AMQP Addressing Format and Messaging API

Addressing Format

```
<name> [ / <subject> ] {
    create: <create-policy>,
    delete: <delete-policy>,
    assert: <assert-policy>,
    node-properties: {
        type: <node-type>,
        durable: <node-durability>,
        x-properties: {
            bindings: ["<exchange>/<key>", ...],
            <passthrough-key>: <passthrough-value>
        }
    }
}
```

<name>

- Name of the node we are addressing
- Can be a queue or an exchange
  - Server is queried using Exchange.query(name) and Queue.query(name) commands. If the node does not exist as a queue or exchange it is created based on the policies passed in the map
- Examples:
  - amq.topic
  - my_topic
  - my_queue

/<subject>

- Maps to binding key for topic exchanges
- Other exchanges should use x-properties instead
- Note that subject differed from a binding key in that it uses the '*' character and not '#' to denote wildcard matches.
- Examples:
  - org.fedoraproject.koji
  - org.fedoraproject.*

Create Option

- Policy stating if a node should be created if it does not exist.
- Node-properties specify what type of node to create (default is a queue)
- Accepted values:
  - always – always create the node if it does not exist
  - sender – only create the node if this address is passed into a sender
  - receiver – only create the node if this address is passed into a receiver
  - never – don't create this node if it does not exist

Delete Option

- Policy stating if the node should be auto deleted after being used
- Used to request the server clean up temporary nodes when no longer in use
- Accepted values:
  - always – always delete the node when done
  - sender – only delete the node if this address is passed into a sender
  - receiver – only delete the node if this address is passed into a receiver
  - never – don't delete this node automatically

Assert Option

- Policy stating if the node should be checked to see if it matches the node-properties options
- Accepted values:
  - always – always assert
  - sender - assert only if passed to a sender object
  - receiver – assert only if passed to a receiver object
  - never – never assert

Node-properties map

- The node-properties map describes the node being created or asserted on
- If asserts are enabled, the node is checked to see if it reflects the node-properties
- If create is enabled then the node is created according to the node-properties if the node does not currently exist

node-properties.type

- Describes the type of node
- Accepted values:
  - queue – a standard queue
  - topic – topic exchange node
- type only allows for topic exchanges to be created or asserted on. See *x-properties* to learn how to create other types of exchanges

node-properties.durable

- Specifies if a node is durable
- Accepted values
  - true – messages are queued whether or not a client is connected
  - false – messages are dropped if no client is connected

node-properties.x-properties

- Exchange properties used to describe a more in-depth exchange to queue bindings

node-properties.x-properties.bindings

- A list of exchange/key addresses which bind an exchange to the queue specified by name
- Examples:
  - [“amq.topic/org.fedoraproject.*”]
  - [“amq.match/org.fedoraproject.koji{builder: 'johnp', status: 'building', x-match:'all'}”]