Razorback Requirements Document

**Message Passing**

Version 0.2

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## 

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## Introduction

The message passing infrastructure supports all of the inter component communication features for the system. All of the messages passed between the nodes will be passed over this system.

## Customer Focus Statement

This component is being implemented to allow Razorback™ to scale to any size deployment that a customer can envision.

## Requirements

### Reliable Messaging

* Guaranteed delivery – A message that is queued in the system must be available to be received by the recipient.
* Persistent Queue Storage – Messages in the queue must be stored in a way that makes them available in the Queue even after the Queue server has been restarted.

### Messaging Dispositions

The system must support the following dispositions:

* Directed Messages – Messages sent through the system that are specifically destined for a single message consumer.
* Broadcast Messages – Messages sent through the system that are to be sent to all consumers of that message type.
* Round Robin – Messages are sent to the next available message consumer from the Queue.

### IPv4 and IPv6 Support

* The system must be able to run on both todays IPv4 networks and on tomorrows IPv6 networks.
* Ideally the system should be able to run on v6 and v4 networks at the same time.

### Security

* Encryption – The system must be capable of providing encryption of the messages passing over the network.
* AAA – The system must be able to provide Authentication, Authorization and Access control to the client applications to enforce that the sensitive block data is only transmitted to systems that are authorized by the system manager to receive them.

## Implementation

In this phase we will be using Apache ActiveMQ as the message broker in the system. We will be using the OpenWire protocol to communicate with the broker and send and receive messages. We will also be wrapping the protocol library with an internal razorback library to make it possible to switch out the protocol library at a future date if required.

## Metrics

* Messages per second
* Average message size

## Future Work

### Enhancements

Provide users with options as to which back end messaging platform they wish to use.