Getting on the Bus

An Introduction to NServiceBus

Sam Martindale

Introduction

Sam Martindale

Architecting Innovation

14+ Years Development Experience

Co-Founder & Managing Partner, AI

NServiceBus adopter since v1.x

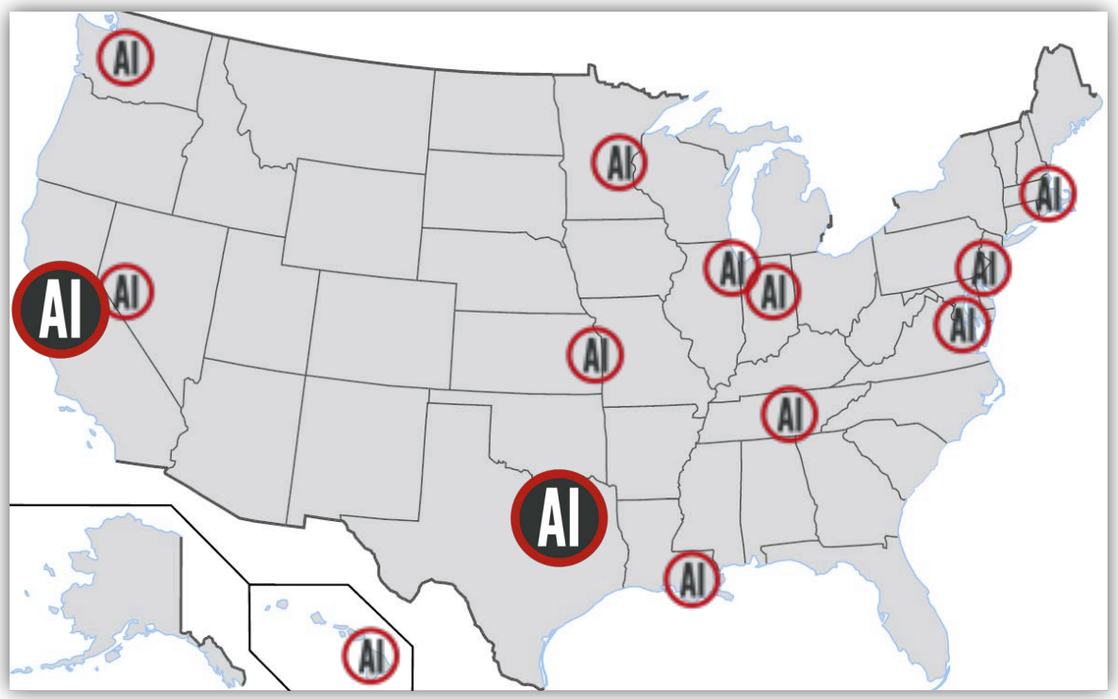
Introduction

Architecting Innovation

Founded in 2012

Consulting Services

- Distributed Systems Architecture
- Business Intelligence
- Software Development
- UX



Distributed Systems

What is SOA Anyways?

Service-oriented architecture (SOA) is a software design and software architecture design pattern based on distinct pieces of software providing application functionality as services to other applications.

What is not SOA?

Web Services (alone)

RPC

“Services” that aren’t shared

Systems are not Applications

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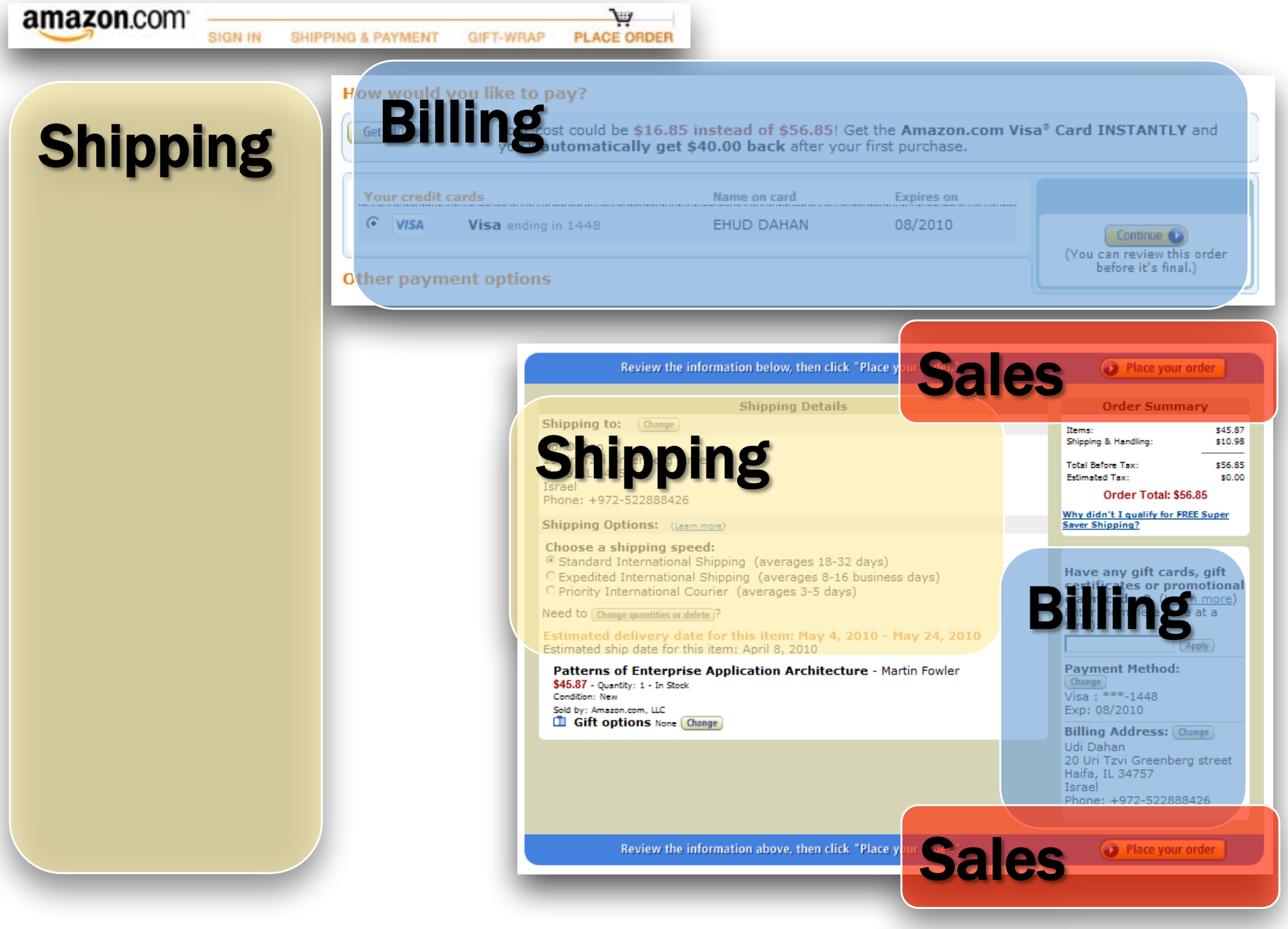
Product Service

Cross Sell Service

Pricing Service

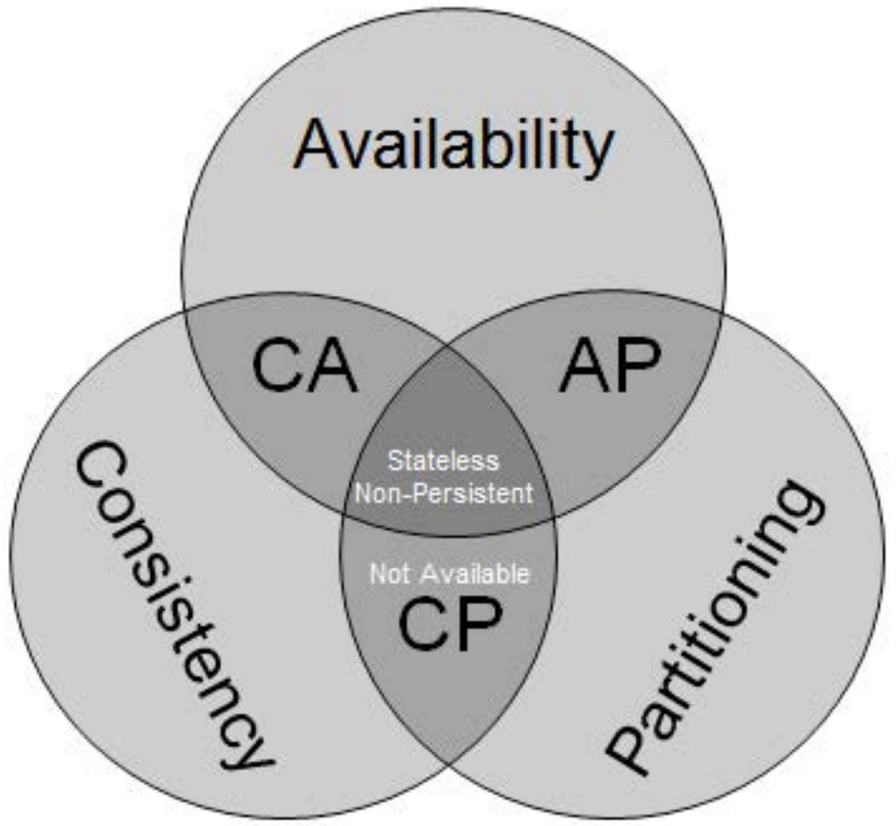
Systems are not Applications



The Fallacies

- The network is reliable.
- Latency is zero.
- Bandwidth is infinite.
- The network is secure.
- Topology doesn't change.
- There is one administrator.
- Transport cost is zero.
- The network is homogeneous.

CAP Theorem



First mentioned by Eric Brewer in 2000 and was proven 2 years later.

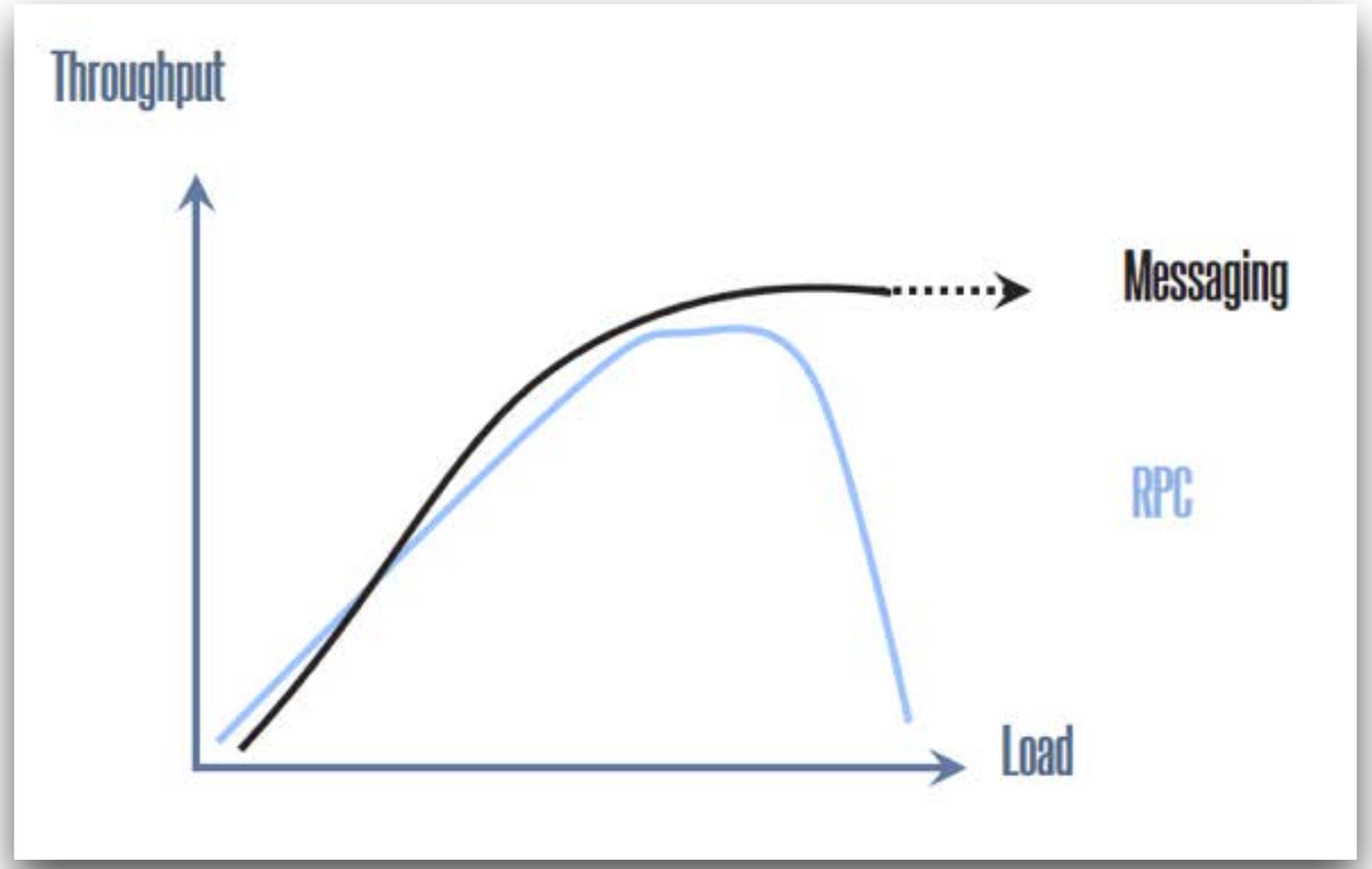
Messaging

Reduced Coupling

Store and Forward

Asynchronous

Fire-and-Forget



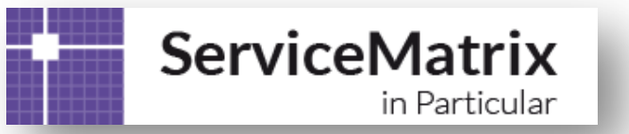
Event Driven Architecture

The other side of the SOA coin
Events in EDA, not commands
Informational
Complex Event Processing

What is NServiceBus?

Overview

Developed by Udi Dahan, 2006
Grew out of work in the Aerospace sector
Intended to make messaging easier, durable
Commands & Events as first class citizens



Benefits

Reliability

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Benefits

Scalability

Benefits

Extensibility

Benefits

Maintainability

Bus v Broker

Cross Sell Service

Product Service

Pricing Service

Bus v Broker

Product Service

Bus.dll

Pricing Service

Bus.dll

Cross Sell Service

Bus.dll

Who Uses this Thing?

Let’s Build Something

Demo System

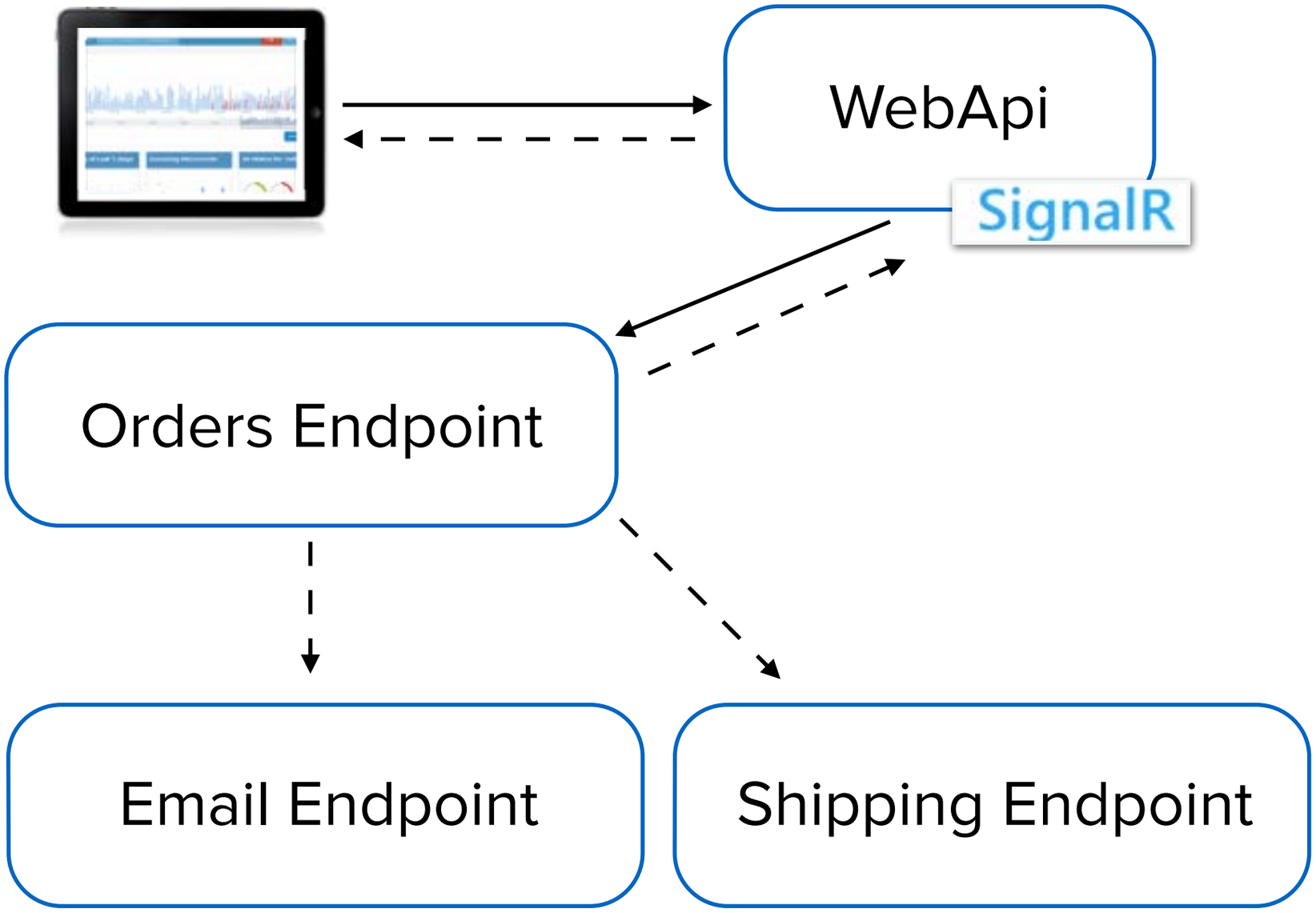
eCommerce site

- Take an Order online

- Schedule Shipping for Order

- Send confirmation email

Demo System


WebApi
SignalR
Orders Endpoint
Email Endpoint
Shipping Endpoint

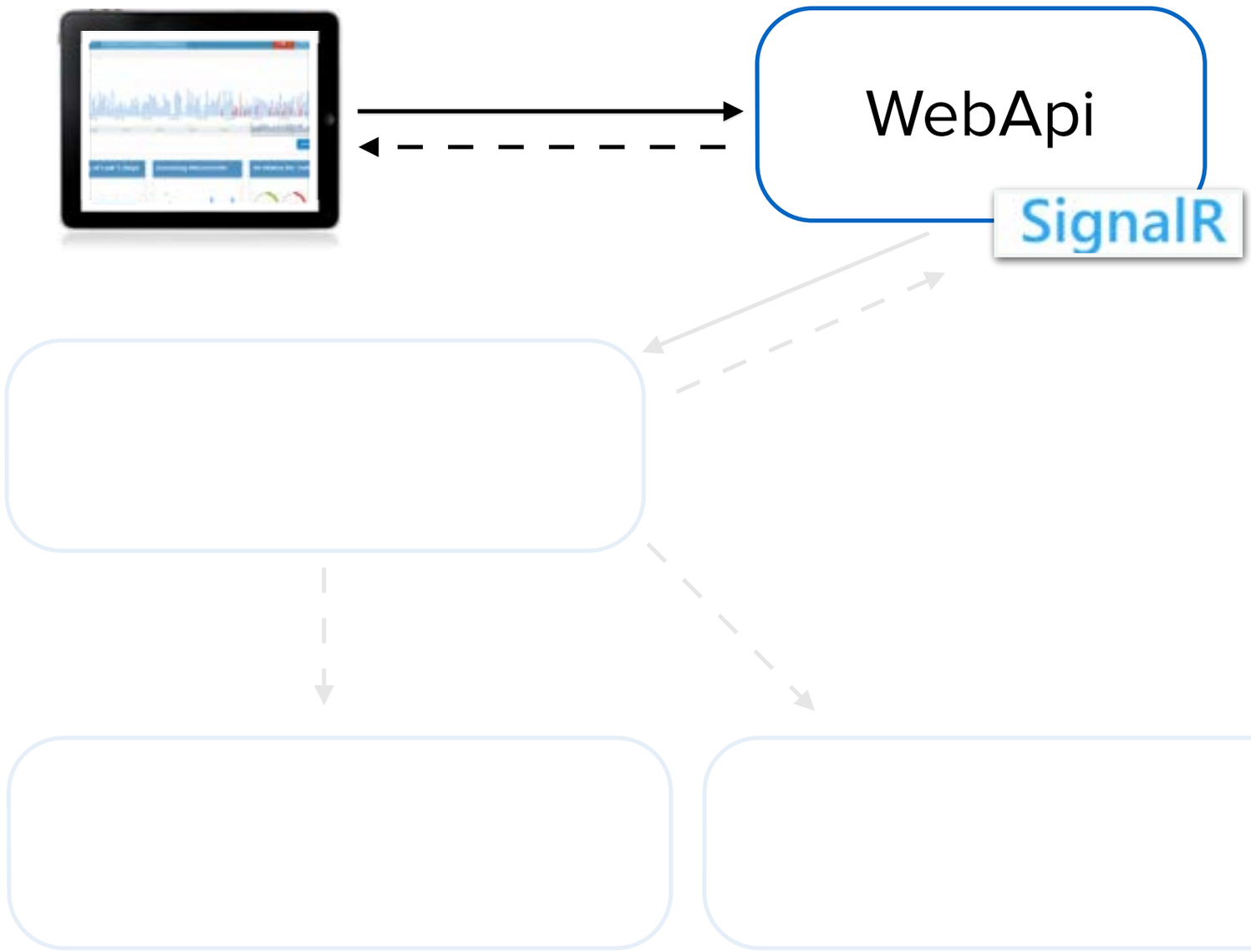
Components

The Web Application

Components

WebApi

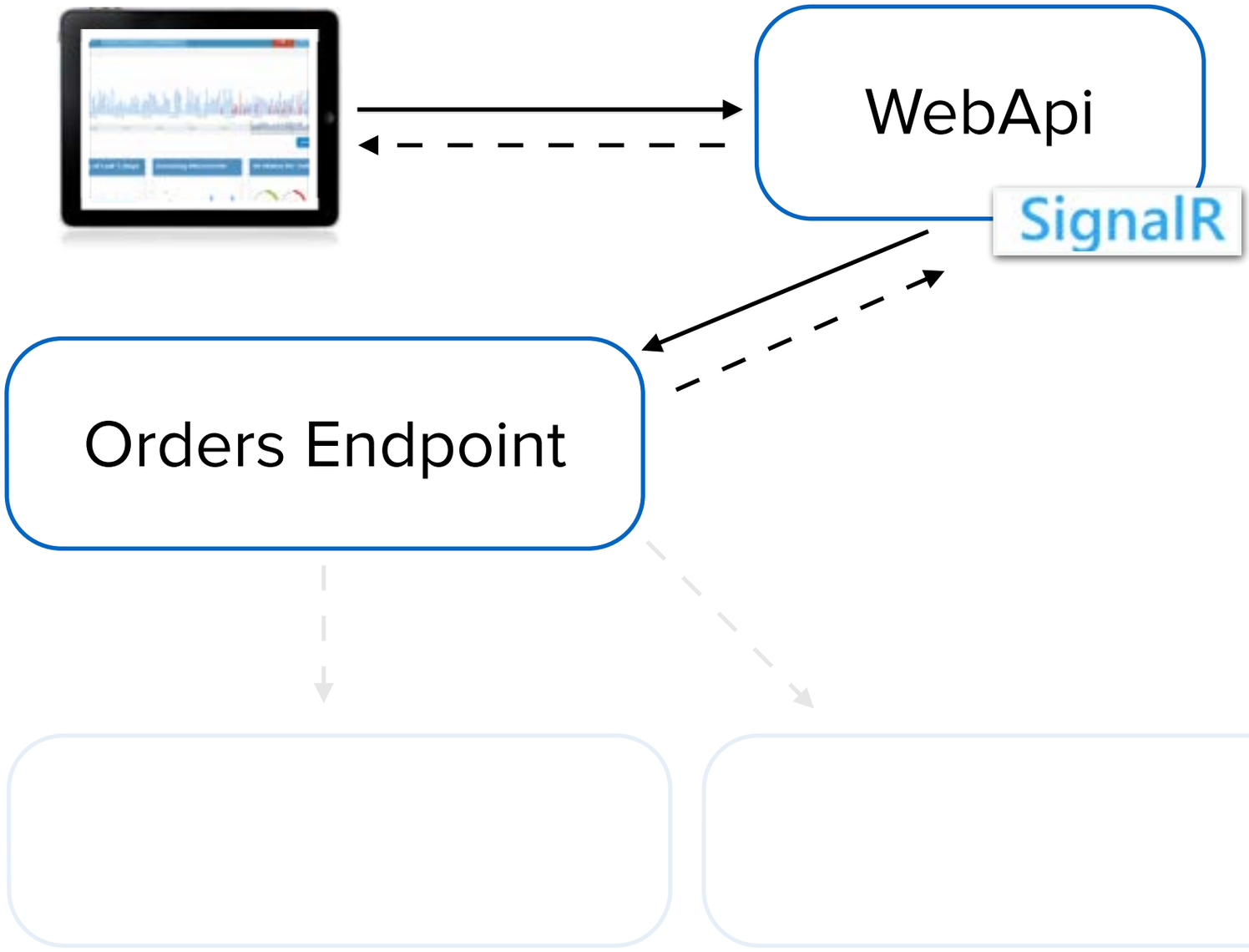
Exposes our backend services to the front end web and mobile applications



Components

Orders Endpoint

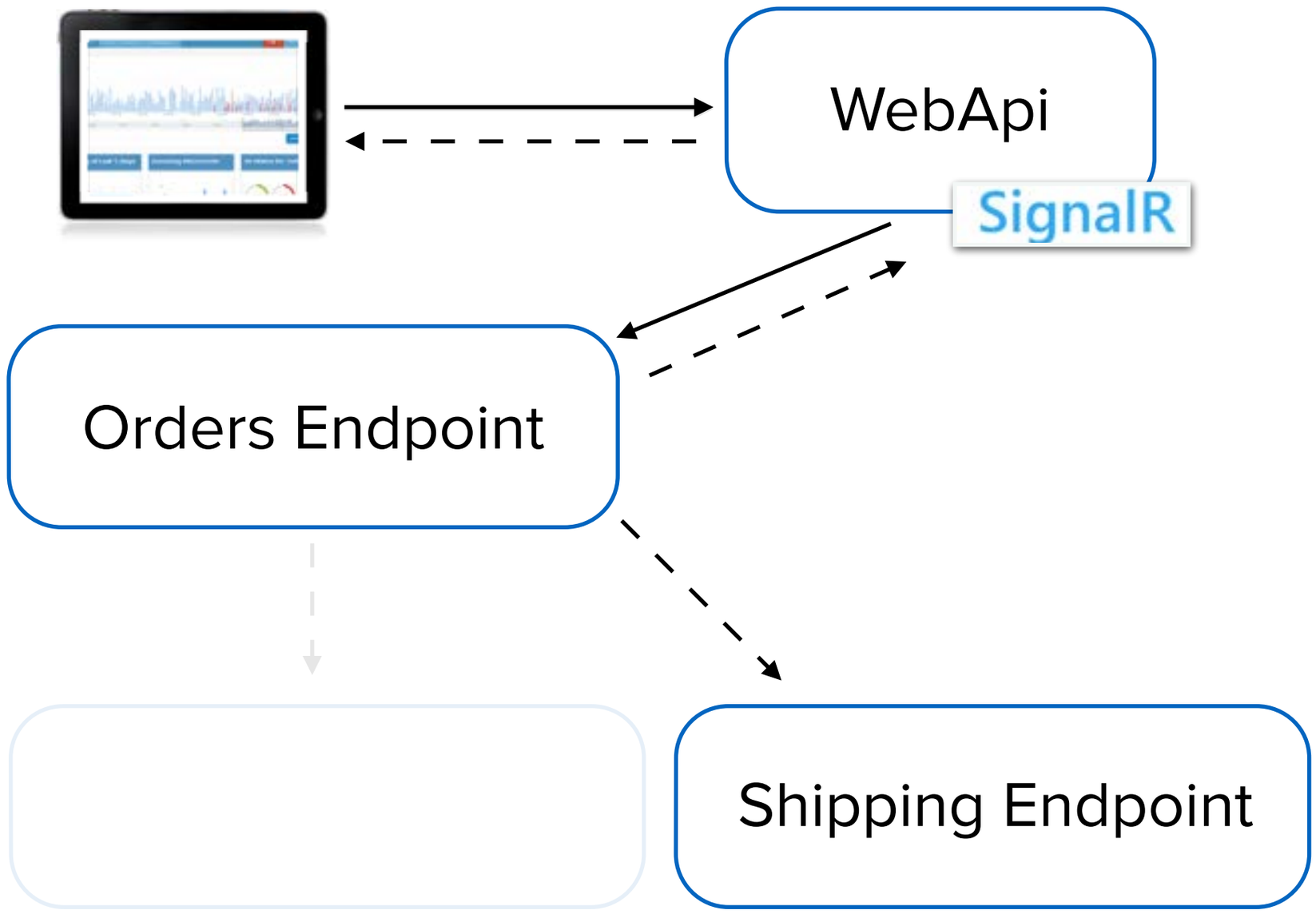
Responsible for placing the order in the database, and processing payment



Components

Shipping Endpoint

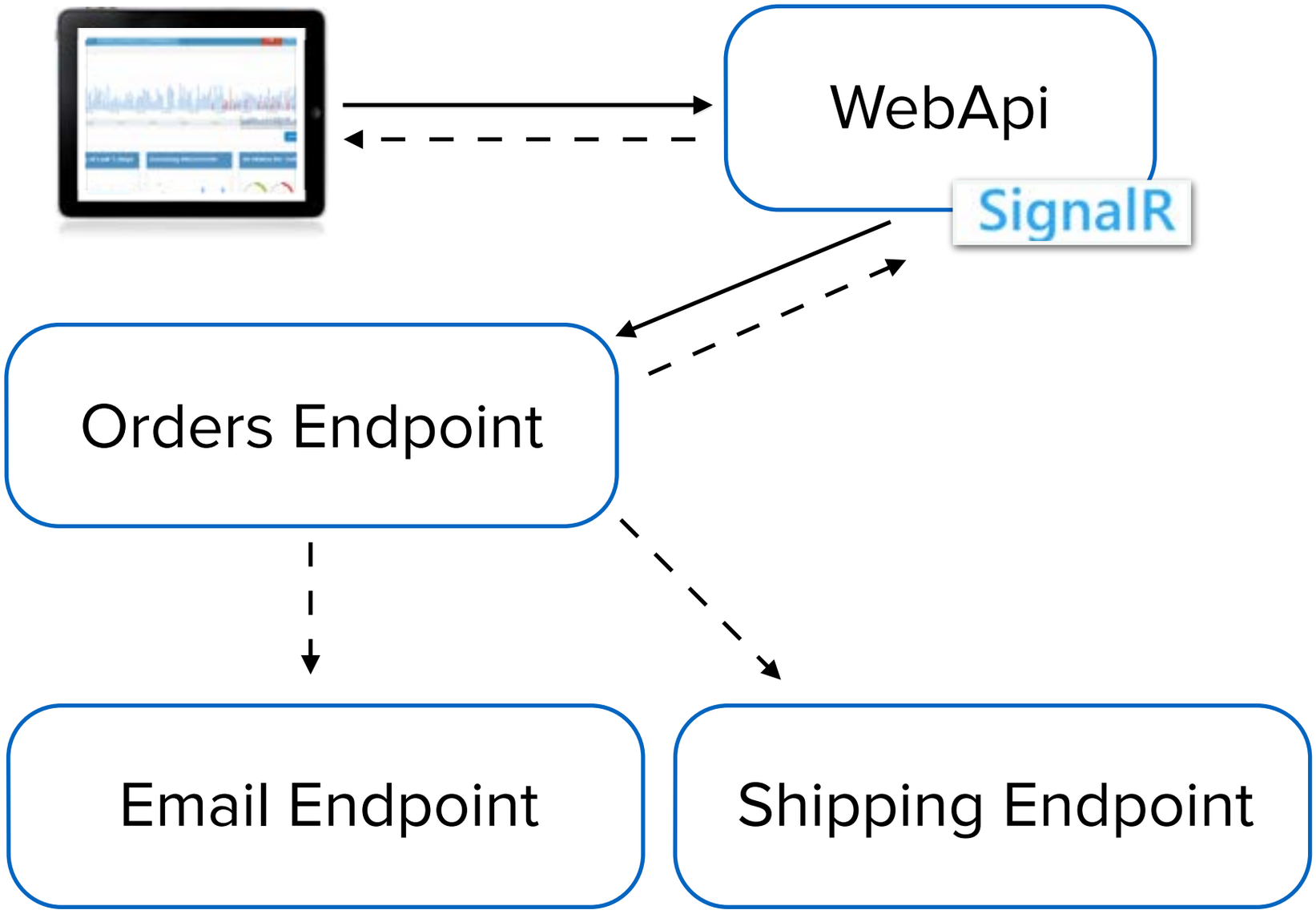
Responsible for scheduling the shipping of the order to the customer



Components

Email Endpoint

Responsible for sending a confirmation and thank you email to the customer after the order has been placed



Demo

Thank You