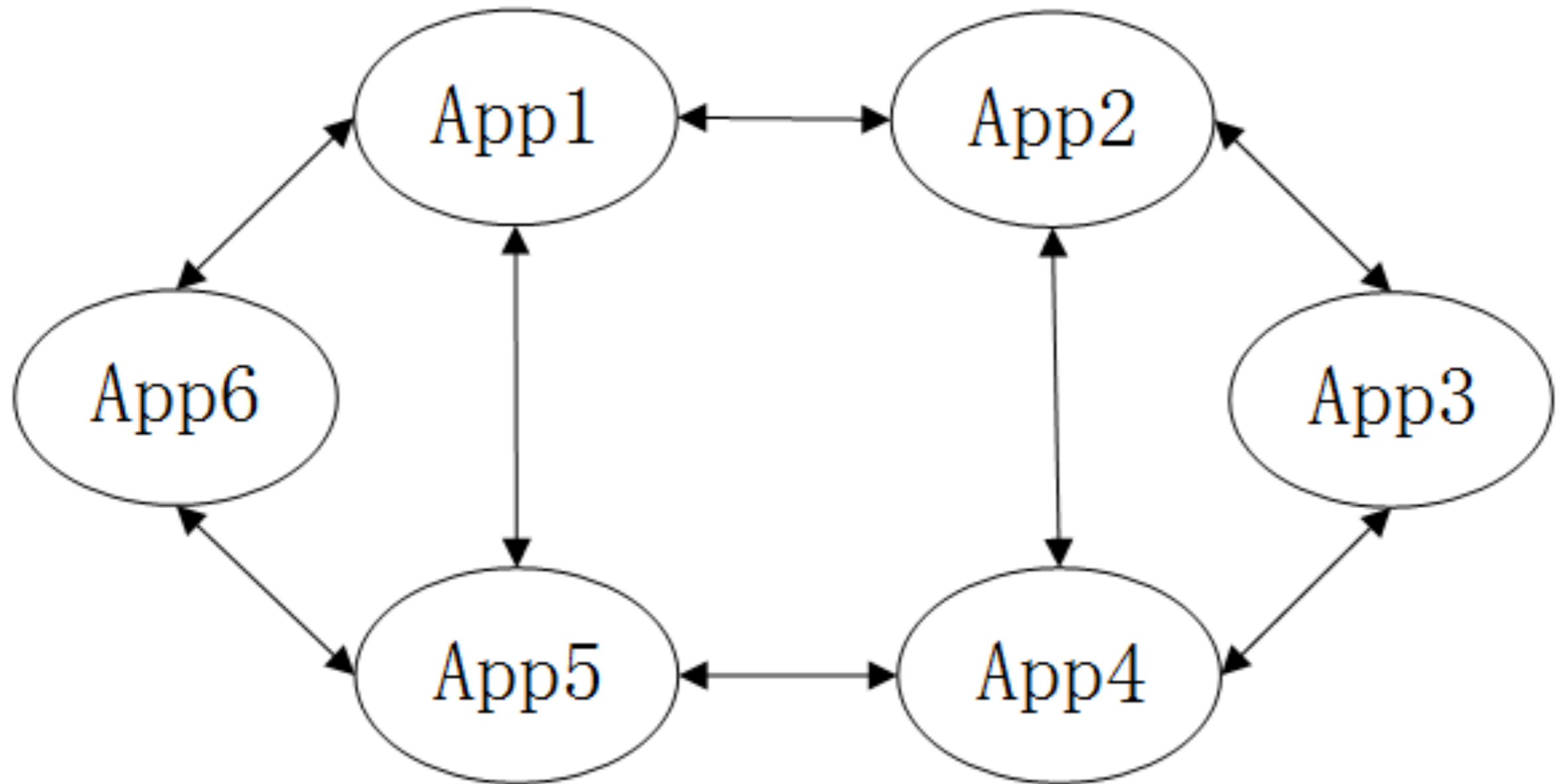


基于AMQP协议的校园信息总线系统设计

吴炜鑫 @wuwx
东北大学

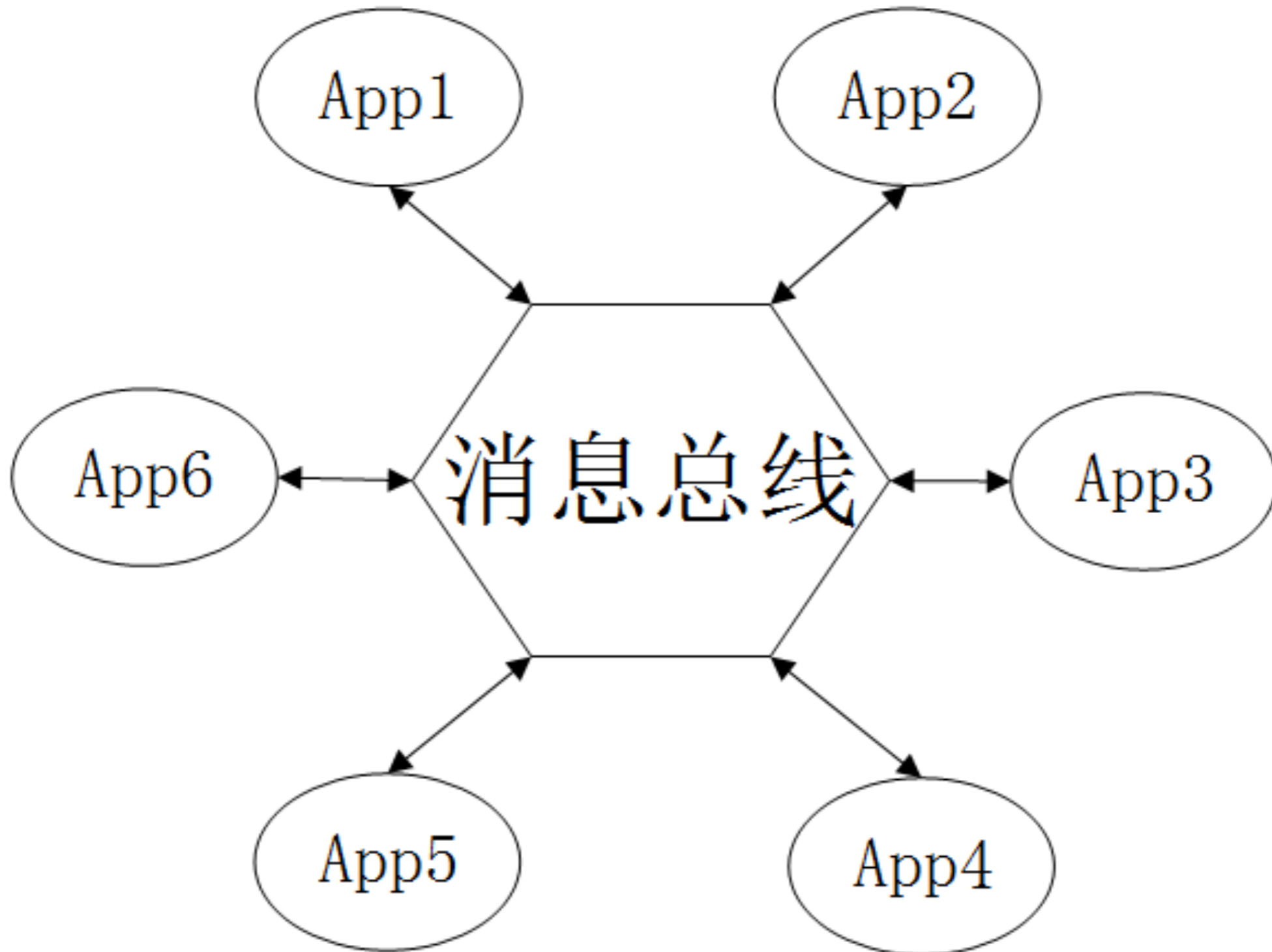
Multiple Apps



PHP Example

```
<?php
$event = $current_user->upload($photo);
$event->resize_image();
$event->notify_friends();
$event->record_syslog();
$event->send_email();
.....
```

Multiple Apps



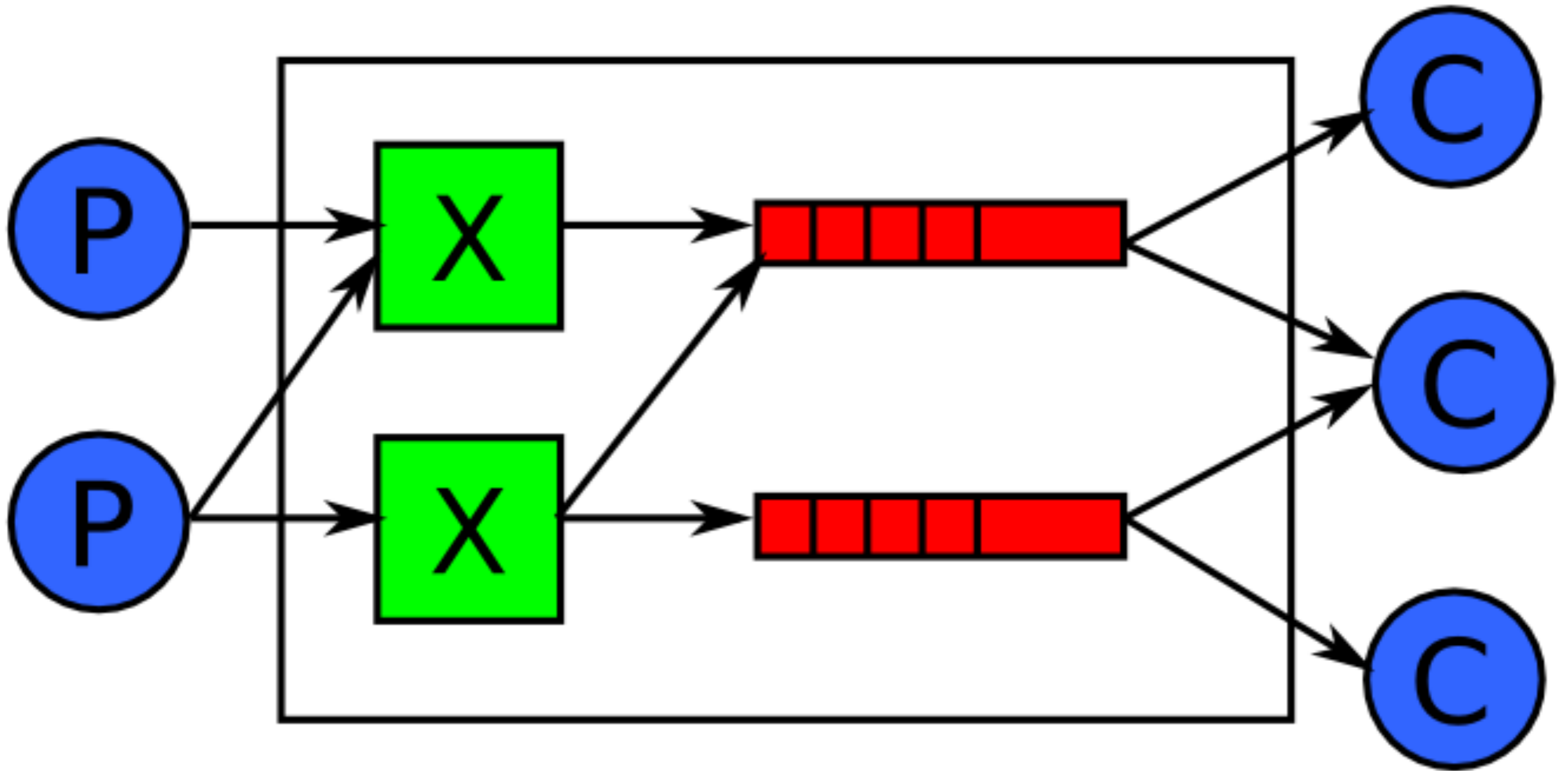
Advanced

Message

Queuing

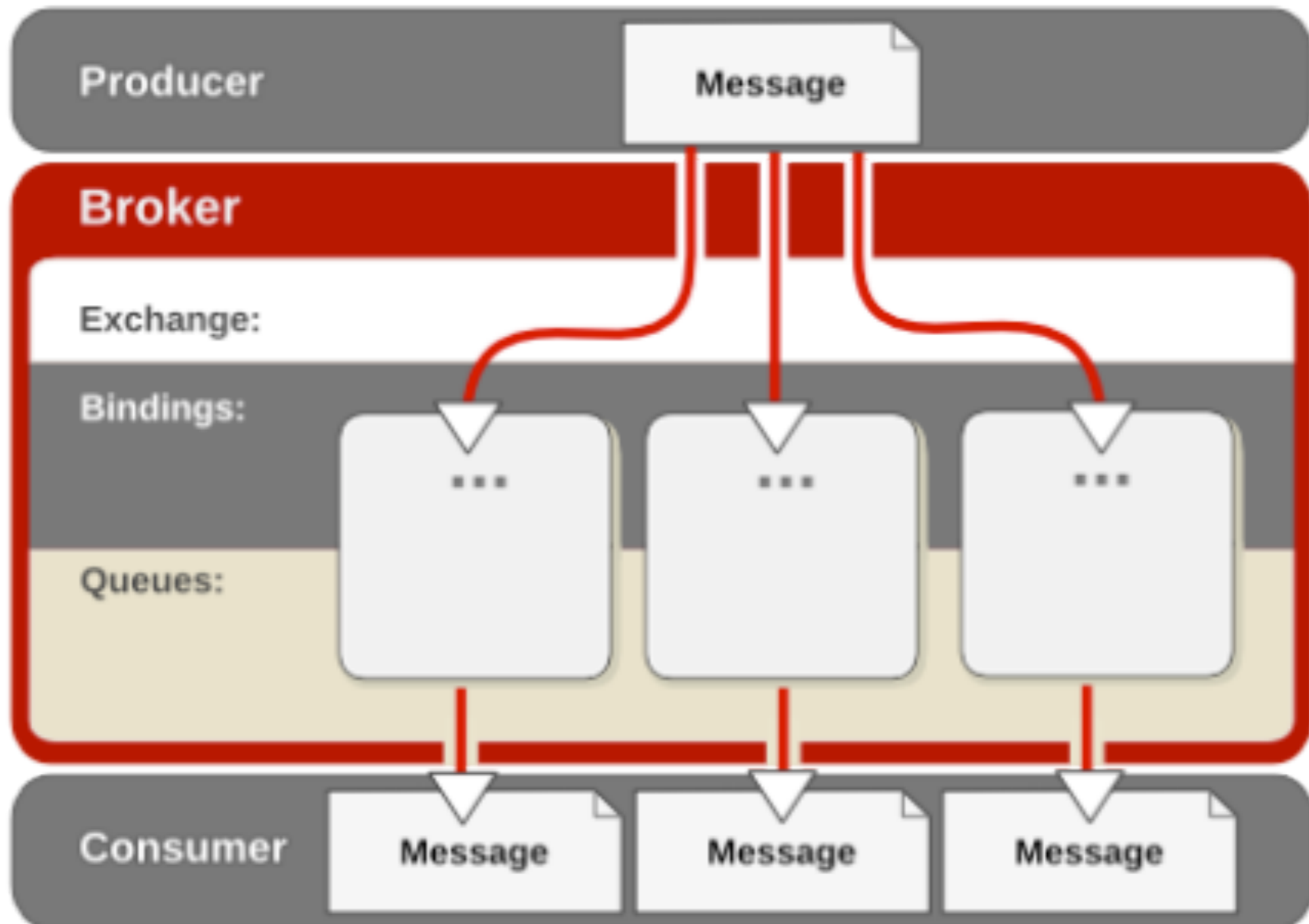
Protocol

AMQP



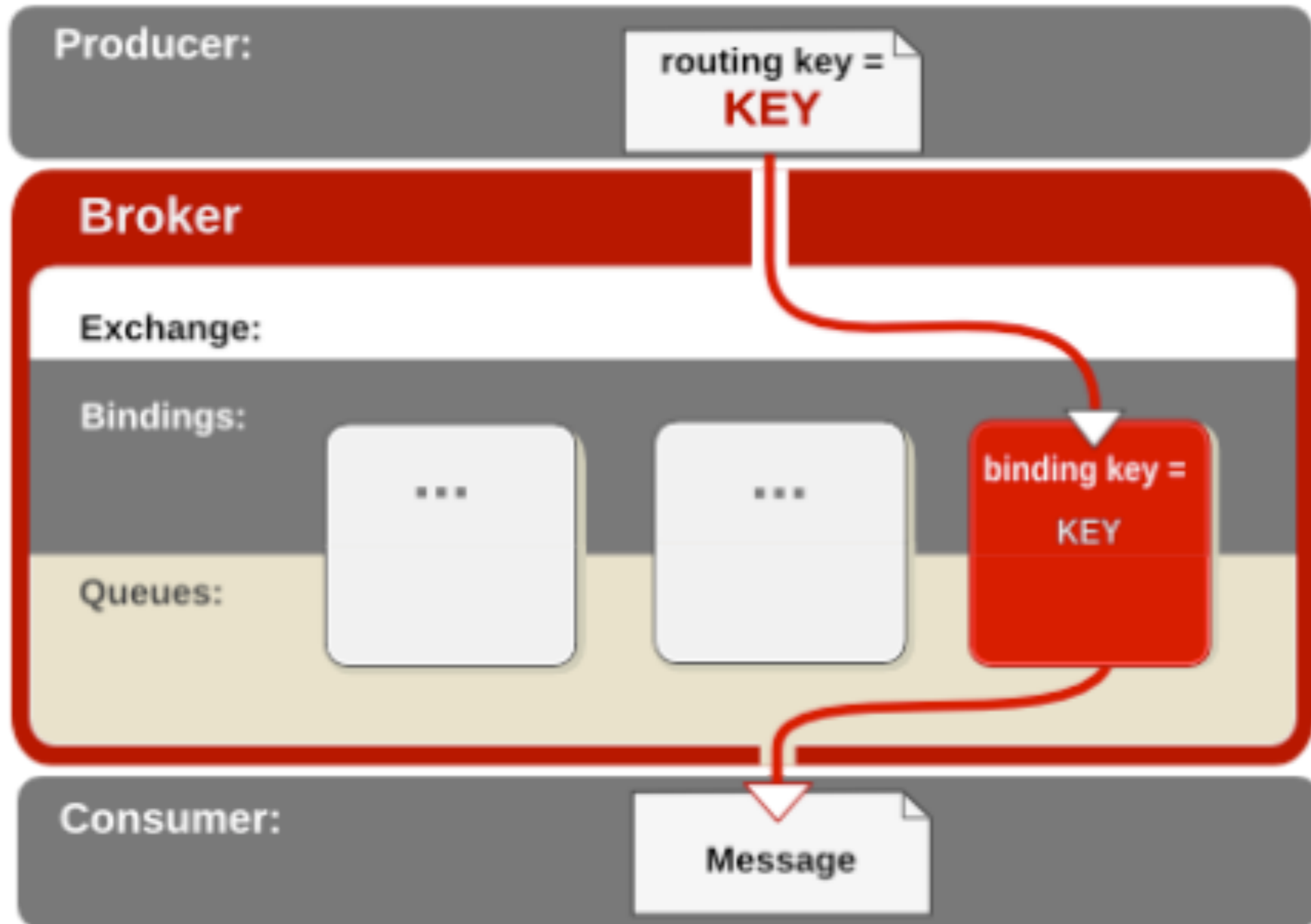
Fanout Exchange

Fanout Exchange



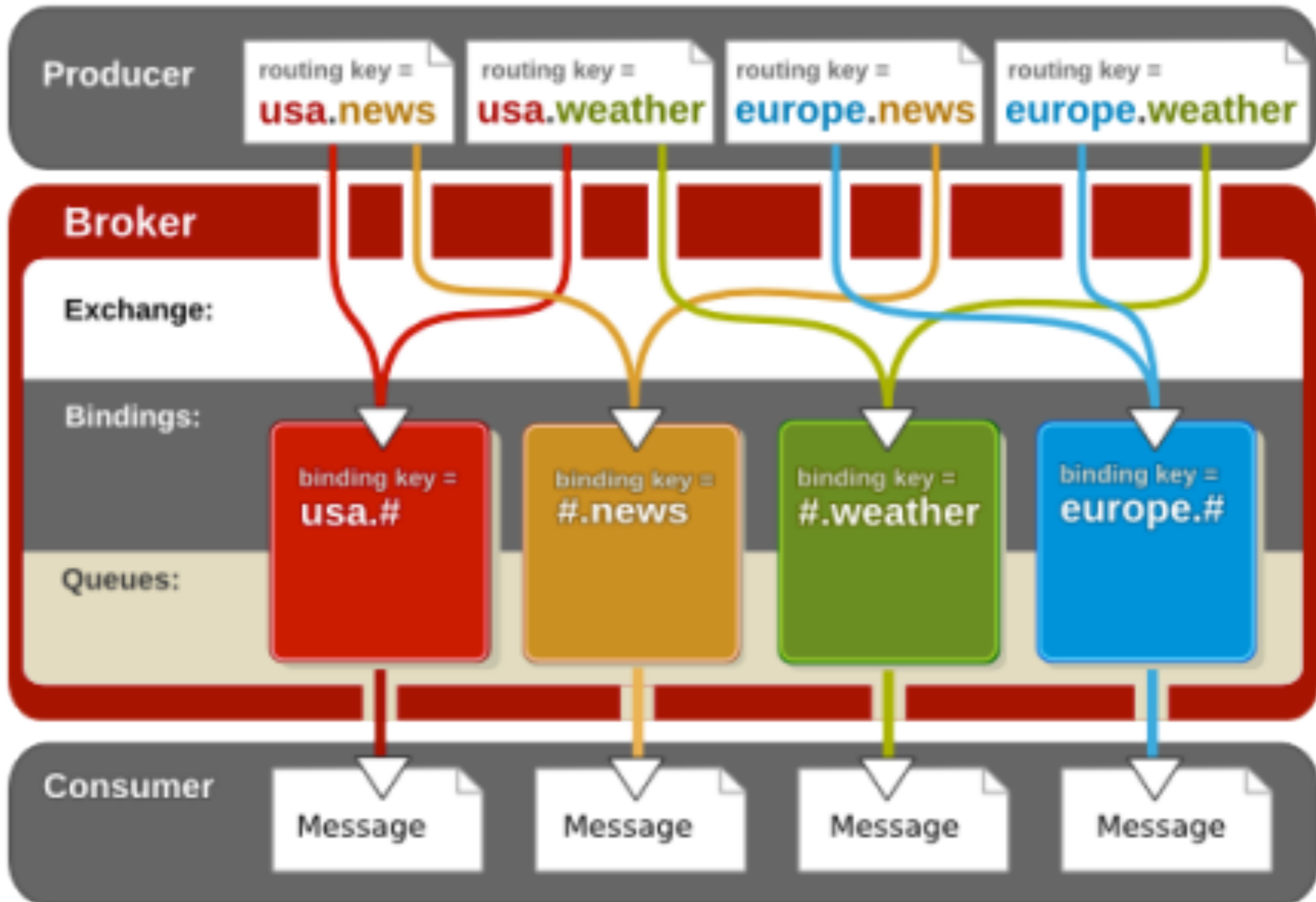
Direct Exchange

Direct Exchange



Topic Exchange

Topic Exchange



What is RabbitMQ

- ✓ **Robust messaging** for applications
- ✓ **Easy to use**
- ✓ **Runs on all major operating systems**
- ✓ **Supports a huge number of developer platforms**
- ✓ **Open source and commercially**

Install RabbitMQ

```
# rpm -ivh http://  
mirror.neu.edu.cn/fedora/epel/6/  
x86_64/epel-  
release-6-8.noarch.rpm  
# yum install rabbitmq-server  
# service rabbitmq-server  
restart
```

Update RabbitMQ

```
# rpm -Uvh http://  
www.rabbitmq.com/releases/  
rabbitmq-server/v3.1.3/rabbitmq-  
server-3.1.3-1.noarch.rpm
```

RabbitMQ Management

```
# rabbitmq-plugins enable  
rabbitmq_management  
# service rabbitmq-server  
restart
```

RabbitMQ Management



User: [guest](#)
RabbitMQ 3.1.1, Erlang R14B04

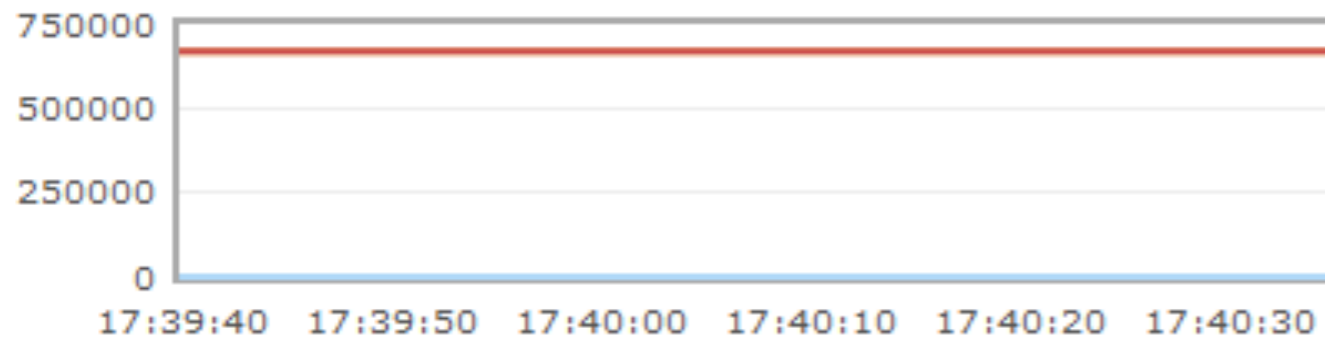
Log out

- Overview
- Connections
- Channels
- Exchanges
- Queues
- Admin

Overview

▼ Totals

Queued messages (chart: last minute) (?)



Ready	667374 msg
Unacknowledged	0 msg
Total	667374 msg

PHP AMQP Ext.

```
# rpm -ivh http://  
mirror.neu.edu.cn/fedora/epel/6/  
x86_64/epel-  
release-6-8.noarch.rpm  
# yum install php-pecl-amqp
```

Create Exchange

```
<?php
$connection = new AMQPConnection();
$connection->connect();

$channel = new AMQPChannel($connection);

$exchange = new AMQPExchange($channel);
$exchange->setName('exchange1');
$exchange->setType('fanout');
$exchange->declare();
```


Create Queue

```
<?php  
$connection = new AMQPConnection();  
$connection->connect();  
  
$channel = new AMQPChannel($connection);  
  
$queue = new AMQPQueue($channel);  
$queue->setName('queue1');  
$queue->declare();
```

Queue Bind

```
<?php  
$connection = new AMQPConnection();  
$connection->connect();  
  
$channel = new AMQPChannel($connection);  
  
$queue = new AMQPQueue($channel);  
$queue->setName('queue1');  
$queue->declare();  
  
$queue->bind('exchange1', 'routekey');
```

Publish Message

```
<?php
$connection = new AMQPConnection();
$connection->connect();
$channel = new AMQPChannel($connection);
$exchange = new AMQPExchange($channel);
$exchange->setName('exchange5');
$exchange->setType('fanout');
$exchange->declare();
for($i = 0; $i < 2000000; $i++) {
    $exchange->publish("message $i", "routekey");
}
```

Consume Message

```
<?php
$connection = new AMQPConnection();
$connection->connect();
$channel = new AMQPChannel($connection);
$queue = new AMQPQueue($channel);
$queue->setName('queue1');
$queue->declare();
$queue->bind('exchange1', 'routekey');
while (true) {
    $queue->consume(function($envelope, $queue){
        echo $envelope->getBody(), PHP_EOL;
    }, AMQP_AUTOACK);
}
```

Thanks :)