Sprint 2

GOAL: Automatically evaluate all incoming requests and determine which ones can be approved without the need for a manual review

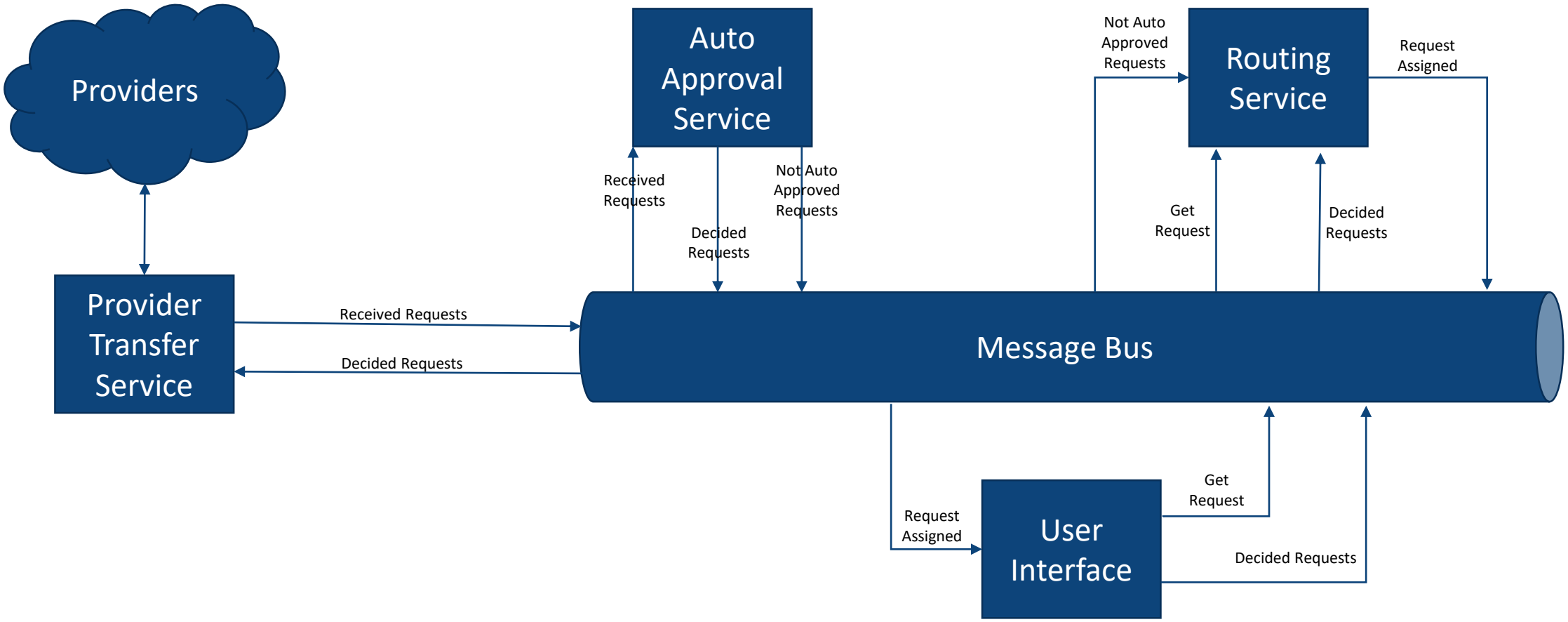
User Story 2-1

As a TAH physician, I need all incoming requests for service to be evaluated for automatic approval so that I can dedicate my time to more complex requests which require my expertise to make a decision.

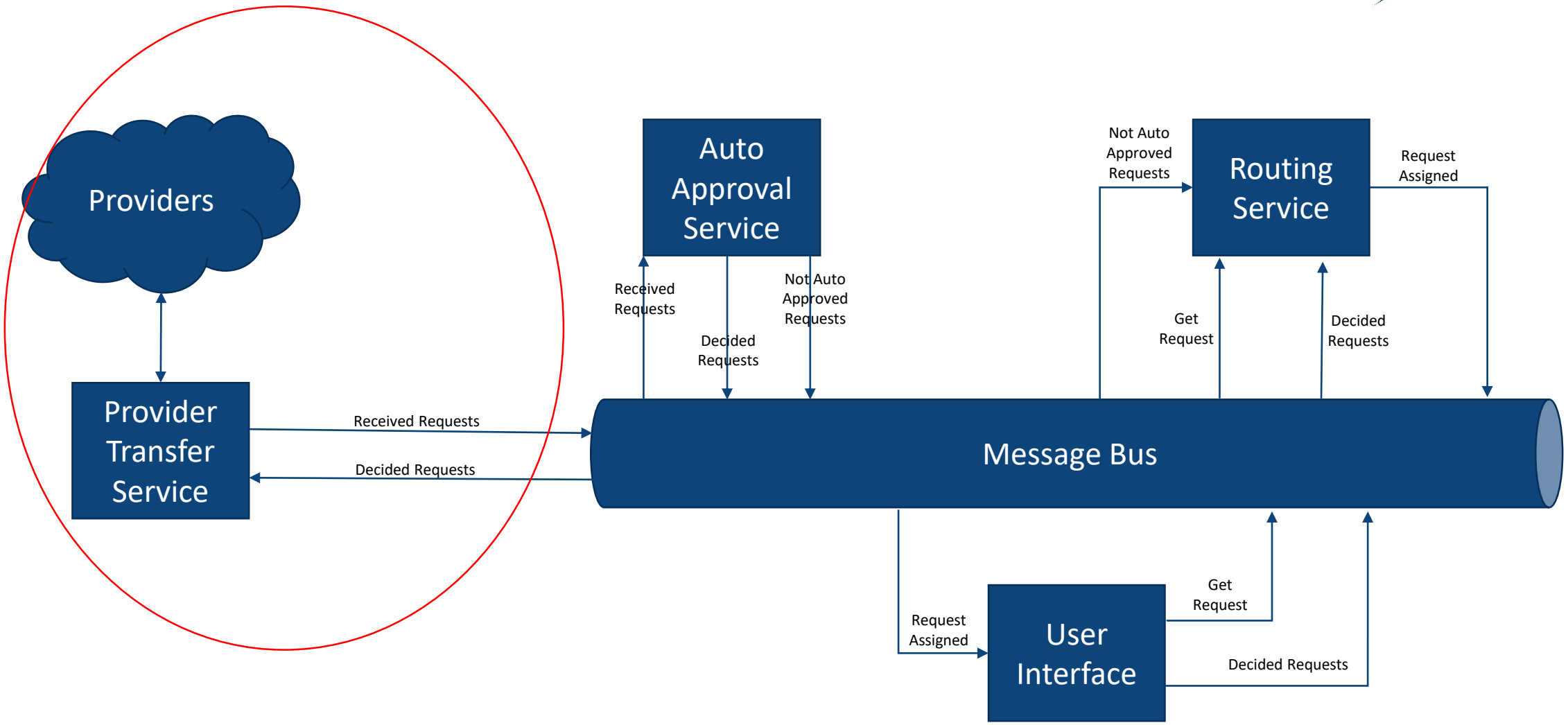
Acceptance Criteria

1. All incoming requests must be evaluated by Auto Approval Service
2. For each request, the Auto Approval Service must publish a result indicating whether or not the request was automatically approved
3. Service must be able to handle up to 10,000 requests per minute

Final Solution



Final Solution



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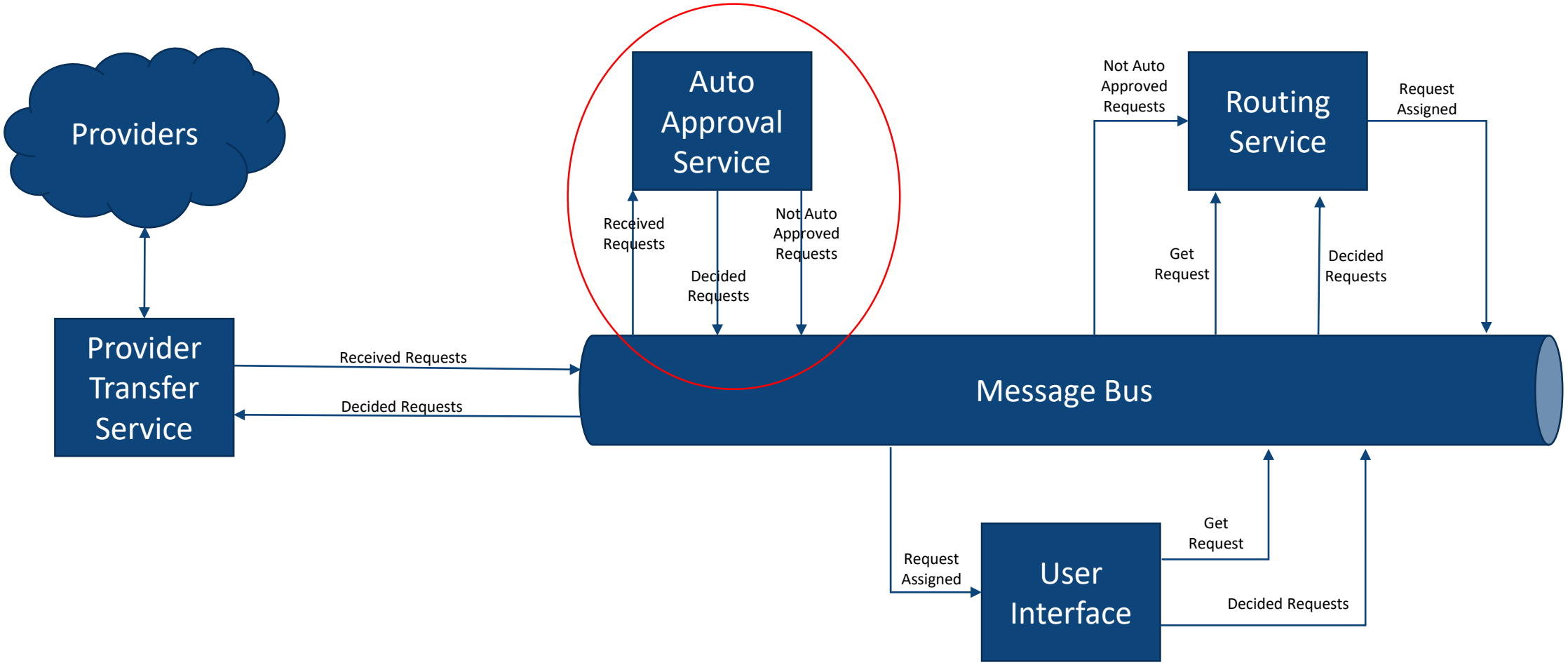
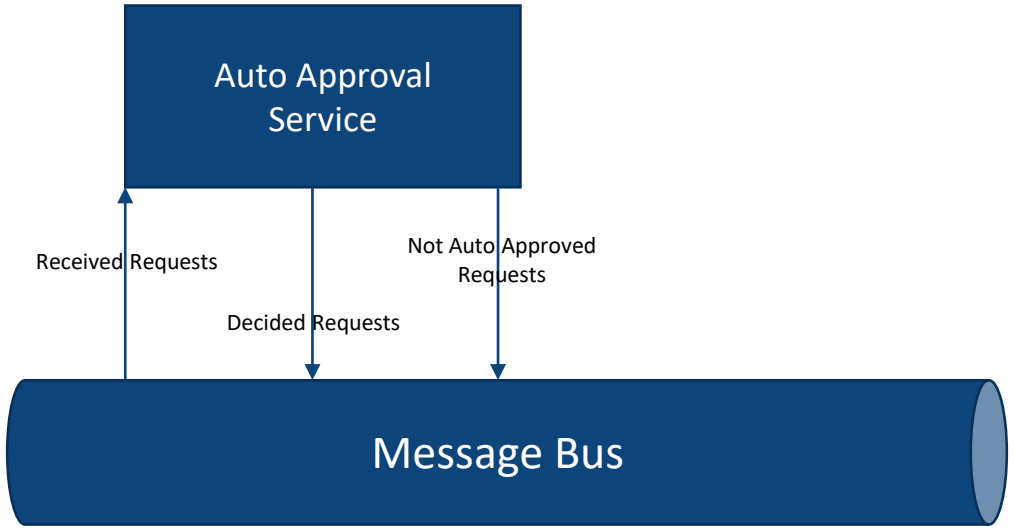


User Story 2-1: Design



- Create our first Consumer
- Simulate logic which evaluates the requests for automatic approval
- Publish result of auto-evaluation to the Message Bus

User Story 2-1: Message Bus Design

- Update Existing Received Requests Event Hub
  - Create a Shared Access Policy for consumer
  - Create a Consumer Group for the Auto Approval Service
- New Event Hubs
  - Publish Auto-Approved Requests
  - Publish Not Auto-Approved Requests
  - Shared Access Policies for publisher/sender

***Note: This isn't necessarily how you would organize events/hubs in a true production system*

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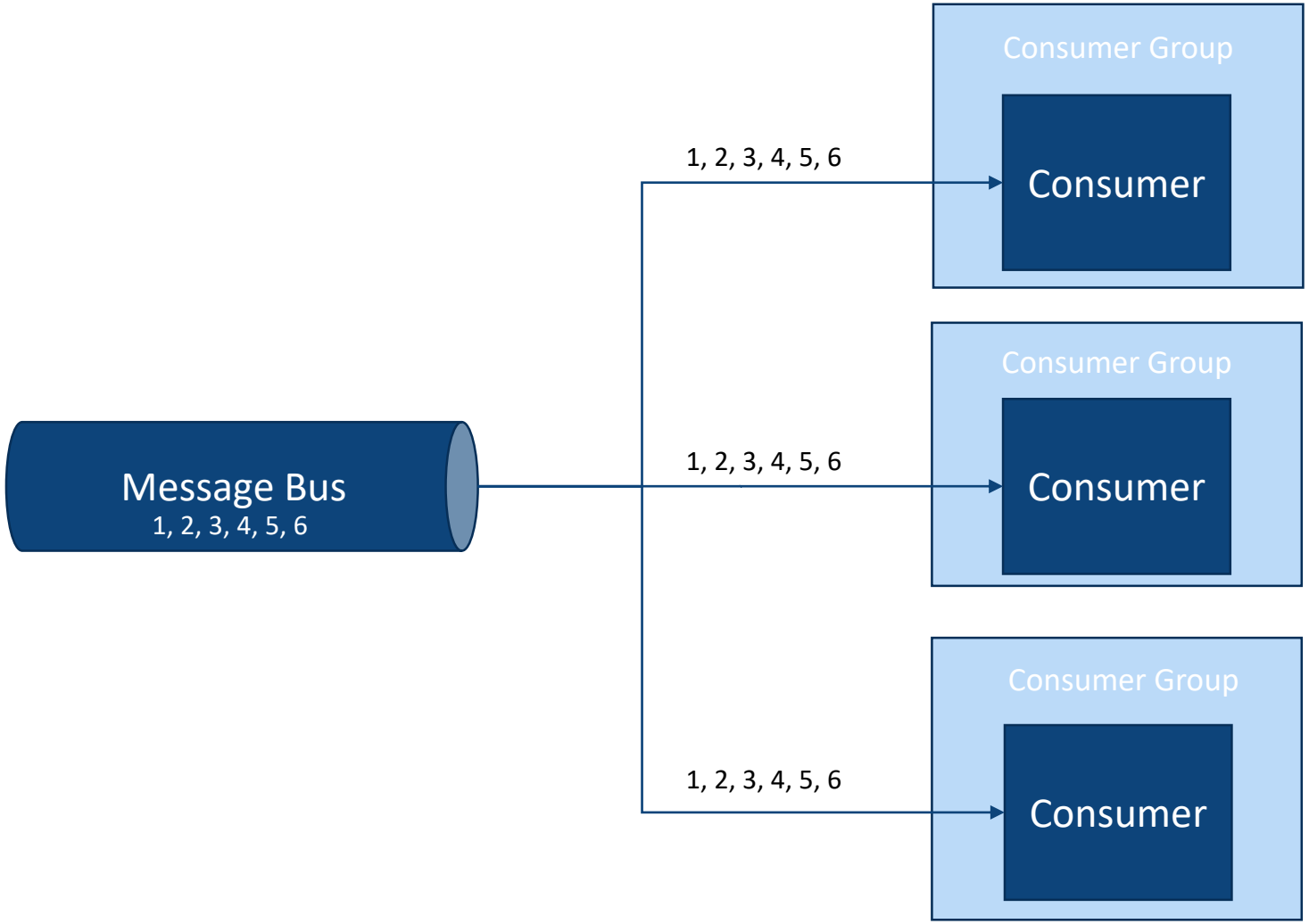
User Story 2-1: Consumer Groups



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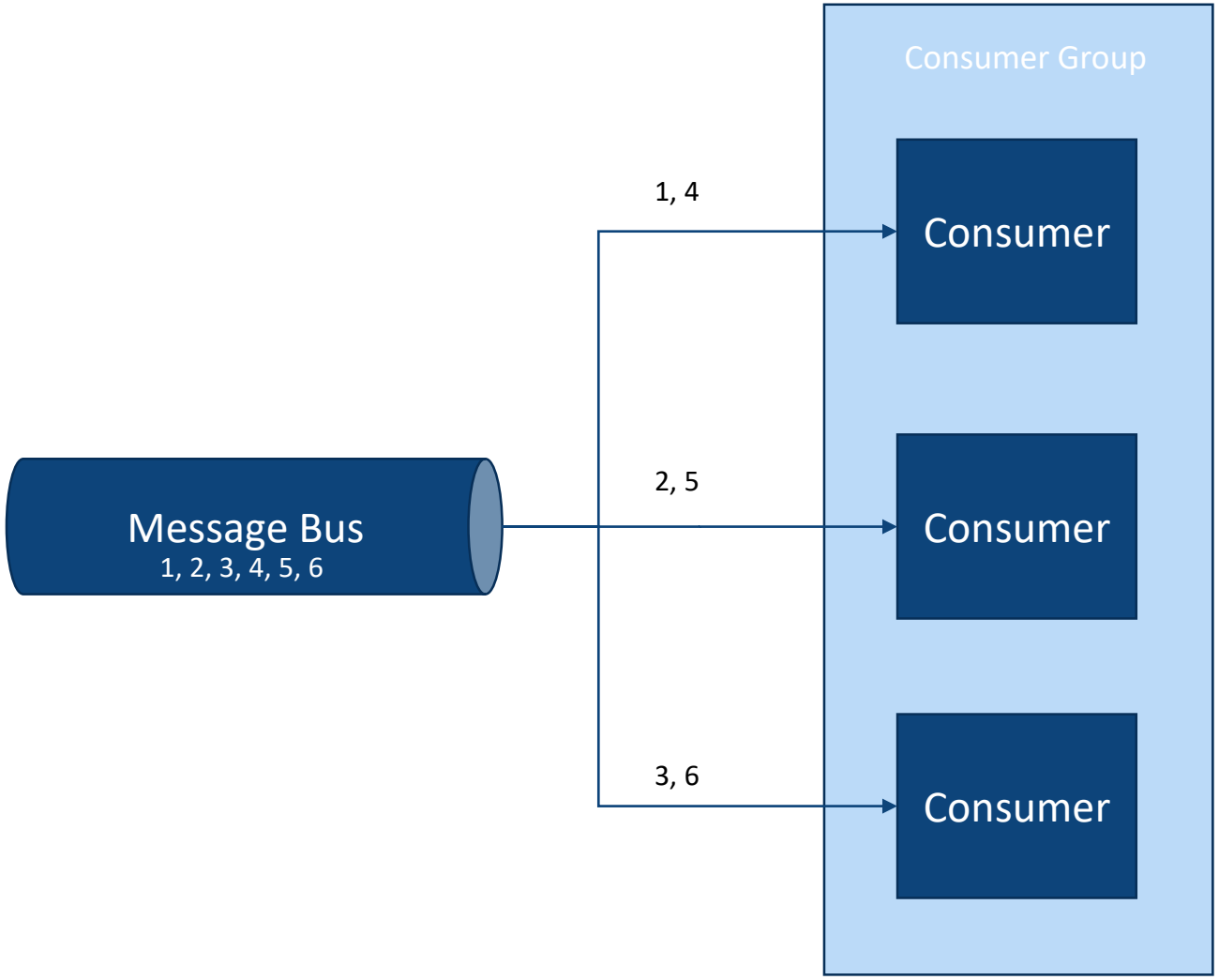

User Story 2-1: Auto Approval Service Design

- Choosing Azure Function
  - Azure's event-driven, serverless compute option
  - Automatically scales – up to 200 parallel instances
  - We'll discuss other hosting options in later sprint

- Possible triggers
  - HTTP call
  - Timer
  - **Message arrived / event occurred**
  - Database record created, updated, or deleted
  - BLOB created, updated, or deleted

- Most often used in consumption mode – only charged for use
  - Based on number of executions, execution time, and memory used
  - Generally inexpensive for lightweight, infrequently used functionality

Task 2-1: Update ReceivedRequests Event Hub

- Develop in Azure Portal
- Create Listener Shared Access Policy for Consumers
- Create Consumer Group for Auto Approval Service

Task 2-2: Create Hubs With SAPs For Two New Events

- Develop in Azure Portal
- Create *DecidedRequests* and *NotAutoApprovedRequests* hubs
- Create Sender Shared Access Policies for Publishers

Task 2-3: Create Auto Approval Service

- Visual Studio
- C# Azure function with event hub trigger
- Configure connection to *ReceivedRequests* hub
  - SAP listener connection string
  - Consumer group
- Call *AutoEvaluator* (in Business Logic project) to determine approval
- Update status & call publisher for approvals
- Call publisher for non-approvals

Task 2-4: Create Event Publisher

- Visual Studio
- C# class
- Called from our Auto Approval Service function
- Configure connection to *DecidedRequests* and *NotAutoApprovedRequests* hubs
  - SAP sender connection strings
- Create methods for publishing to hubs

Task 2-5: Deploy Auto Approval Service

- Publish from Visual Studio to Azure
- Publish
- **MAKE SURE TO GET THE APPSETTINGS**
- Ensure messages are publishing to *DecidedRequests* and *NotAutoApprovedRequests* hubs

Sprint 2: Retrospective

- We now have an automated process to reduce our clinical staff's workload and enable TAH to process more requests
- Taking advantage of scaling and asynchronicity
  - Function can scale up without risk of missing or re-processing events even if it goes down for a period of time
  - Publishing messages with little concern for who will consume them or how many consumers there will be
- Enabling real-time processing without adding strain to the system
  - Live view of all active requests
  - Returning decisions to providers as soon as they are made