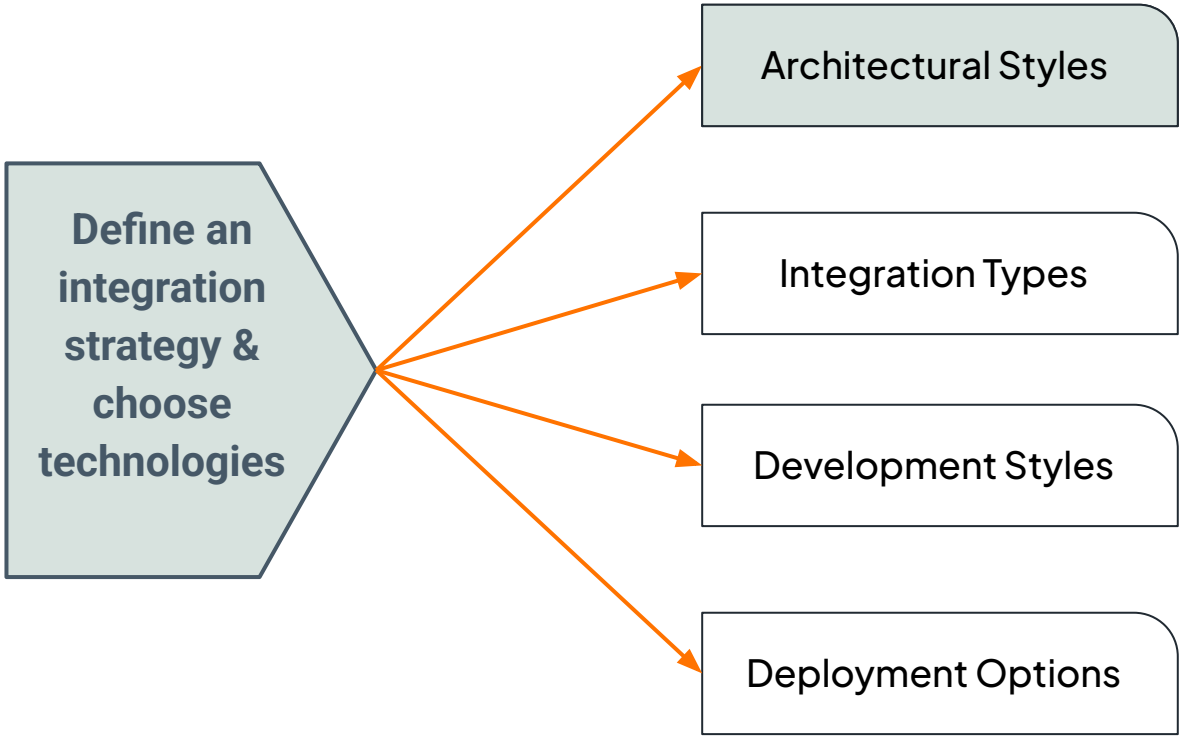


Needs

Step2: Define strategy and choose technologies

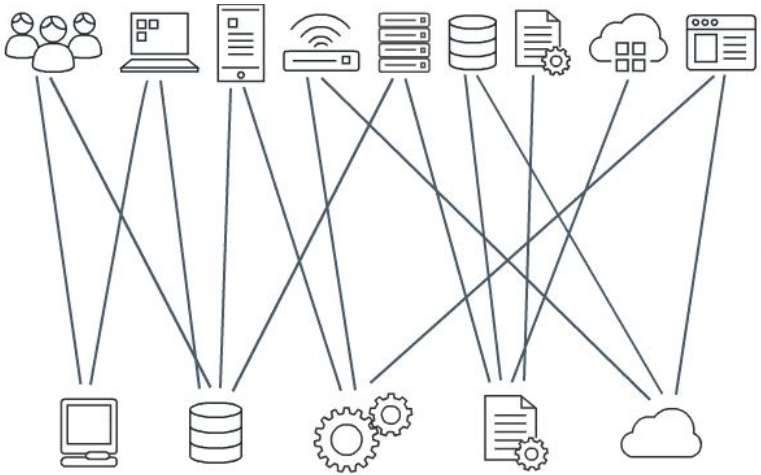


Step2: Define strategy and choose technologies

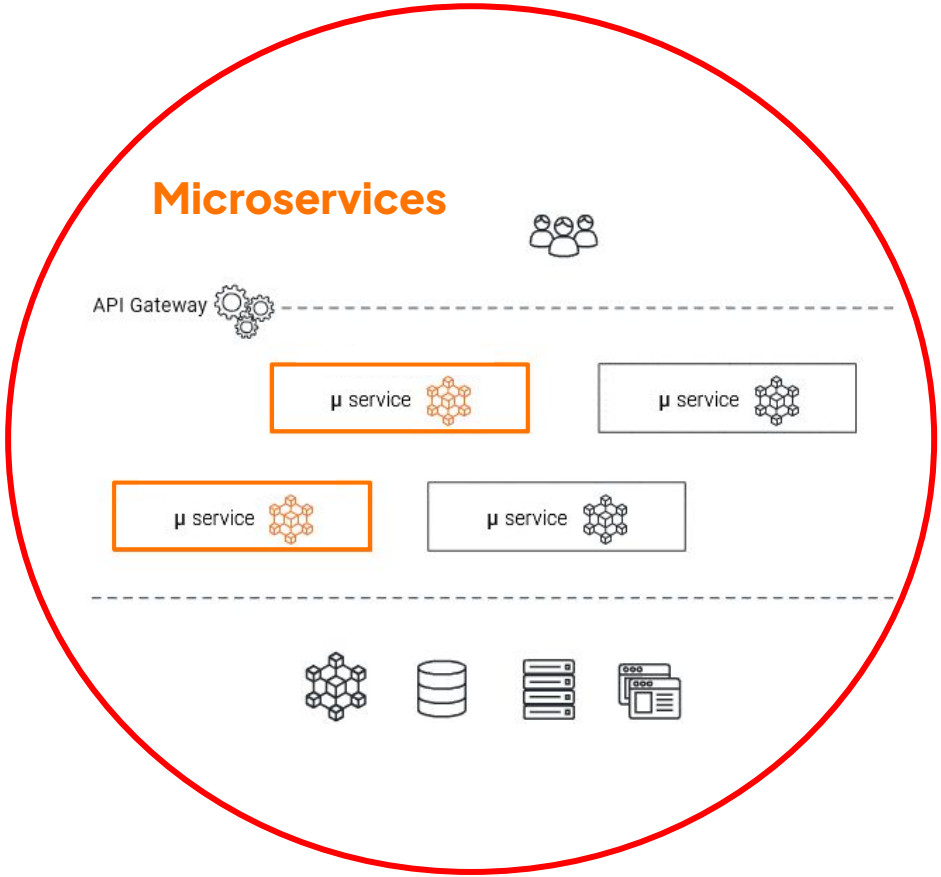


Architectural Styles

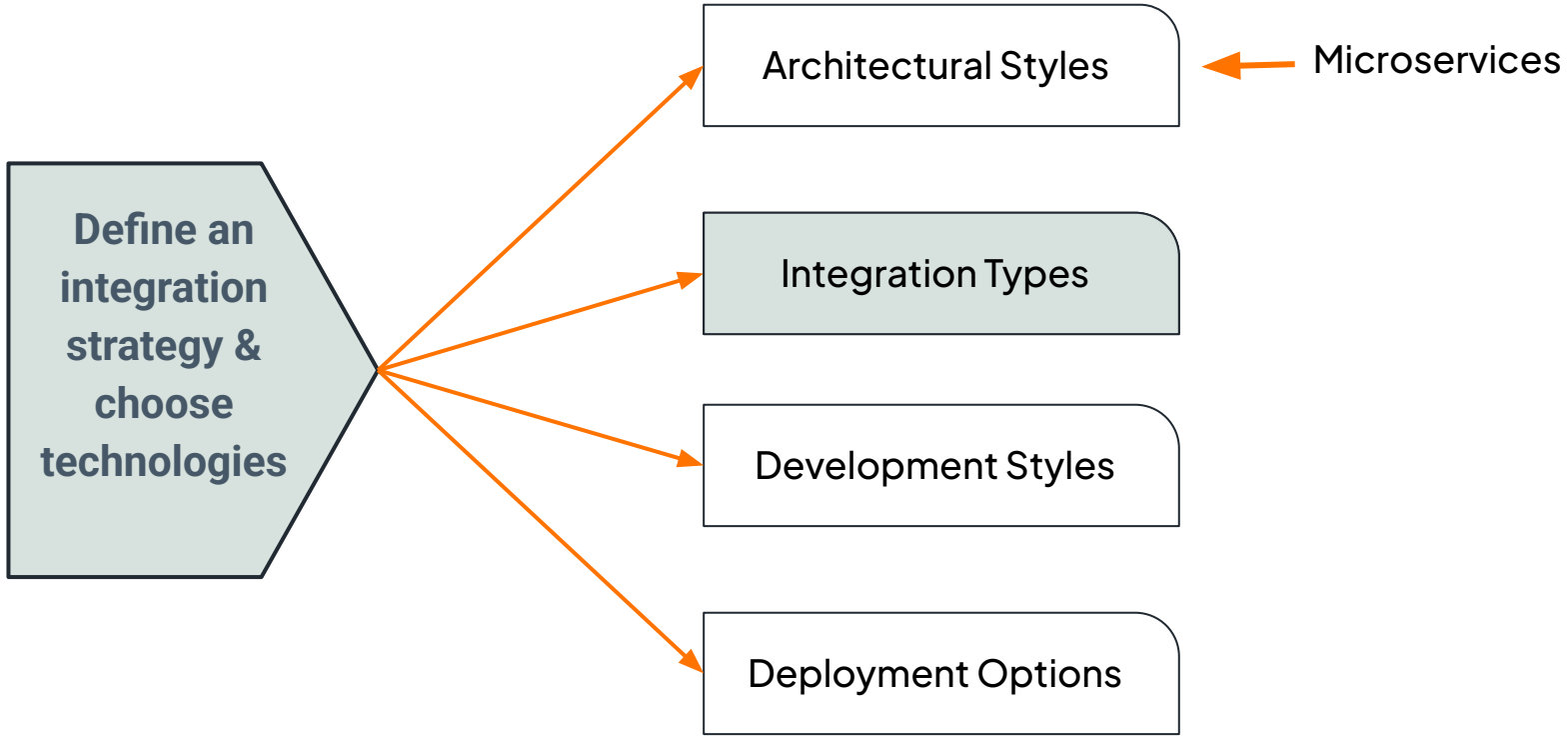
ESB (Centralized)



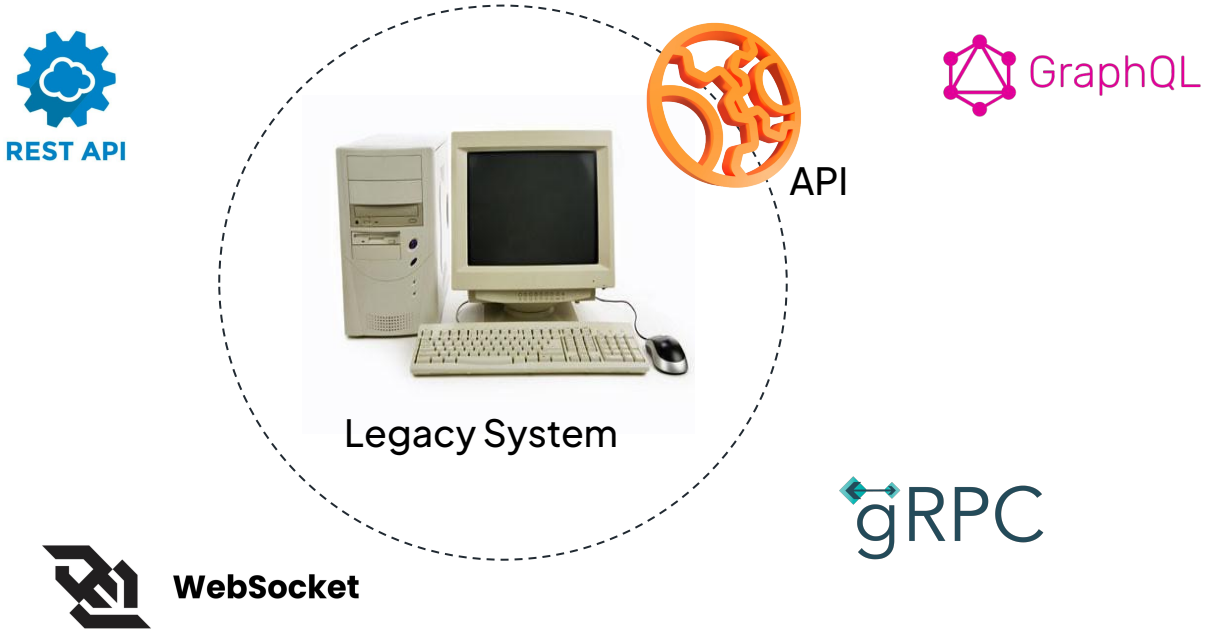
Microservices



Step2: Define strategy and choose technologies



Integration Types: Integrations as APIs



Integration Types: Automations

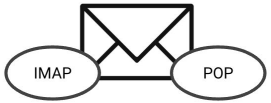


Integration Types: Event-based Integrations

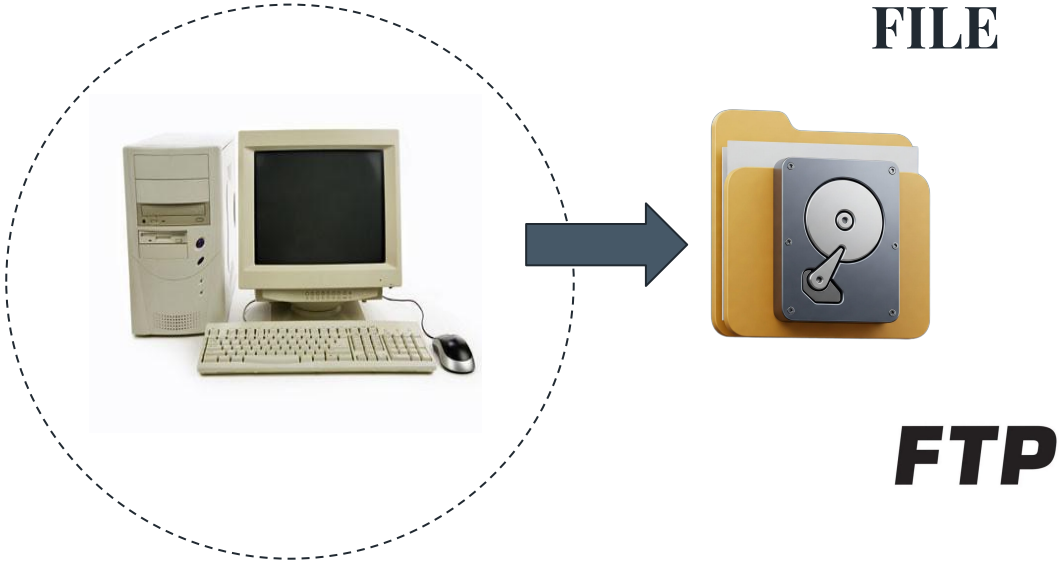
MQTT



kafka



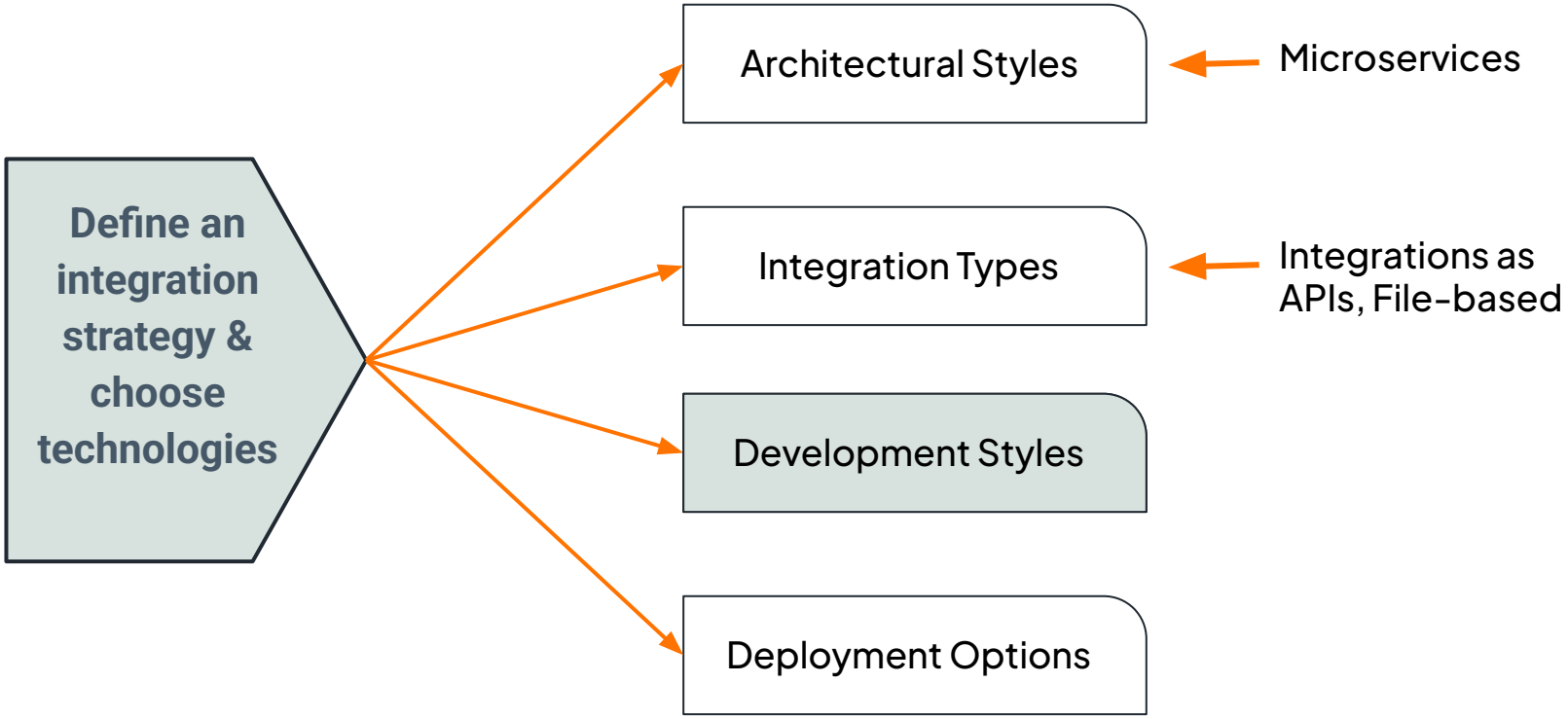
Integration Types: File-based Integrations



Integration Types: AI Agents

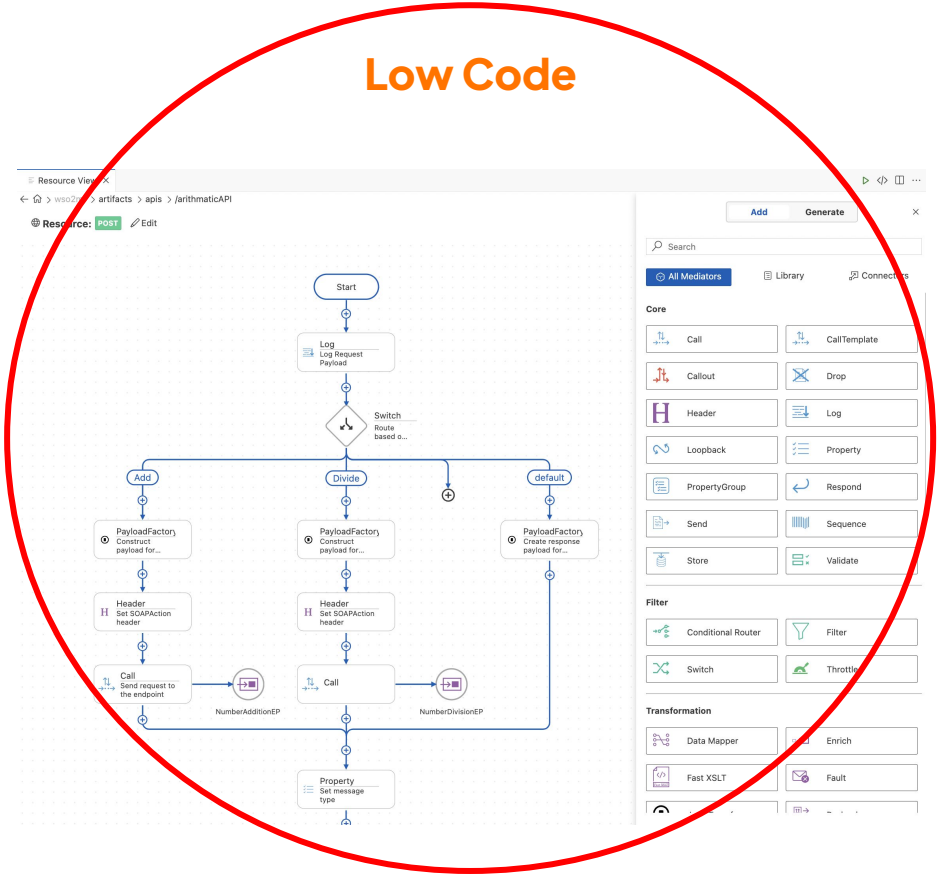


Step2: Define strategy and choose technologies



Development Styles

Low Code



Pro Code

main.bal > { } service / > get:weather/{cityName}

```
import ballerina/lang.value;
import ballerinax/redis;

final http:Client geoClient = check new (geoApiBaseUrl);
final http:Client weatherClient = check new (weatherApiBaseUrl);
final redis:Client redisClient = check new (connection = {
    host: redisHost,
    port: redisPort
});

Run | Debug | Try it | Visualize
service / on new http:Listener(8080) {
    Visualize
    resource function get weather/[string cityName]() returns Weathe
        string cacheKey = string `weather_${cityName}`;
        // check in Redis cache
        string? cachedWeather = check redisClient->get(key = cacheKe
        if cachedWeather is string {
            // return cached response
            return check value:fromJsonStringWithType(cachedWeather)
        }

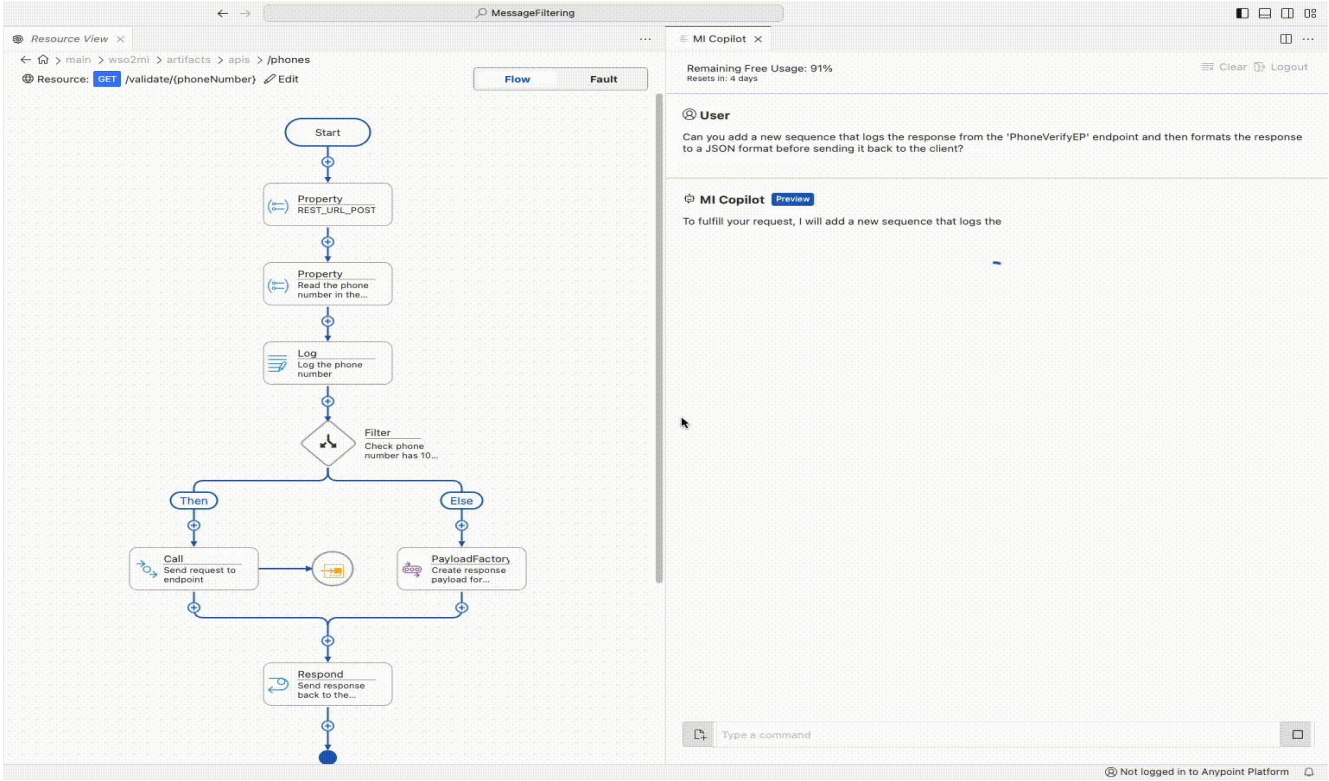
        map<string|string[]> headers = {};
        json geoResponse = check geoClient->get(path = "/geo/1.0/dir
        GeoLocation[] locations = check geoResponse.cloneWithType();
        if locations.length() == 0 {
            return error("City not found");
        }

        GeoLocation location = locations[0];
        decimal latitude = location.lat;
        decimal longitude = location.lon;

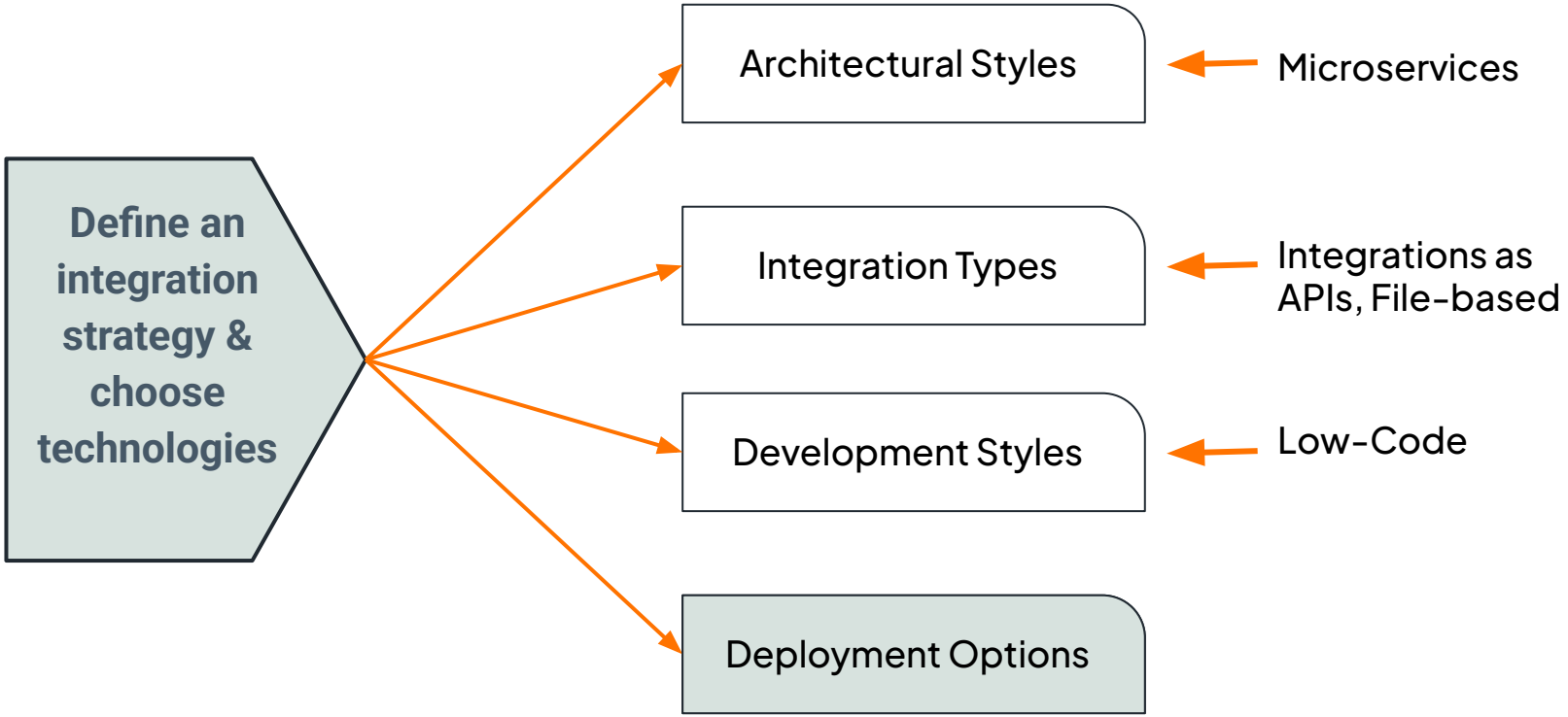
        json weatherResponse = check weatherClient->get(
            path = "/data/2.5/weather?lat=" + latitude.toString() +
            headers = headers
        );
        Weather weather = check weatherResponse.cloneWithType();

        WeatherResponse response = {
            city: weather.name,
            country: weather.country,
            temperature: weather.main.temp,
            feelsLike: weather.main.feels_like,
            description: weather.weather[0].description,
```

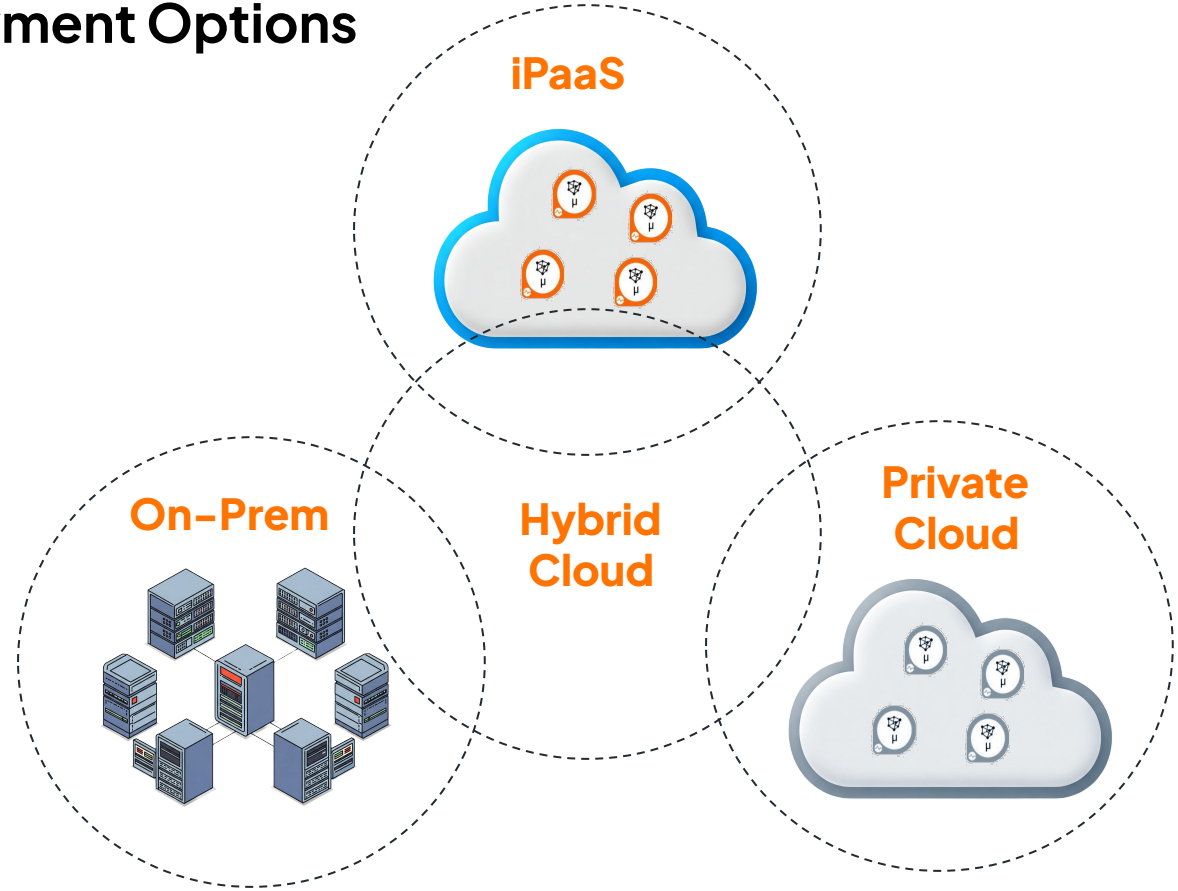
AI-Assisted Development



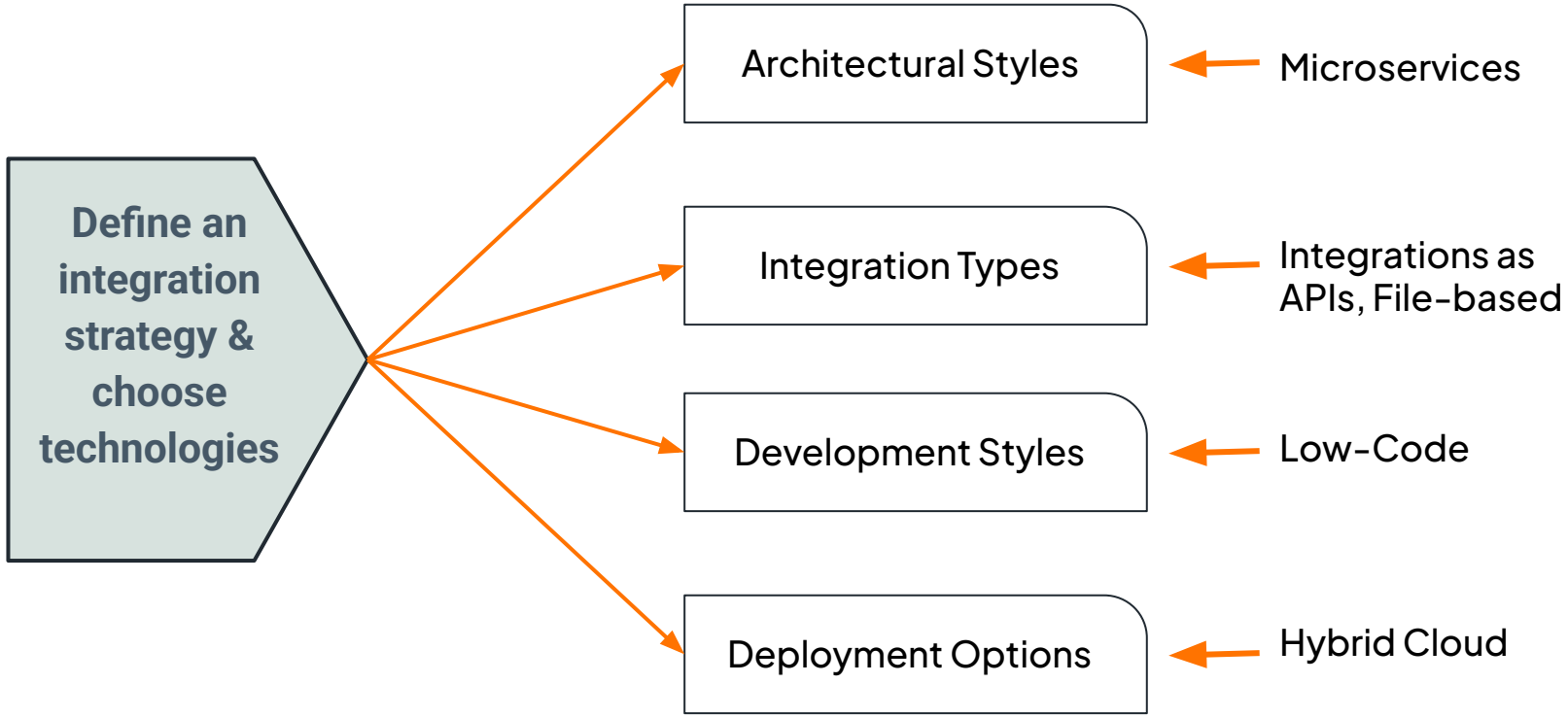
Step2: Define strategy and choose technologies



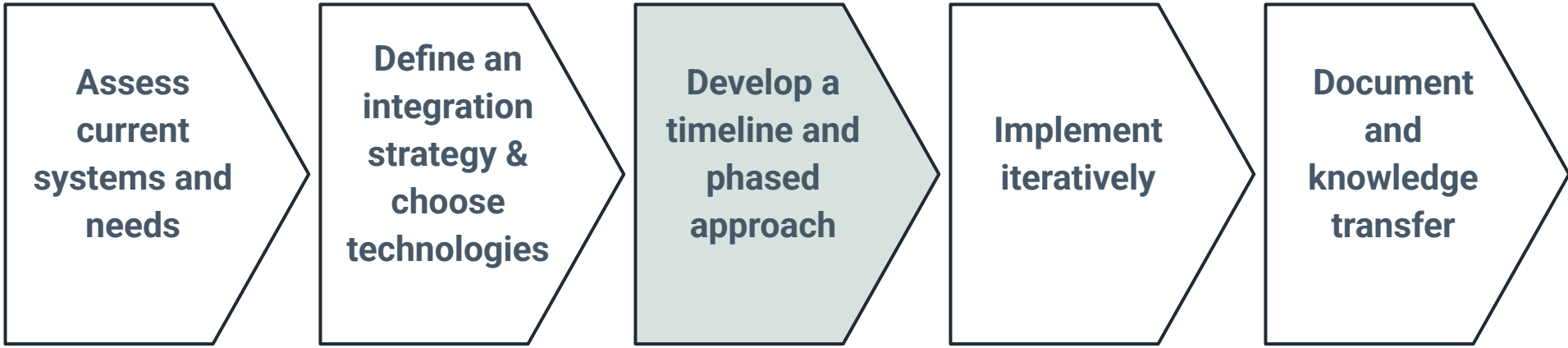
Deployment Options



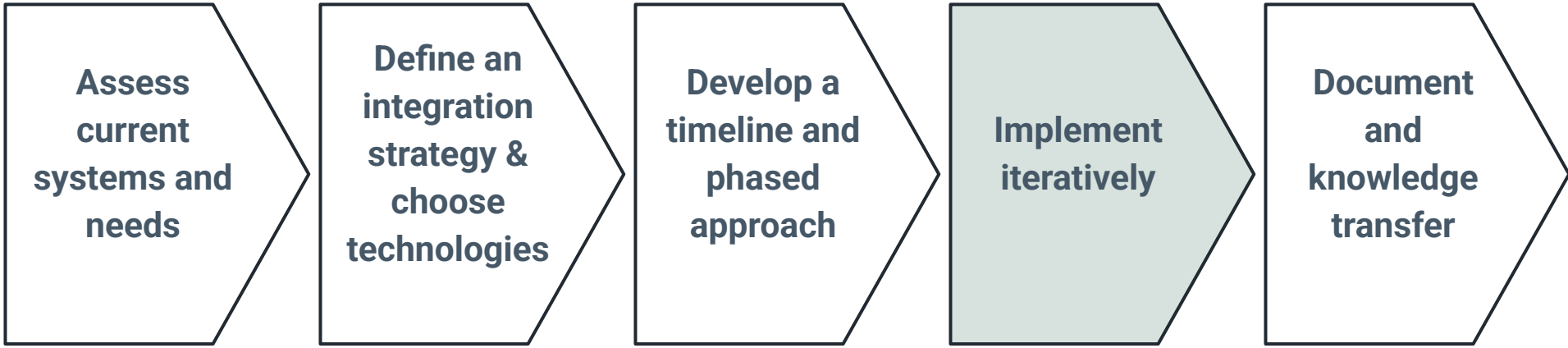
Step2: Define strategy and choose technologies



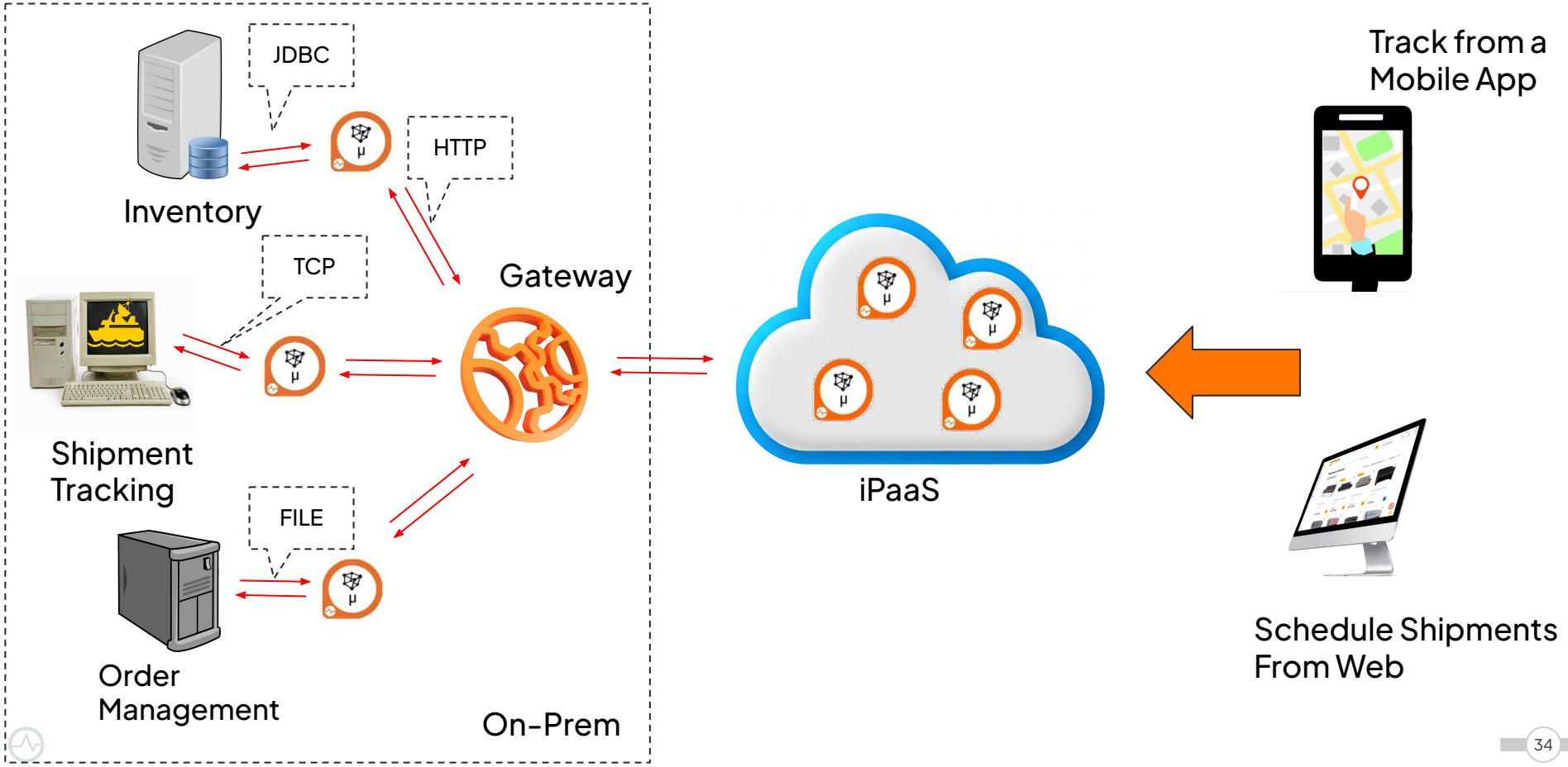
Step 3: Develop a timeline and phased approach



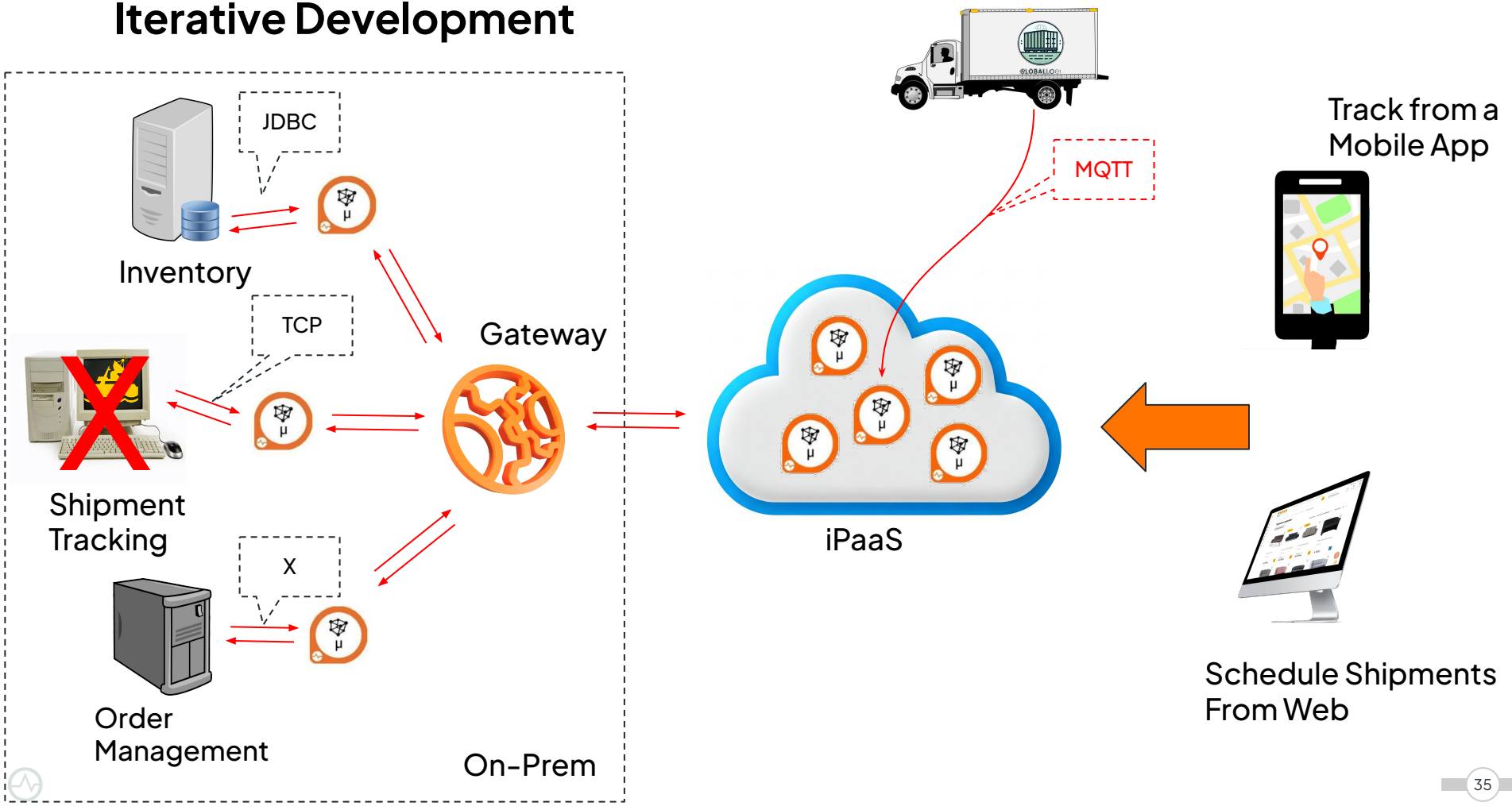
Step 4: Implement iteratively



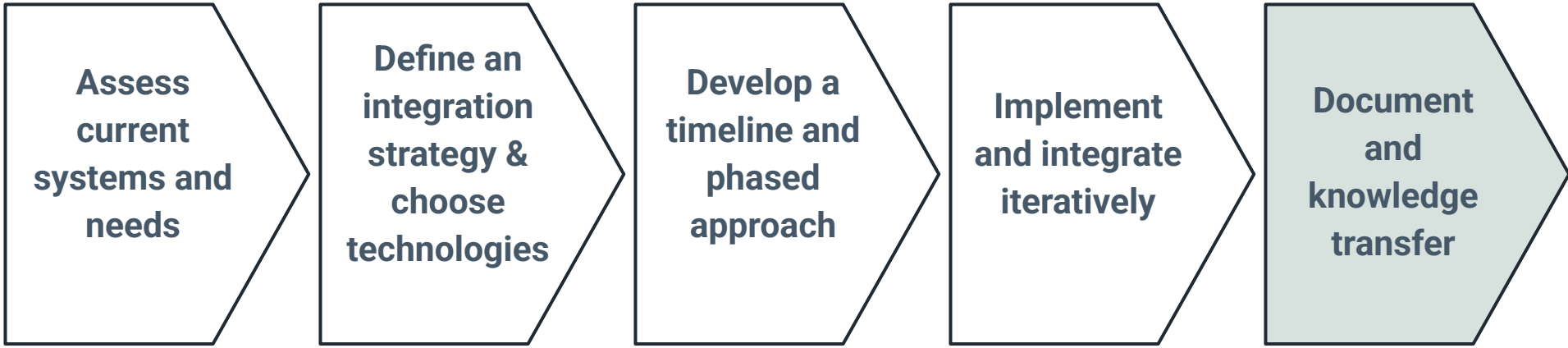
Iterative Development



Iterative Development



Step 5: Document and knowledge transfer



Question Time!




Thank you!
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