qmf_architecture

Architectural Framework

Components

Management Broker

The management broker has the following responsibilities:

1. Manage the object-id space used to uniquely identify all manageable objects.
2. Route agent commands from a console to the appropriate agent.
3. Cache schema information provided by agents for the use of consoles.

Management Agent

The management agent consists of two parts. The first part is a component of the Qpid Management Framework and provides an API interface for the second part. The second part is specific to the software system being managed and is developed by the same team that develops the target system.

The management agent is responsible for the following:

1. Defining and owning the management schema for the target system.
2. Maintaining manageable objects that are associated with physical or logical objects in the target system.
3. Executing schema-defined method requests on object under its care.
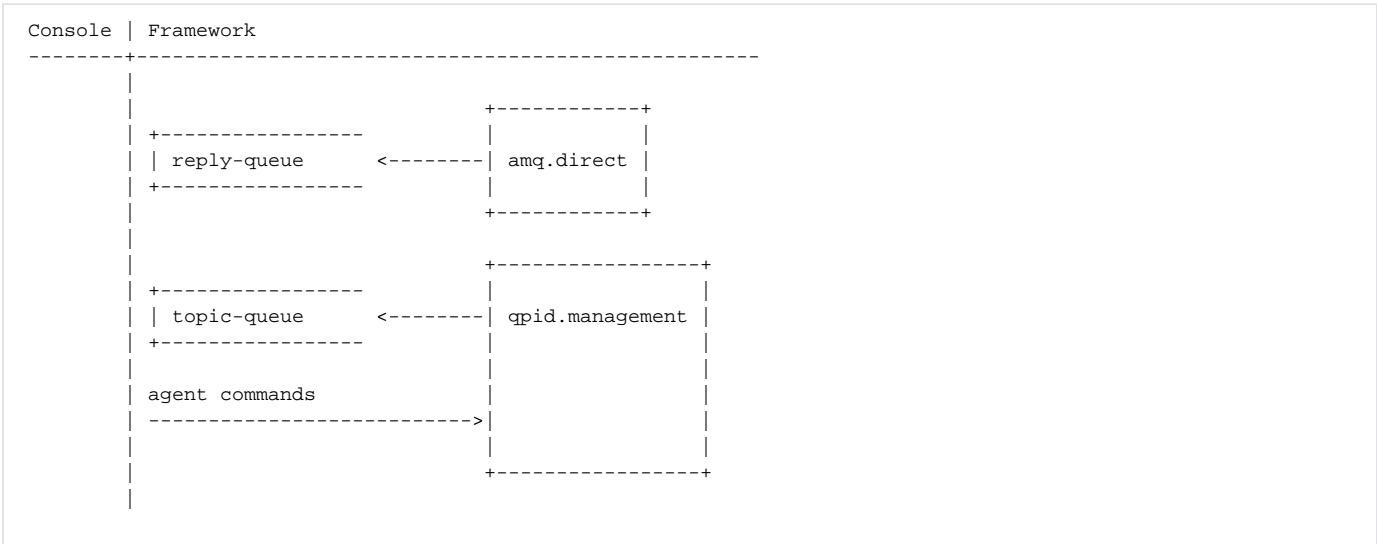
Management Console

The management console consists of two main parts: The framework-supplied access API and the user-defined application built on the API. The user application is typically a CLI utility or a Graphical/Browser user interface but can take any other form as well.

Other examples of console applications are:

* Event and audit storage applications
* Event correlation applications
* Two-tiered management servers (for web-based UIs)
* Bridges to other management protocols
* Automated monitoring and control applications that react to changes in the managed infrastructure
* Test harnesses
* Custom-built applications for any purpose

Interfaces

Console Interface

```
Console | Framework
 -------+-------------------------------------------------
        |
        |                            +-----------+
        | +---------------           |           |
        | | reply-queue     <--------| amq.direct |
        | +---------------           |           |
        |                            +-----------+
        |
        |                            +----------------+
        | +---------------           |                |
        | | topic-queue     <--------| qpid.management |
        | +---------------           |                |
        |                            |                |
        | agent commands             |                |
        | ------------------------->|                |
        |                            |                |
        |                            +----------------+
        |
```
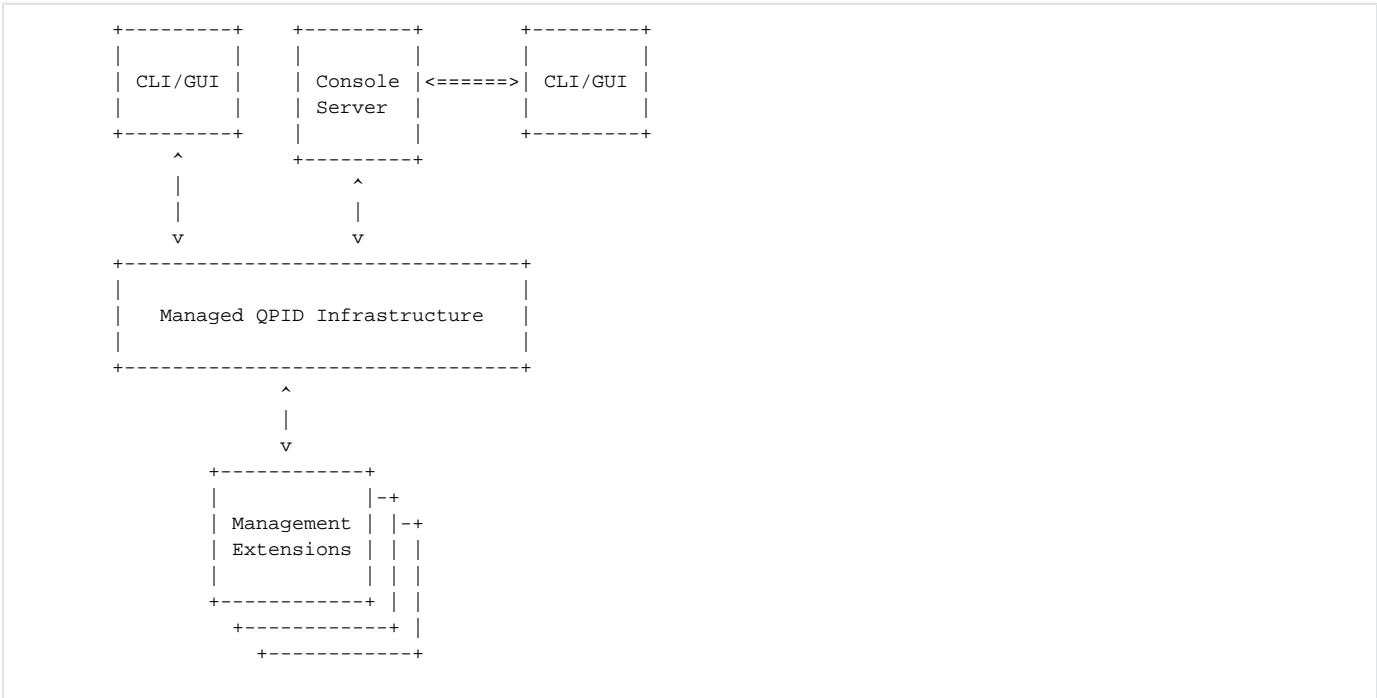
Agent Interface

Features

Redundant components and paths

Single point of entry

Old Text

There are two primary interfaces defined in the management architecture:

1. The Management Console Interface is used by management clients (CLIs, GUIs, console servers, etc.) to remotely access management data.
2. The Extension Interface is used by software components (not necessarily related to the QPID infrastructure) to provide access to their managed objects.

```
    +---------+    +---------+       +---------+
    |         |    |         |       |         |
    | CLI/GUI |    | Console |<======>| CLI/GUI |
    |         |    | Server  |       |         |
    +---------+    |         |       +---------+
        ^          +---------+
        |               ^
        |               |
        v               v
    +--------------------------------+
    |                                |
    |   Managed QPID Infrastructure  |
    |                                |
    +--------------------------------+
                   ^
                   |
                   v
          +------------+
          |            |-+
          | Management | |-+
          | Extensions | | |
          |            | | |
          +------------+ | |
            +------------+ |
              +------------+
```

Both management interfaces are based on the AMQP protocol and its type system.