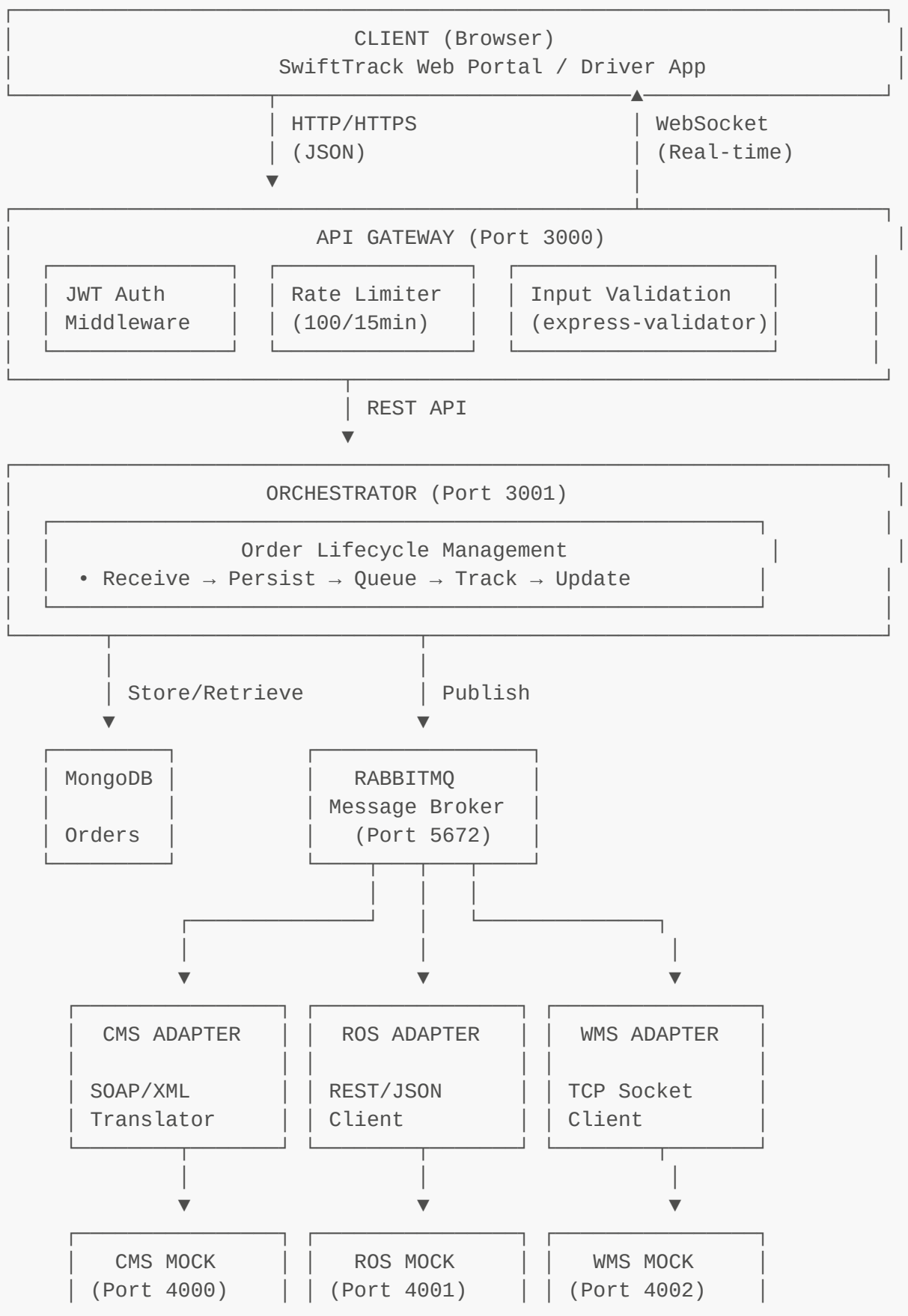
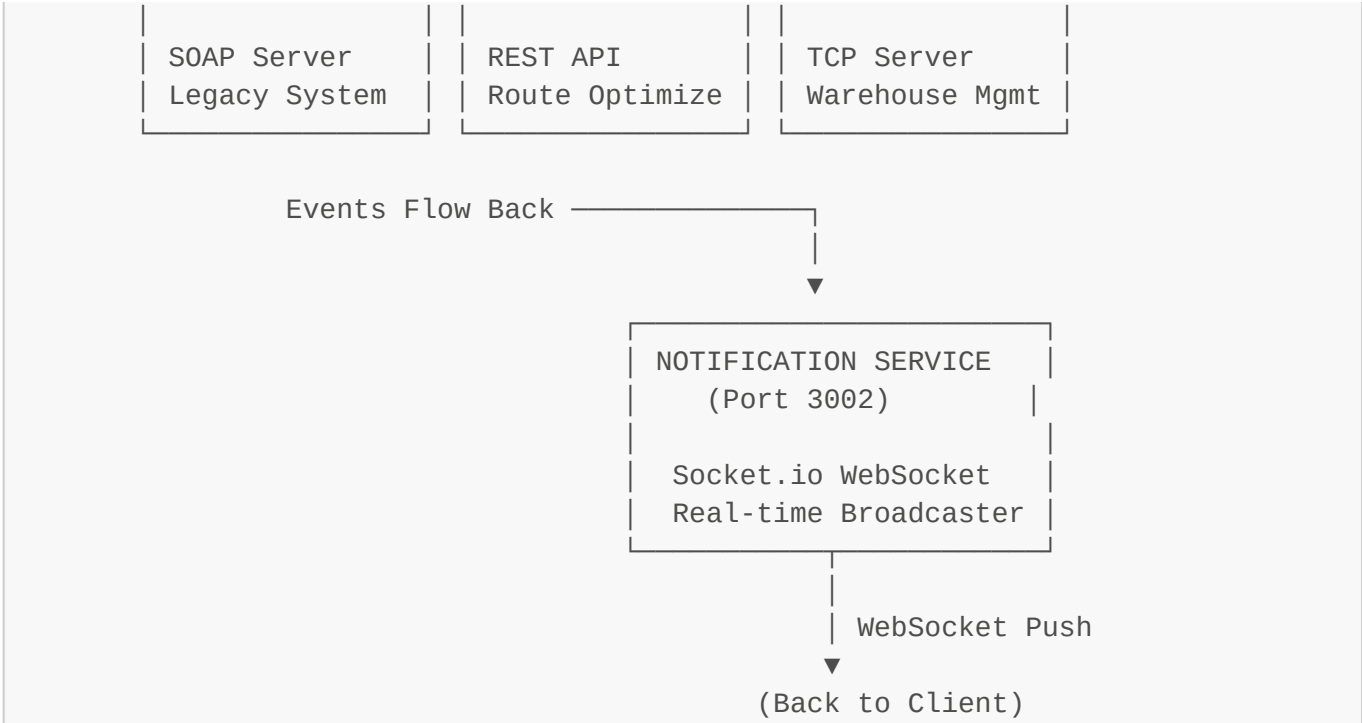
SwiftLogistics - System Architecture Diagrams

1. High-Level System Architecture





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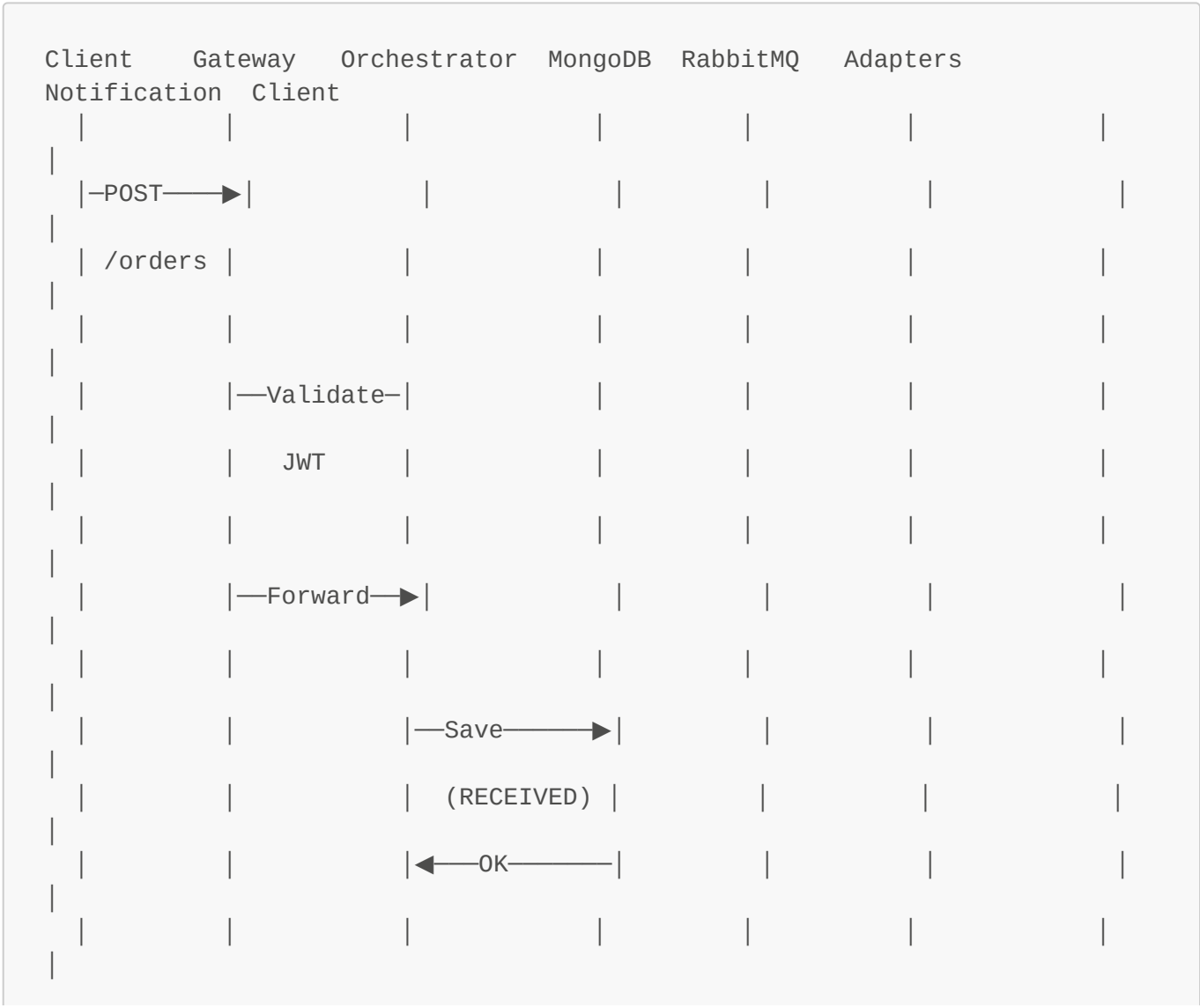
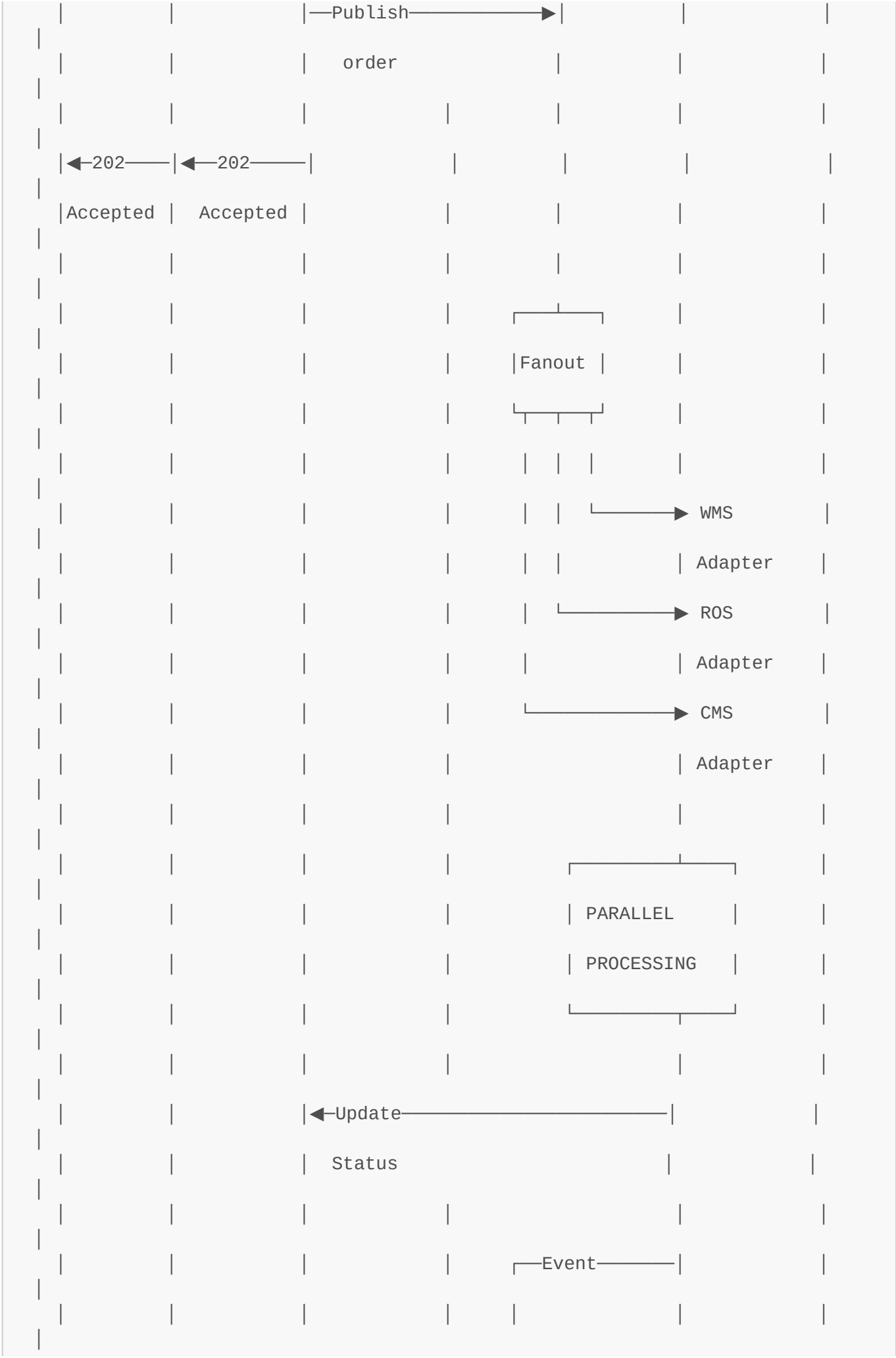
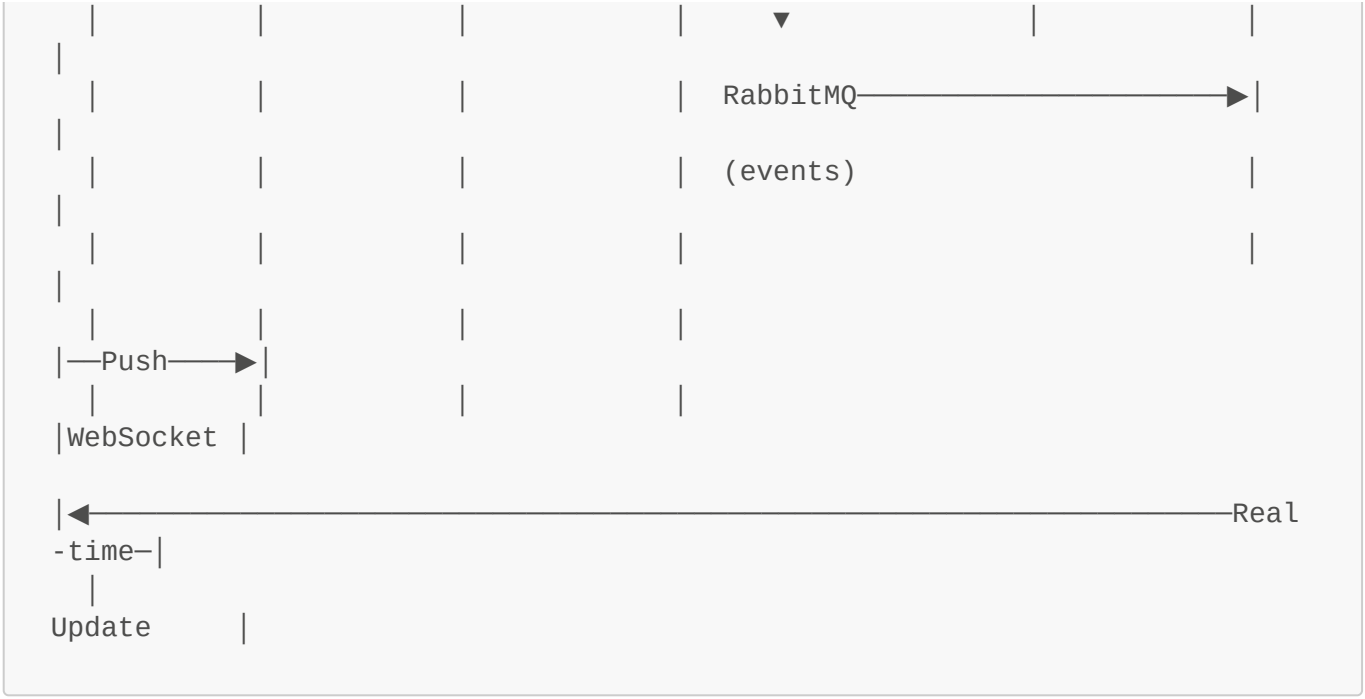
2. Order Submission Flow (Sequence)




Publish
order
202
Accepted
202
Accepted
Fanout
WMS
Adapter
ROS
Adapter
CMS
Adapter
PARALLEL
PROCESSING
Update
Status
Event



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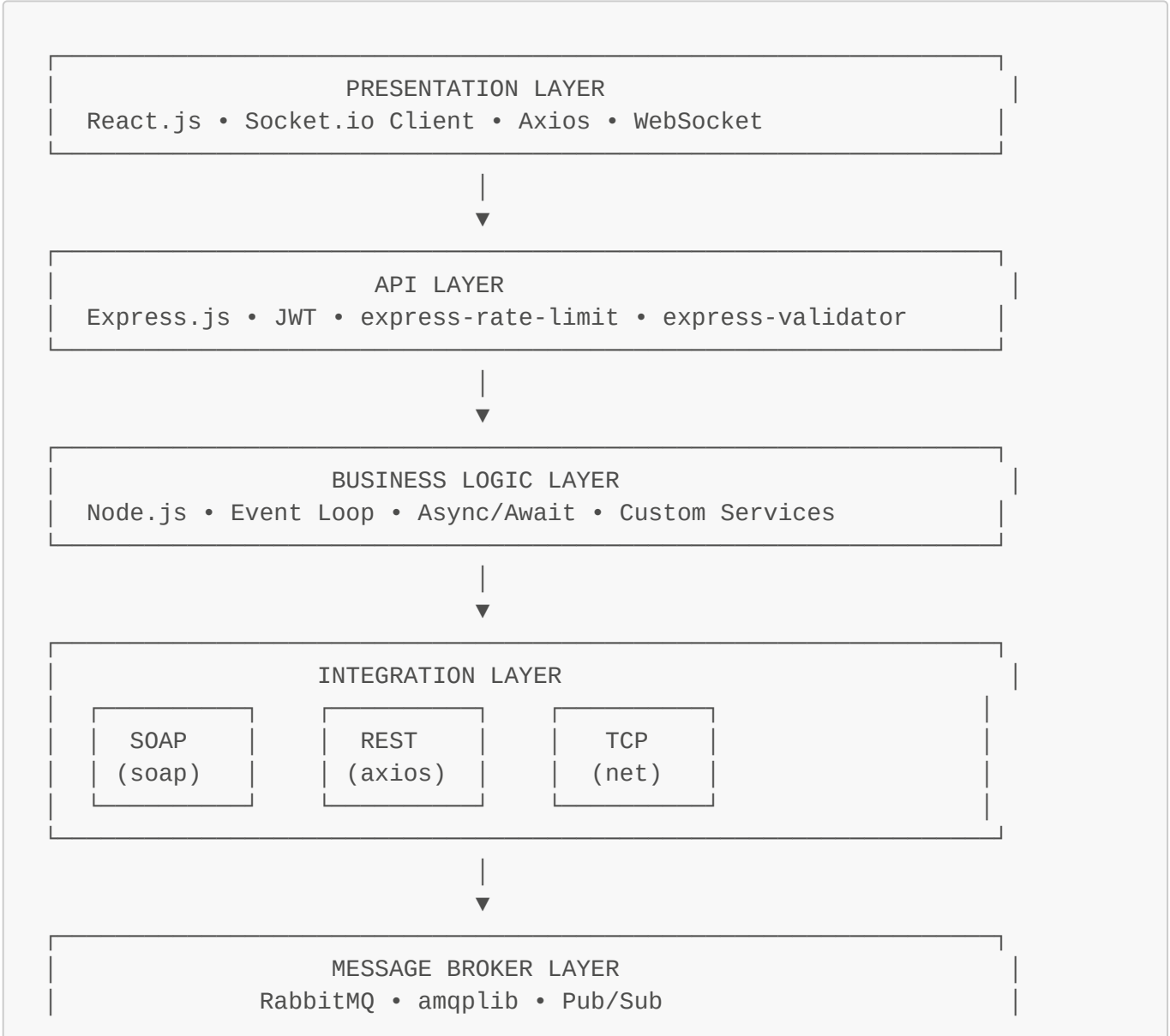
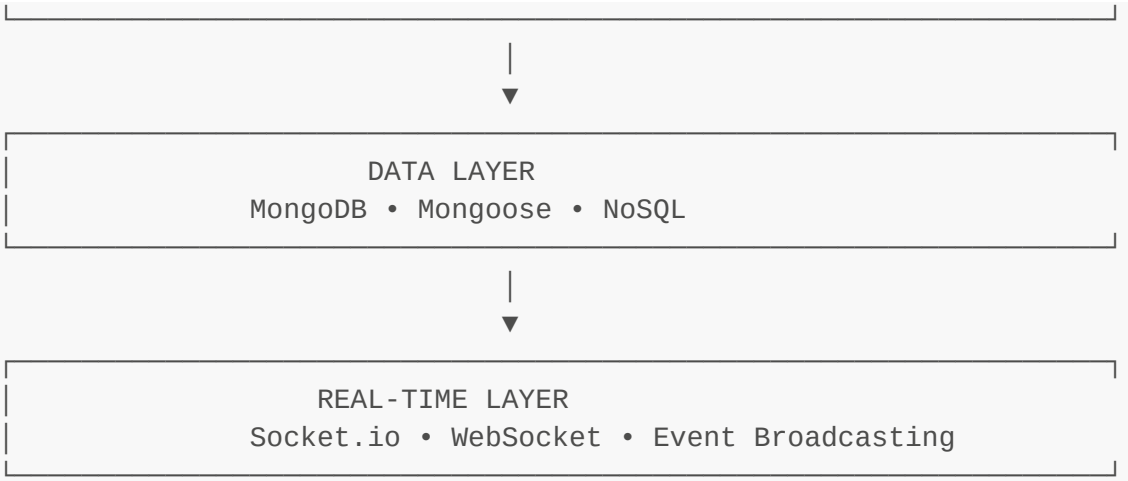
3. Technology Stack Mapping





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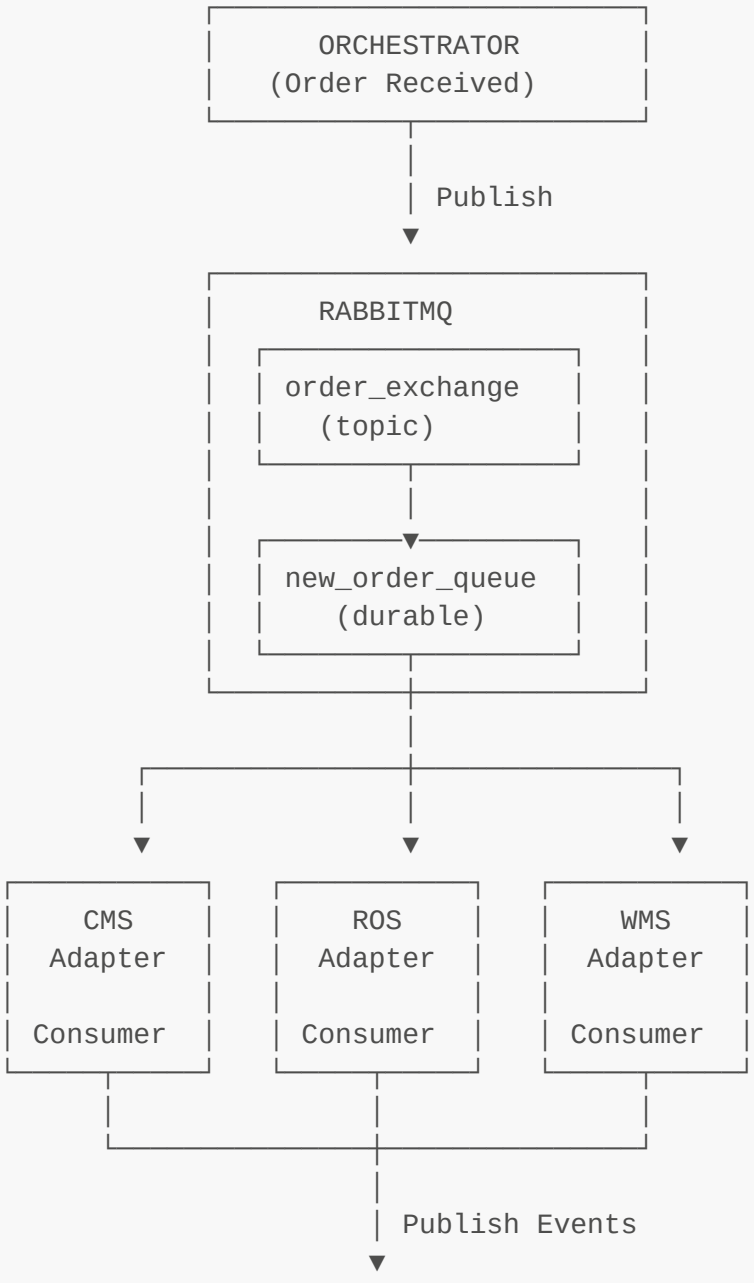
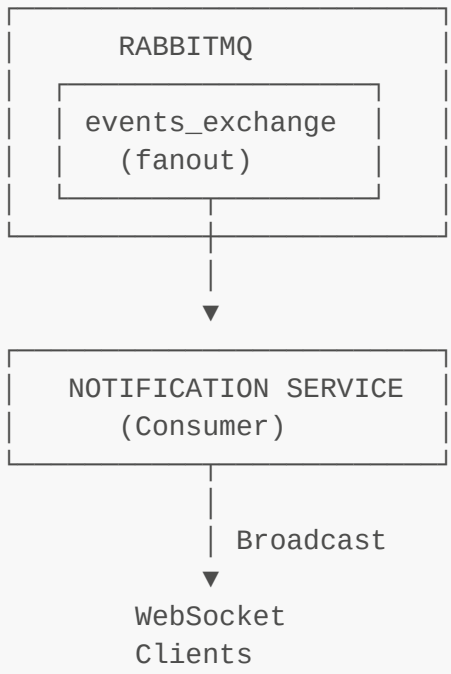
4. Message Queue Pattern





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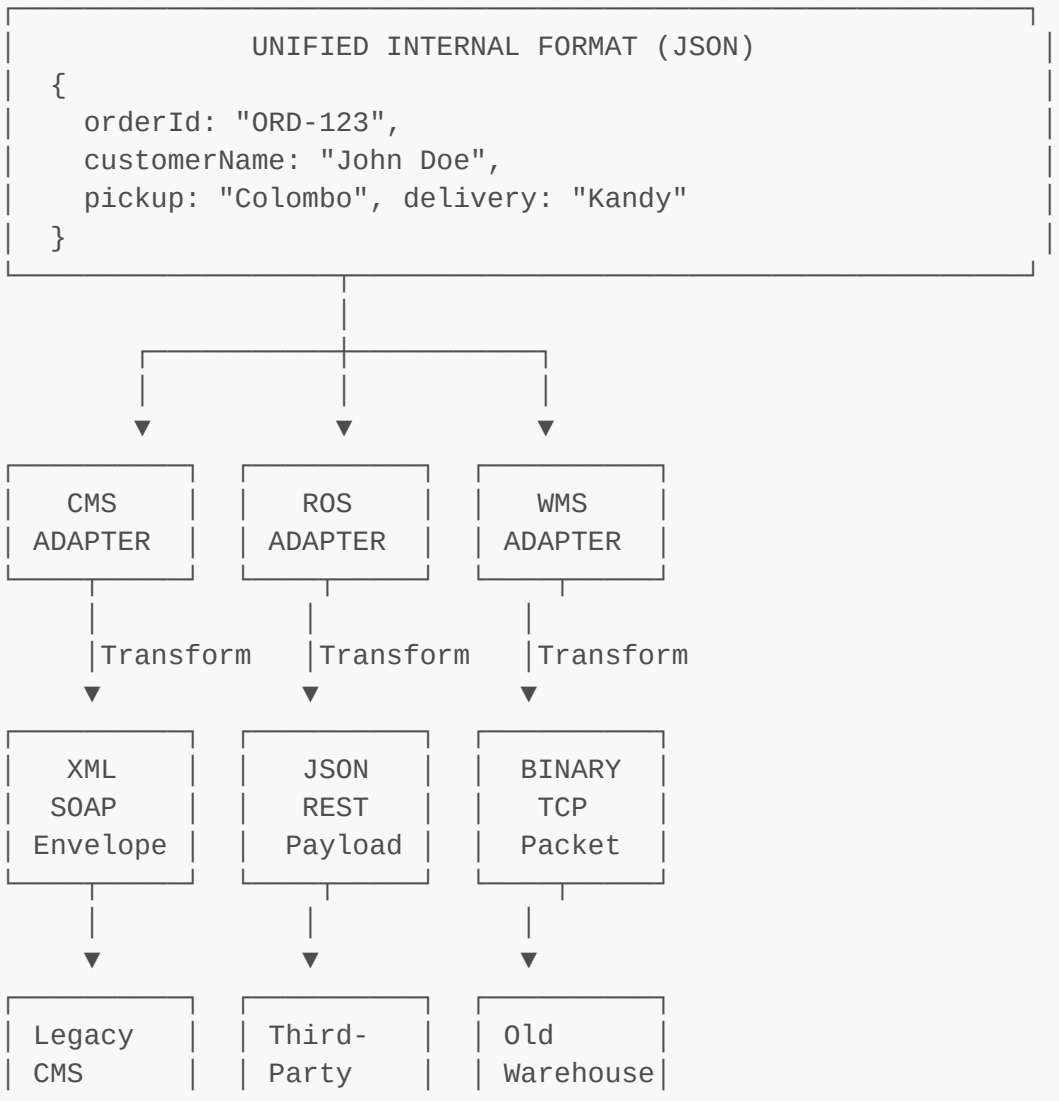
5. Adapter Pattern Implementation



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  | System   |   | ROS API  |   | System   |
  └──────────┘   └──────────┘   └──────────┘
```

Legend

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──────▶  Synchronous HTTP Request (blocking)
- -▶  Asynchronous Message Queue (non-blocking)
~~~▶  WebSocket Real-time Push
═══▶  Database Operation
```

Port Summary

Service	Port	Protocol	Purpose
API Gateway	3000	HTTP/REST	Client entry point
Orchestrator	3001	HTTP/REST	Transaction mgmt
Notification	3002	WebSocket	Real-time updates
CMS Mock	4000	SOAP/XML	Legacy system sim
ROS Mock	4001	REST/JSON	Route service sim
WMS Mock	4002	TCP	Warehouse sim
MongoDB	27017	MongoDB	Database
RabbitMQ	5672	AMQP	Message broker
RabbitMQ UI	15672	HTTP	Admin interface