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Product Overview

- developerWorks®, SupportPac, MQSeries.net™

InQuest™ & SynQuest™ family of Solutions for WebSphere® MQ

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InQuest Family Design Goal

- To build a completely configurable very fast and high-performance tool that could help users professionally utilize the API-exit technology without worrying about coding, gotchas, performance, support, ….
- Requirements:
  - Work on all call types.
  - Both Before and After MQI
  - Filter on anything that's available within the exit
  - Take actions based on evaluation
  - Actions both within, and outside of MQ
  - Industrial Strength, High Performing, Fully Vendor Supported Filtering, Replicator, Logger, Synchronizer, MirrorQ, ….

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General Description

InQuest™ for WebSphere® MQ

- A user-configurable tool that utilises the power and functionality of the WMQ API Exit to intercept WMQ API calls that meet certain criteria (as specified in **Filters**), and to take user specified actions (as defined in **Actions**). A product that will provide fully supported easy to use, filtered, no coding needed, high performance access to MQ calls and automatically take actions to do many things authorized users want done.

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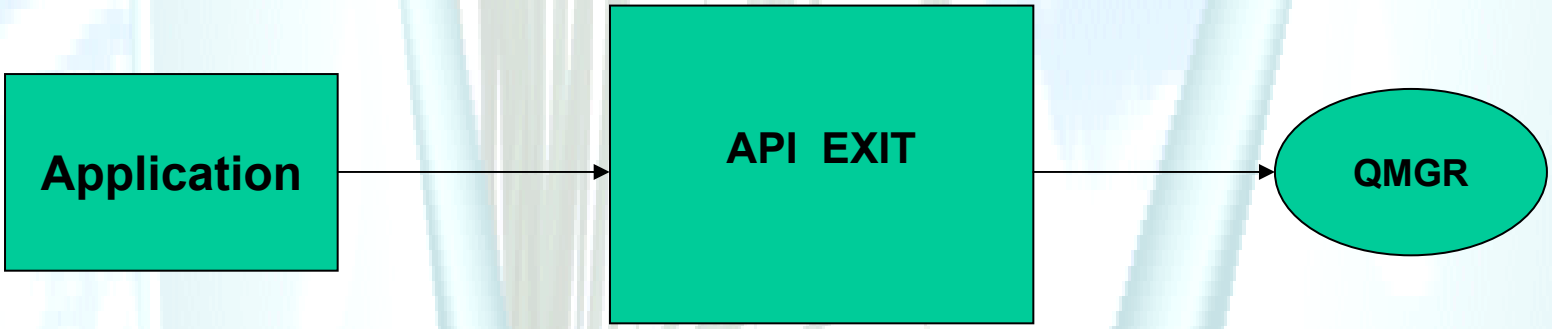
API Exit Basics

– An *API exit* is a program module that monitors or modifies the function of MQI calls.



API exits let you write code that changes the behaviour of WebSphere MQ API calls, such as MQPUT and MQGET, and then insert that code immediately before or immediately after those calls.

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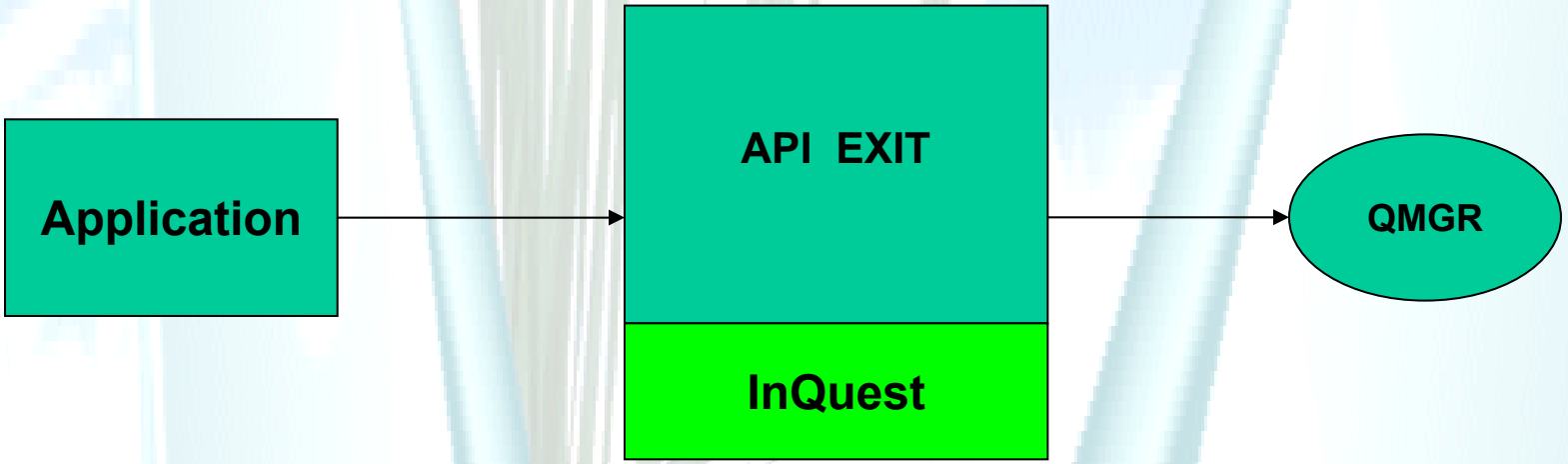
The product family….



As part of the API Exit InQuest can intercept potentially every MQ call and evaluate the options, values and data in that call.

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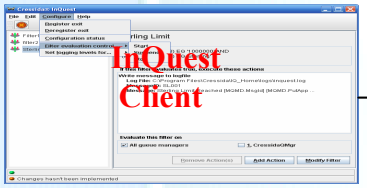
Architecture



InQuest Client

Implement

InQuest Agent

Configuration Files

Repository

Command Processor

Shared Memory Server

SMA

SMA

SMA

WebSphere MQ Application

Intercept

Filter/Evaluate

Action

InQuest API EXIT

MBA
Write to Log
Send SNMP
Create MQ Event

SRE
Fail Call
Set Field
Set Option

MBR
Replicate to Queue
Replicate to File

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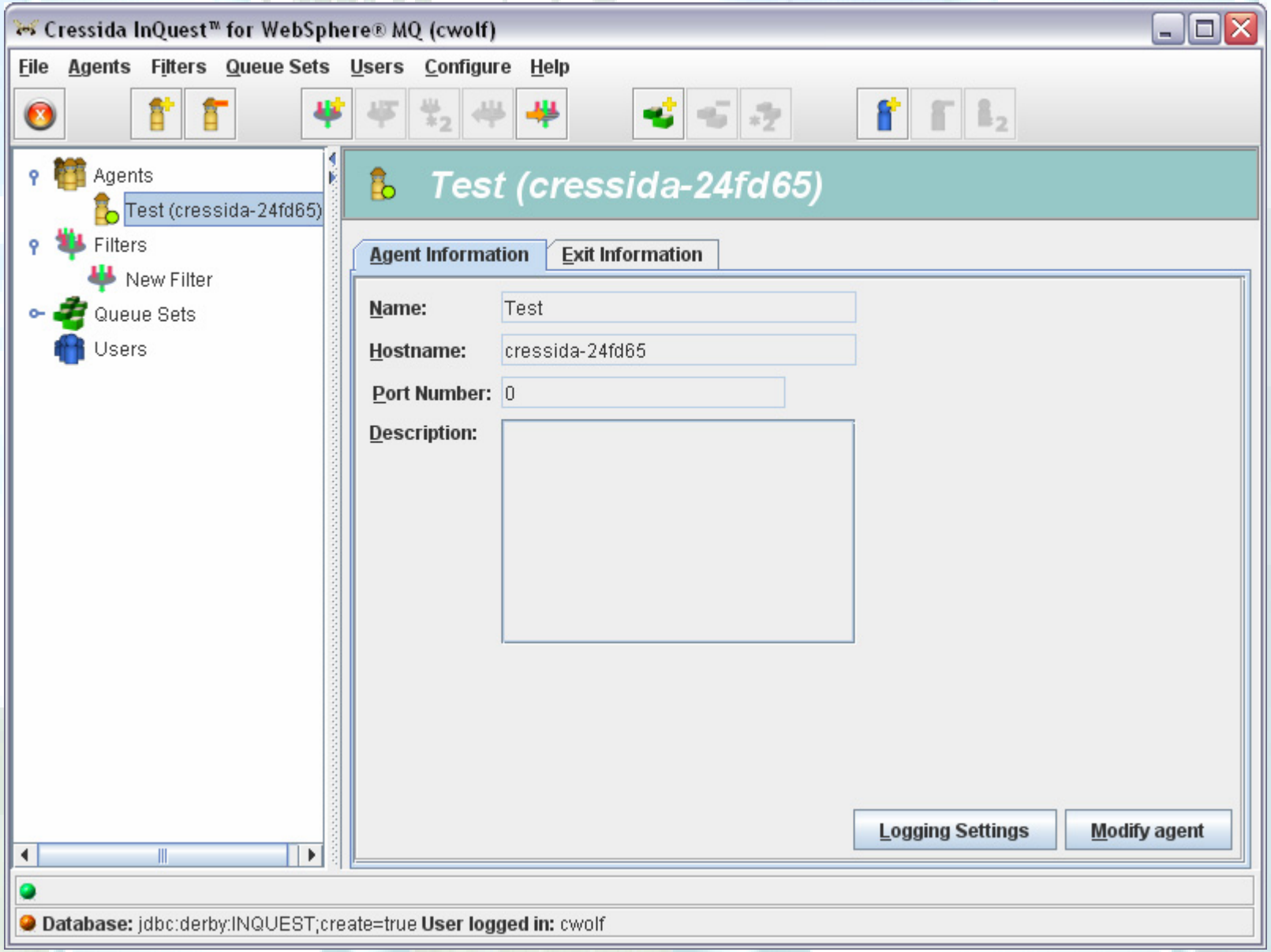
User Interface



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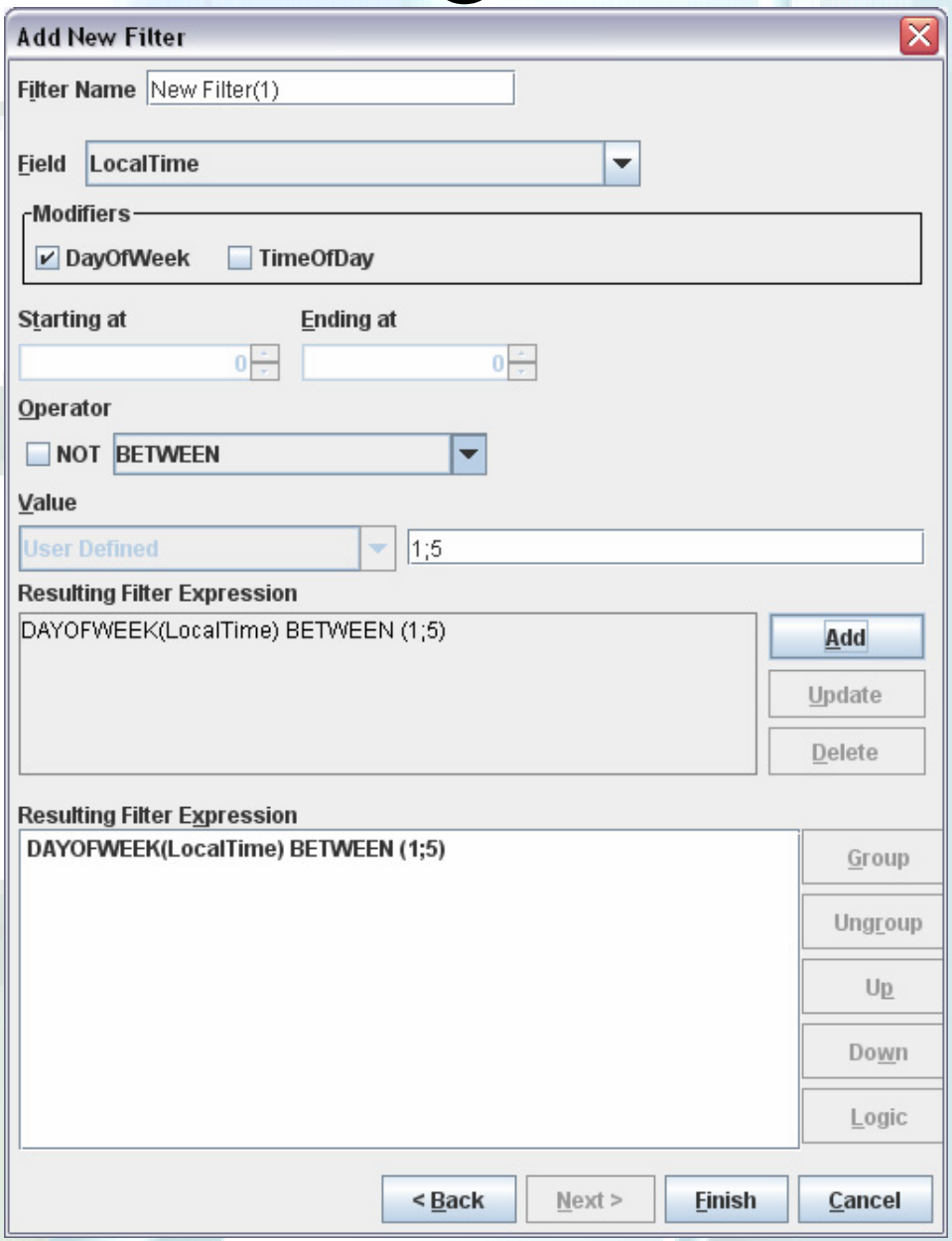
Filtering

Filters defined via GUI Interface for

- PUT
- PUT1
- OPEN
- GET

Fields available depend on call type but can include…

- MQMD
- MQOD
- MQPMO
- MQAXC
- MQDLH
- MQXQH
- Message Data
- LocalTime



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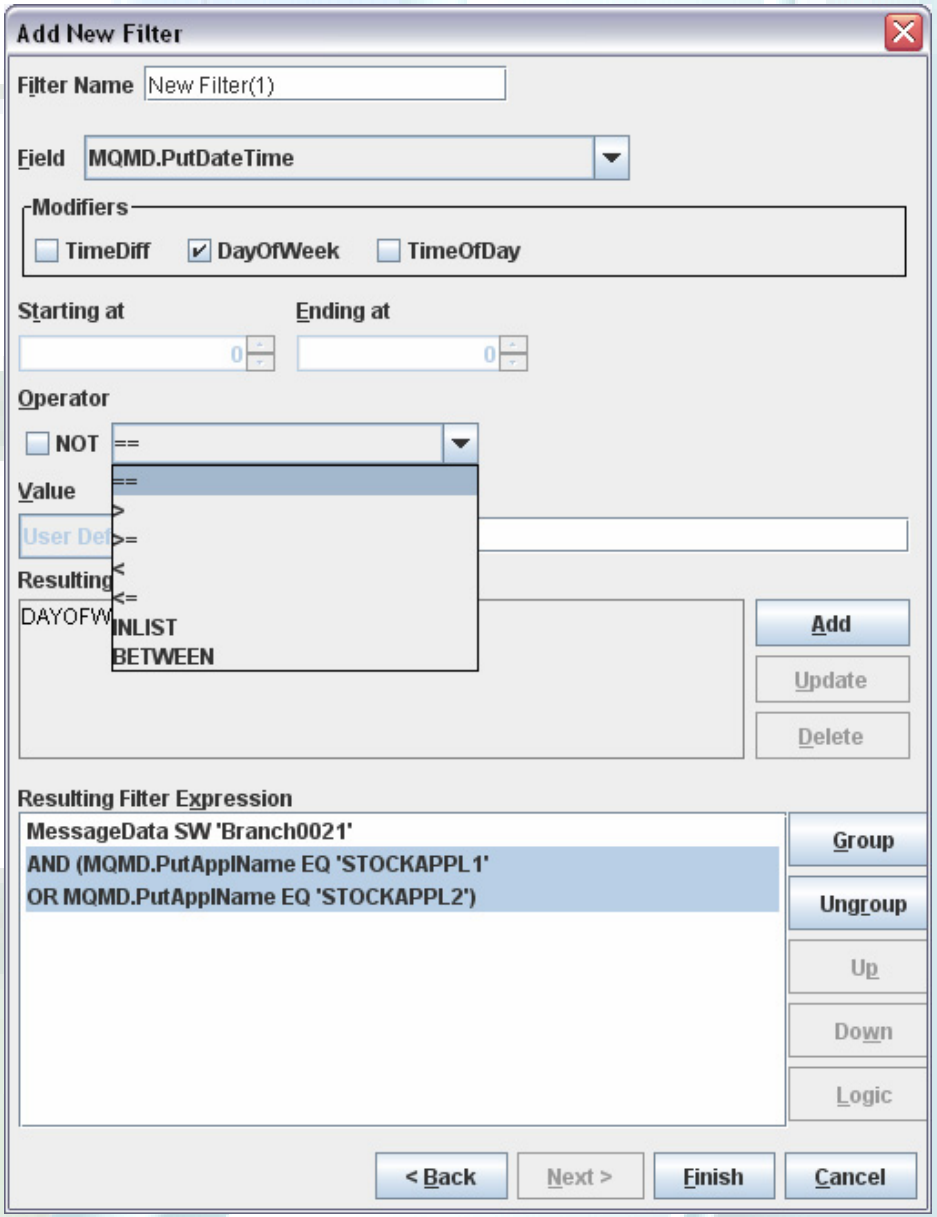
Filtering (cont'd)

Multiple Operators available

- ==
- >
- >=
- <
- <=
- EQ
- SW
- EW
- CT
- &
- INLIST
- BETWEEN

Expressions combined using

- AND
- OR
- AND NOT
- OR NOT
- GROUPING



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Actions

InQuest is modular.

- Modules currently available :

MBA

Message Based Alerting

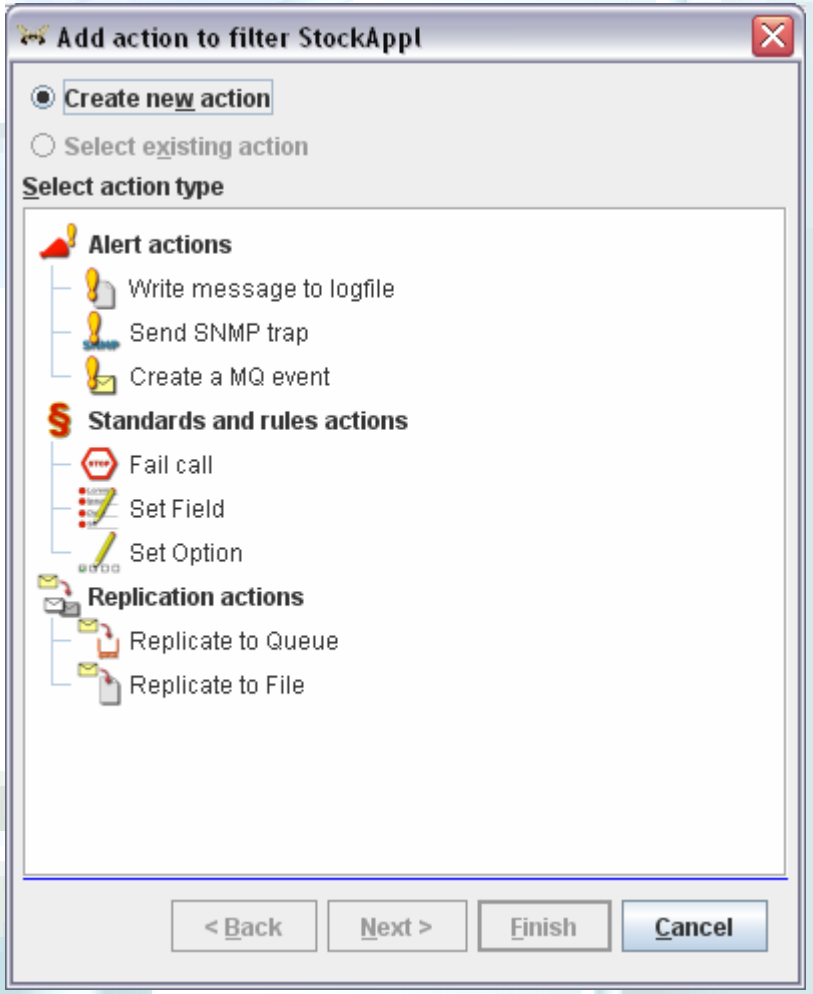
SRE

Standards and Rules Enforcer

MBR

Message Based Replicator

Logger and Synchronizer



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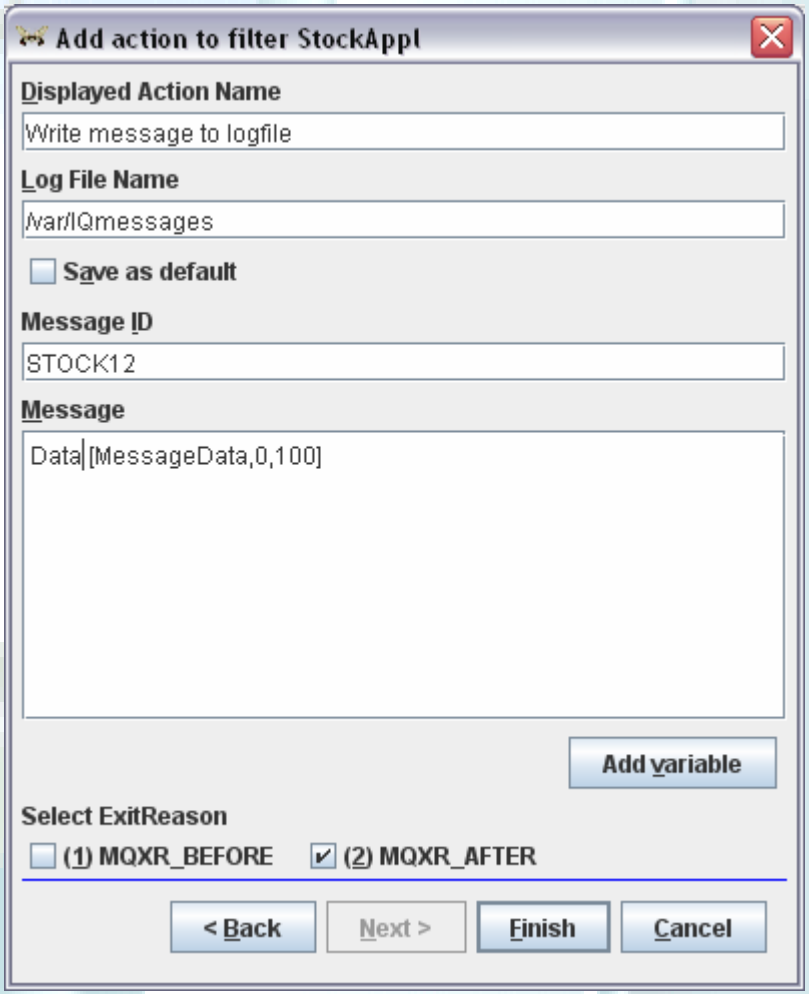
Message Based Alerting

- Three actions available
  - Write message to logfile
  - Put an MQ Event message to a specified queue
    - Both may include original msg data and any filterable field as substituted variable
  - Send SNMP Alert
    - to a specified host and community with specified severity



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MBA Uses

Examples where MBA may be used

- An unexpected userid generated a message
- An unexpected program (executable name)…
- A transaction has a value of over one million £
- An application is causing an MQ resource shortage
- An unexpected format type is used.
- A message is larger than 500K

MBA is ideal if you want alarms based on business information within seconds

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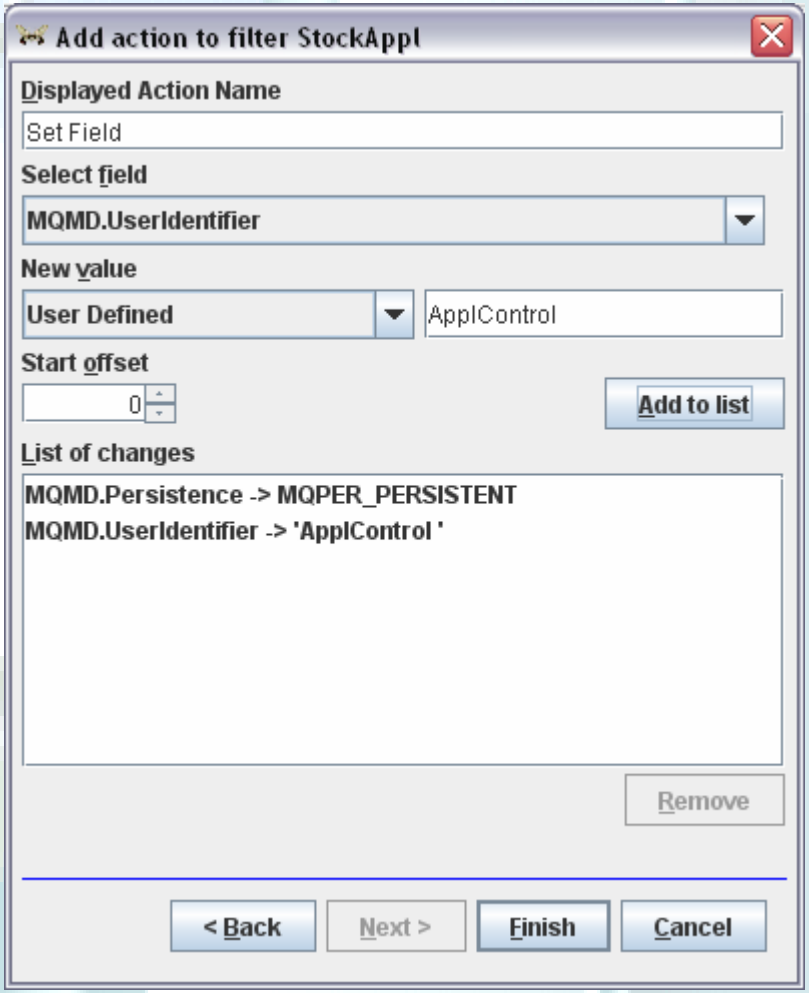
Standards and Rules Enforcer

- Three actions available
  - Fail Call
    - Fail the call and set RC and CC
  - Set Field
    - Set values for specified fields to comply with standards
  - Set Option
    - Change option settings to comply with standards



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SRE Uses

- Control access based on message content
- Enforce good practices or programming standards
  E.g.:
  - MQPMO_SET_IDENTITY_CONTEXT is forbidden
  - A dynamic queue name must start with ABC
  - If an MQGET uses MQGMO_WAIT, the WaitInterval can not be greater than 5000, nor can it have the value MQWI_UNLIMITED, unless the option MQGMO_FAIL_IF_QUIESCING is used.
  - Expiring messages are not allowed
  - All messages on queue XYZ must be persistent

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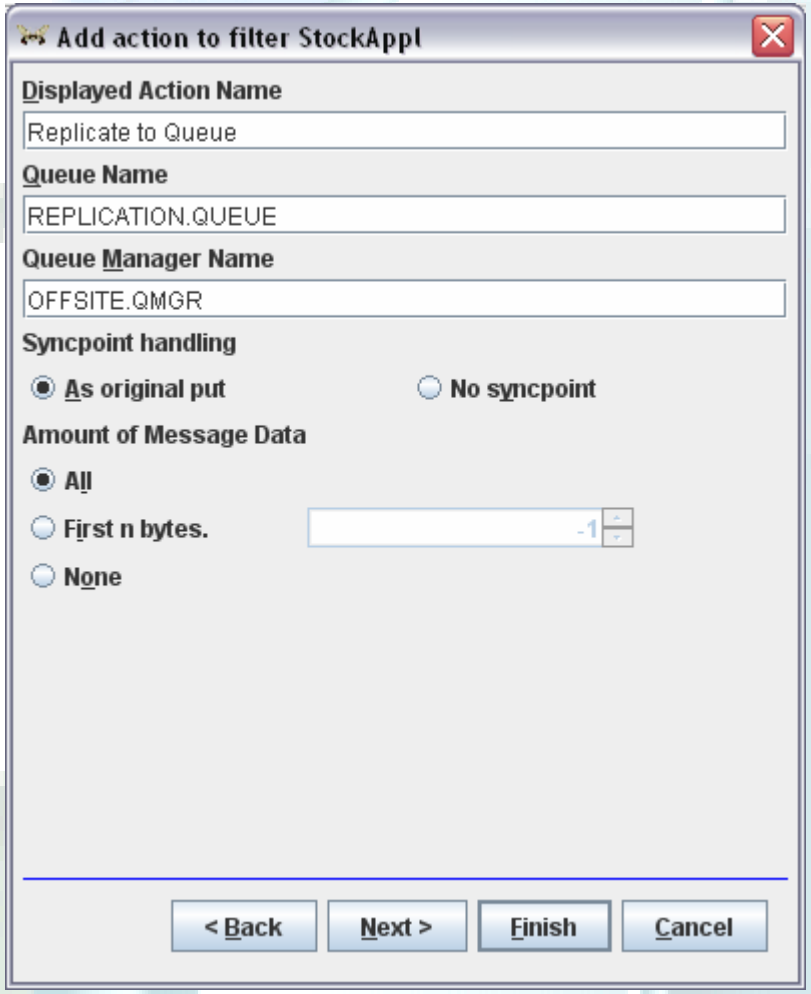
MBR

- Two actions available
  - Replicate to Queue
    - Copy and Log the message to another queue within the QMGR
  - Replicate to File
    - Copy and Log the message to a file, specifying format
      - Character delimited
      - XML
      - Raw

The replicated data can include all or only part of the original message data



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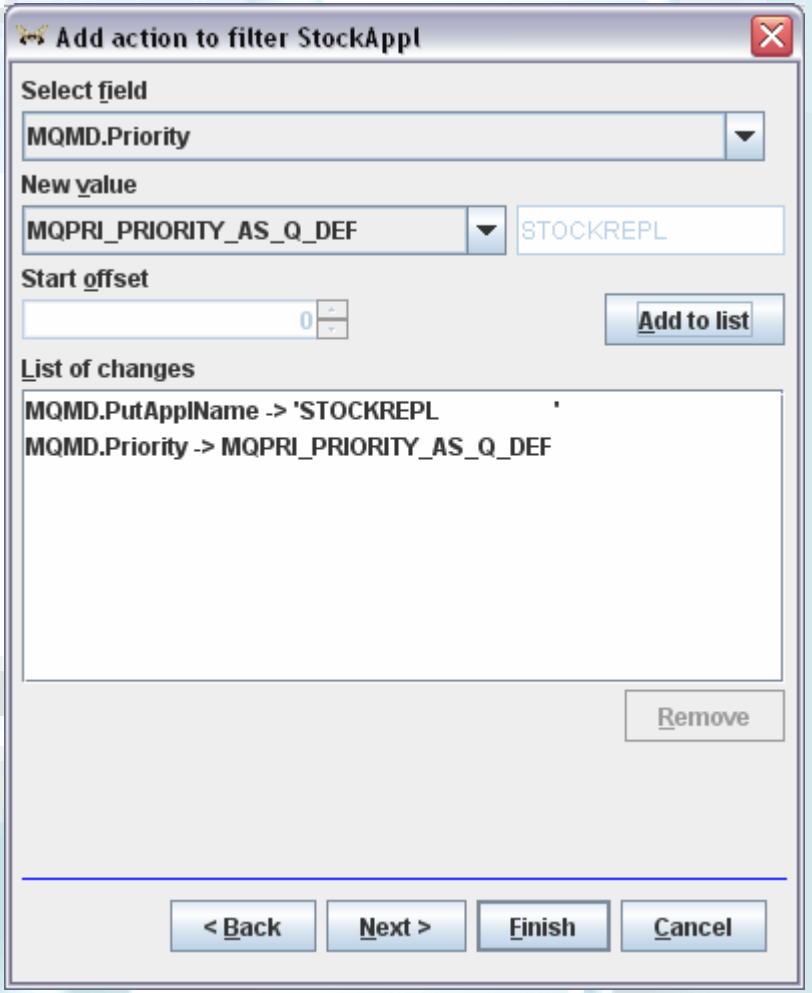
MBR Uses

Optionally imbedded **setField** and **SetOption** actions may be used to change the value of one or more attributes of the replicated data

Note that the content of the original message data cannot be altered



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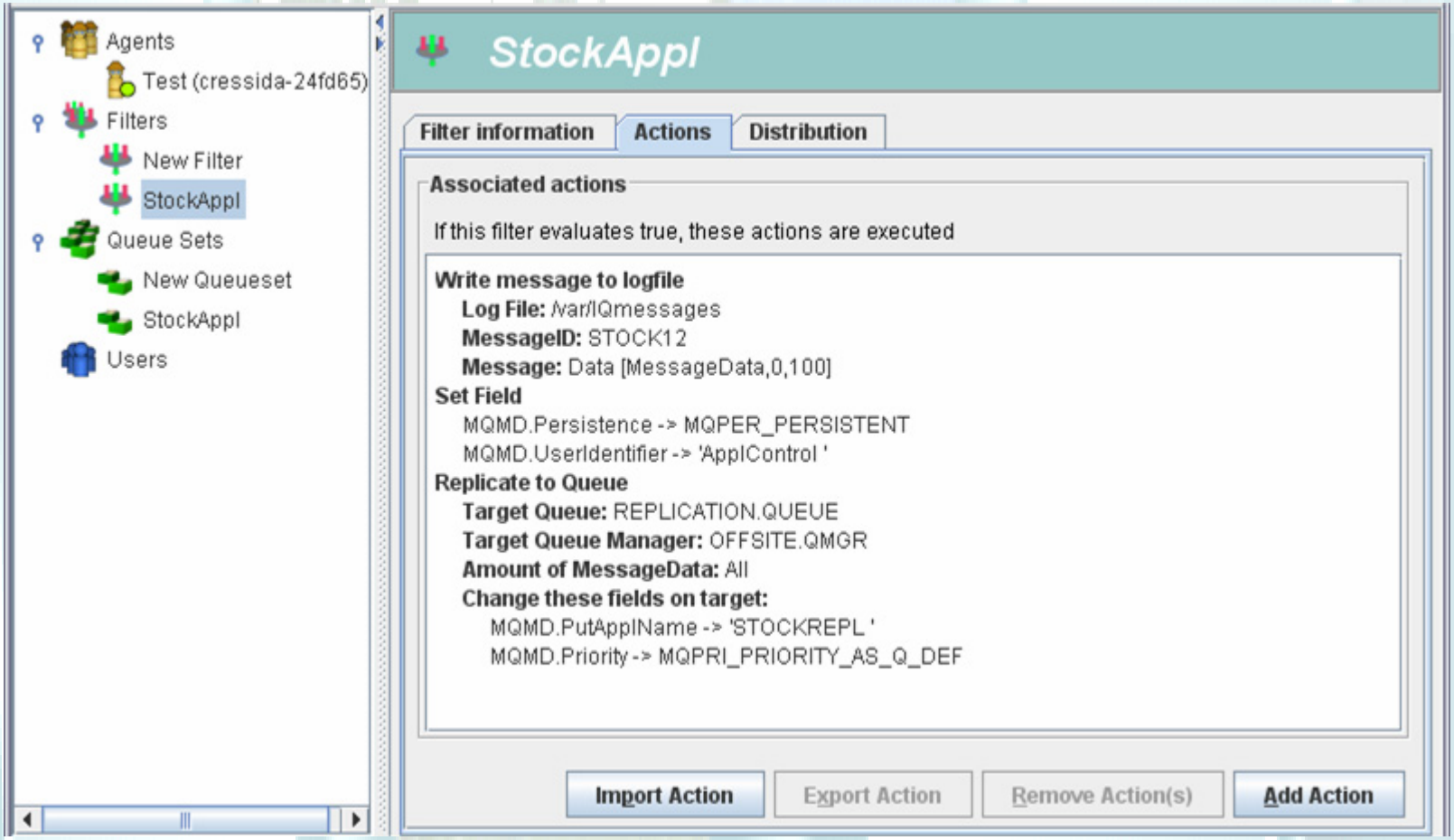
Multiple Actions

- Any number of **Actions** can be associated with a filter and can be of different types
- All actions associated wth all filters that evaluates to true for a specific call are executed



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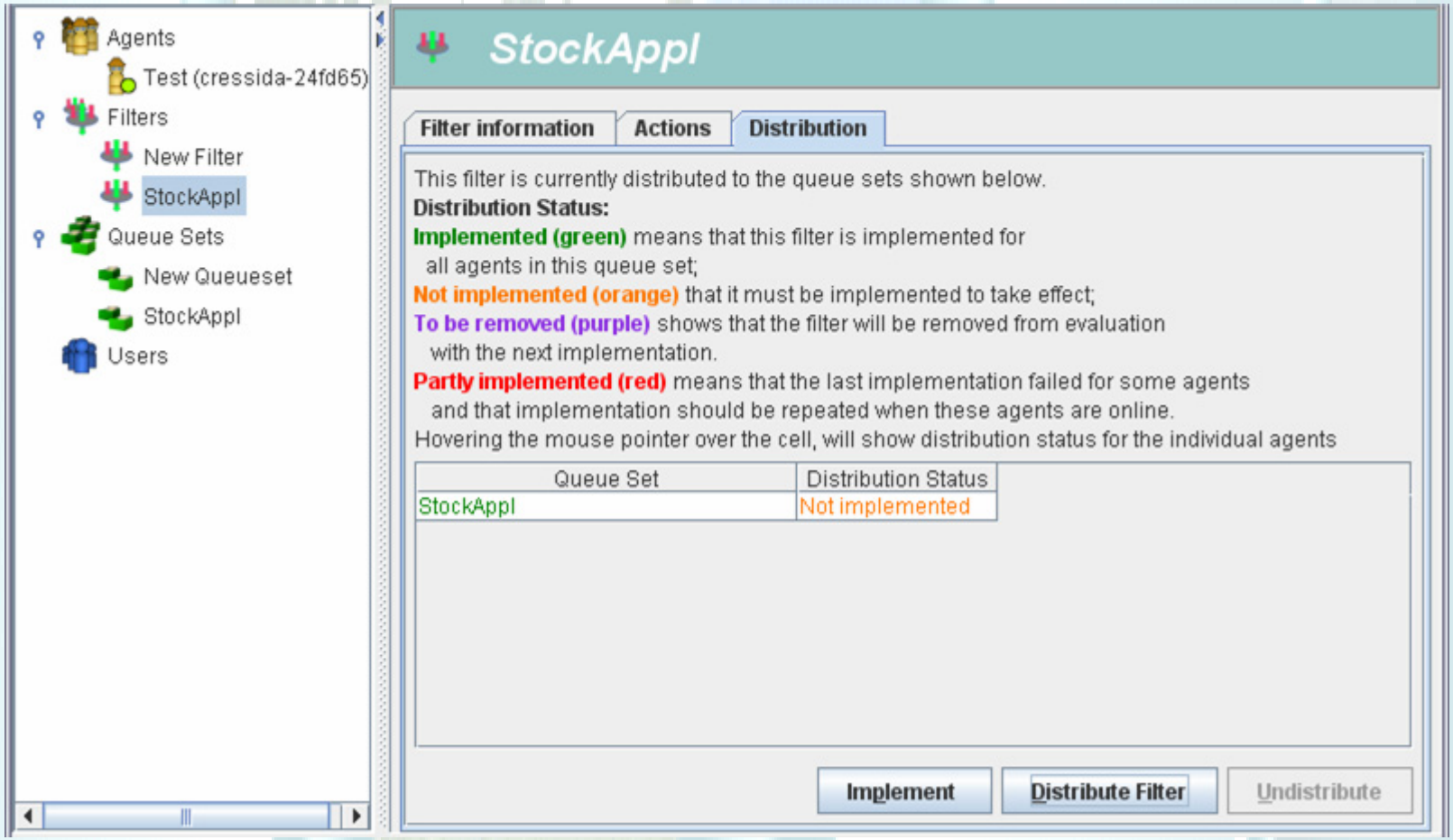
Distribution

- Filters are distributed to queue sets
- Implements transparently adds queue names to filter definition



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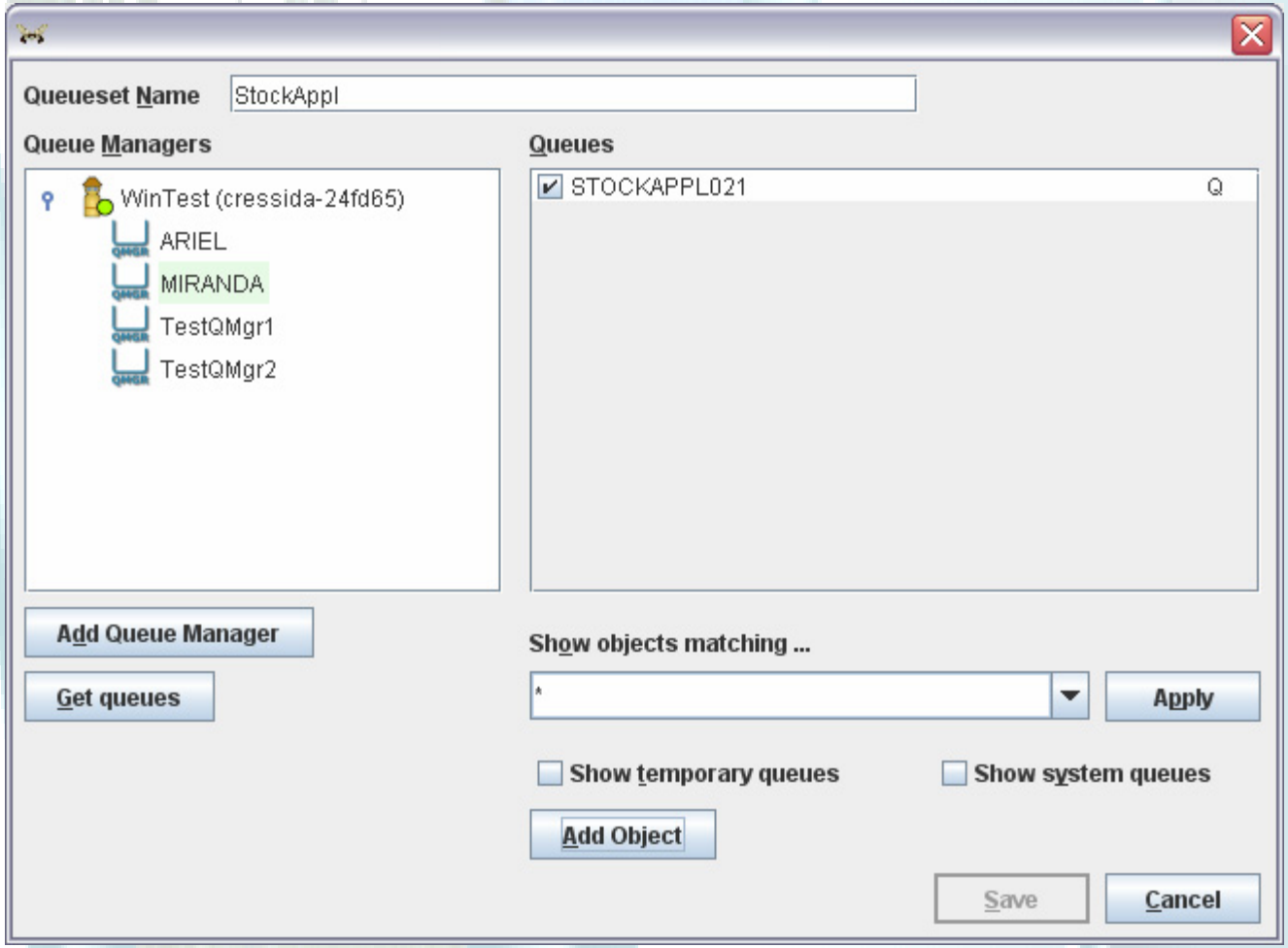
Queue Set

- A list of 1-many queues on 1-many queue managers



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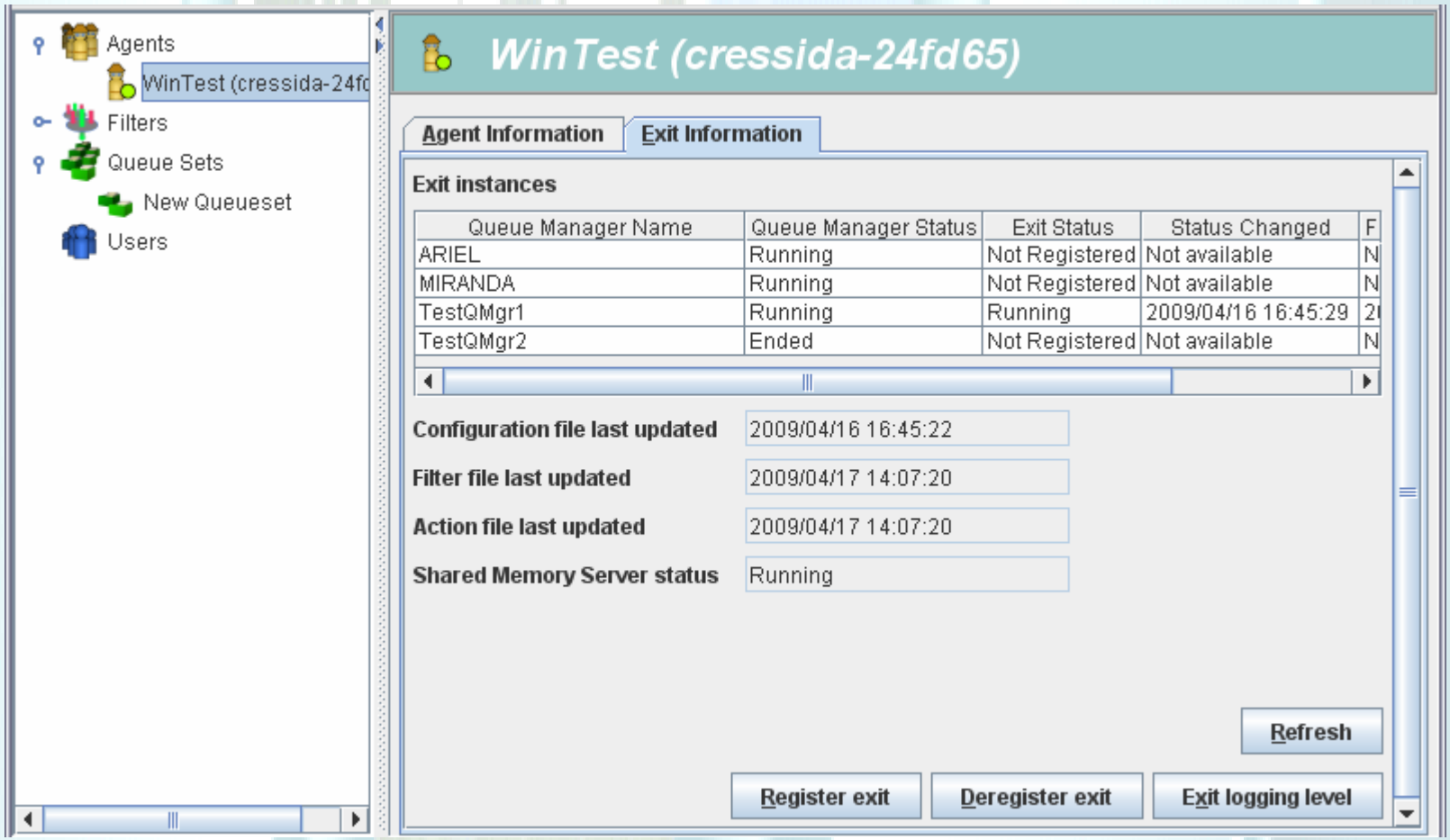
Agents

- Remote control of the API Exit
- Target for implementation



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InQuest Summary

- Action oriented, flexible, no coding needed user-configurable MQ API handling family of tools
- Uses reliable existing IBM supplied technology
- Modular, expandable functionality
  - Message Replication, Logging, MirrorQ, Synchronization, Enforce Standards, Content Based Alerts, …
- No API coding skills required
- Easy to use graphical front end
- Precise filtering
- High-performance
- Cressida supplied and supported

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SynQuest™ for WMQ

- Production Strength Multi-Platform MirrorQ Solution
- Disaster Recovery & Hot Site Application
- Synchronize Local and Offsite Queue Managers
- User Selective Source Queue Replication
- High-Performing, No User Coding needed Synchronizing API Exit Agent
- Utilizes Well Trusted IBM WMQ Transportion Engine
- Based on Cressida InQuest Highly Optimized API Technology

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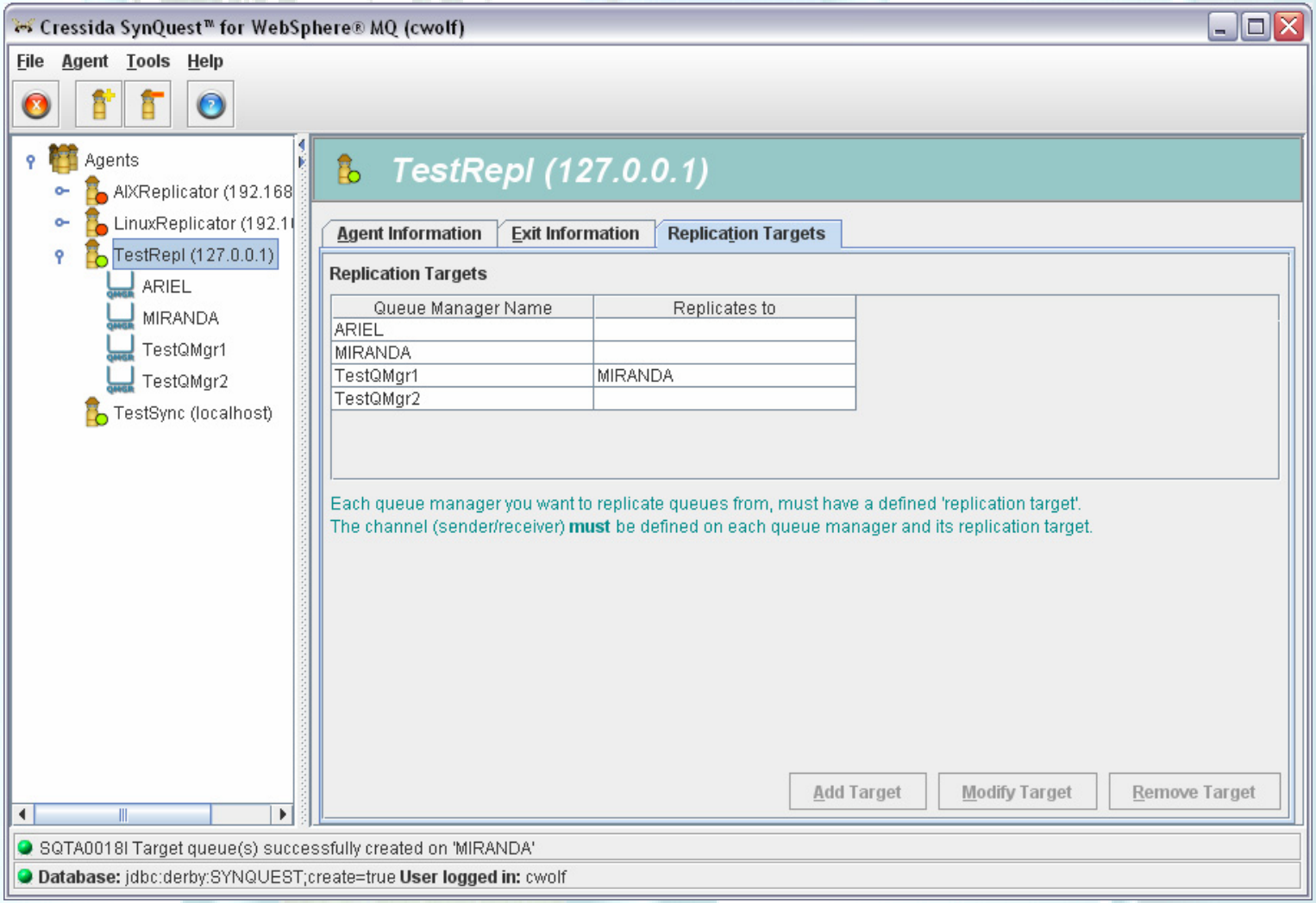
Replication Agent

- Handles the source queue managers



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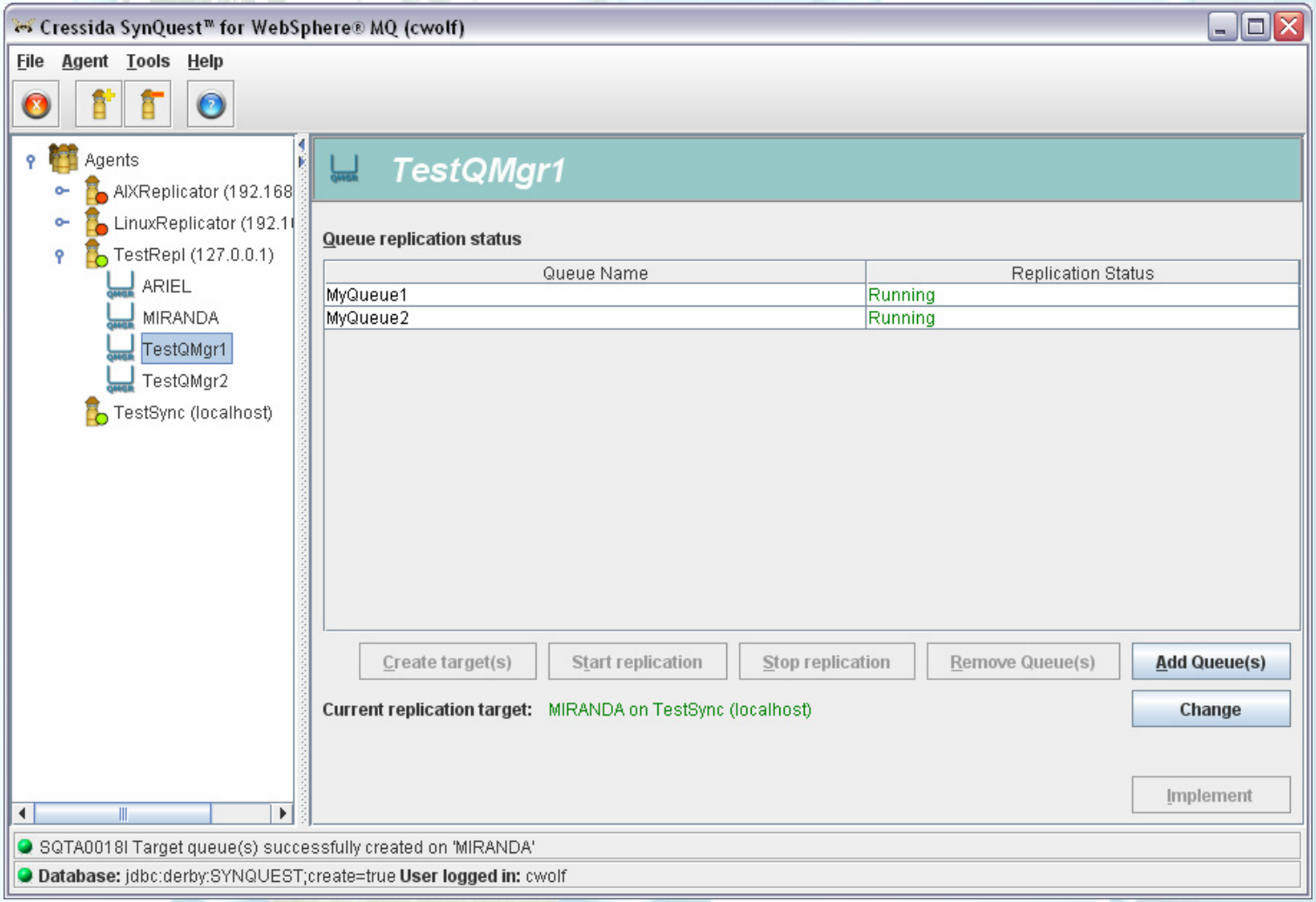
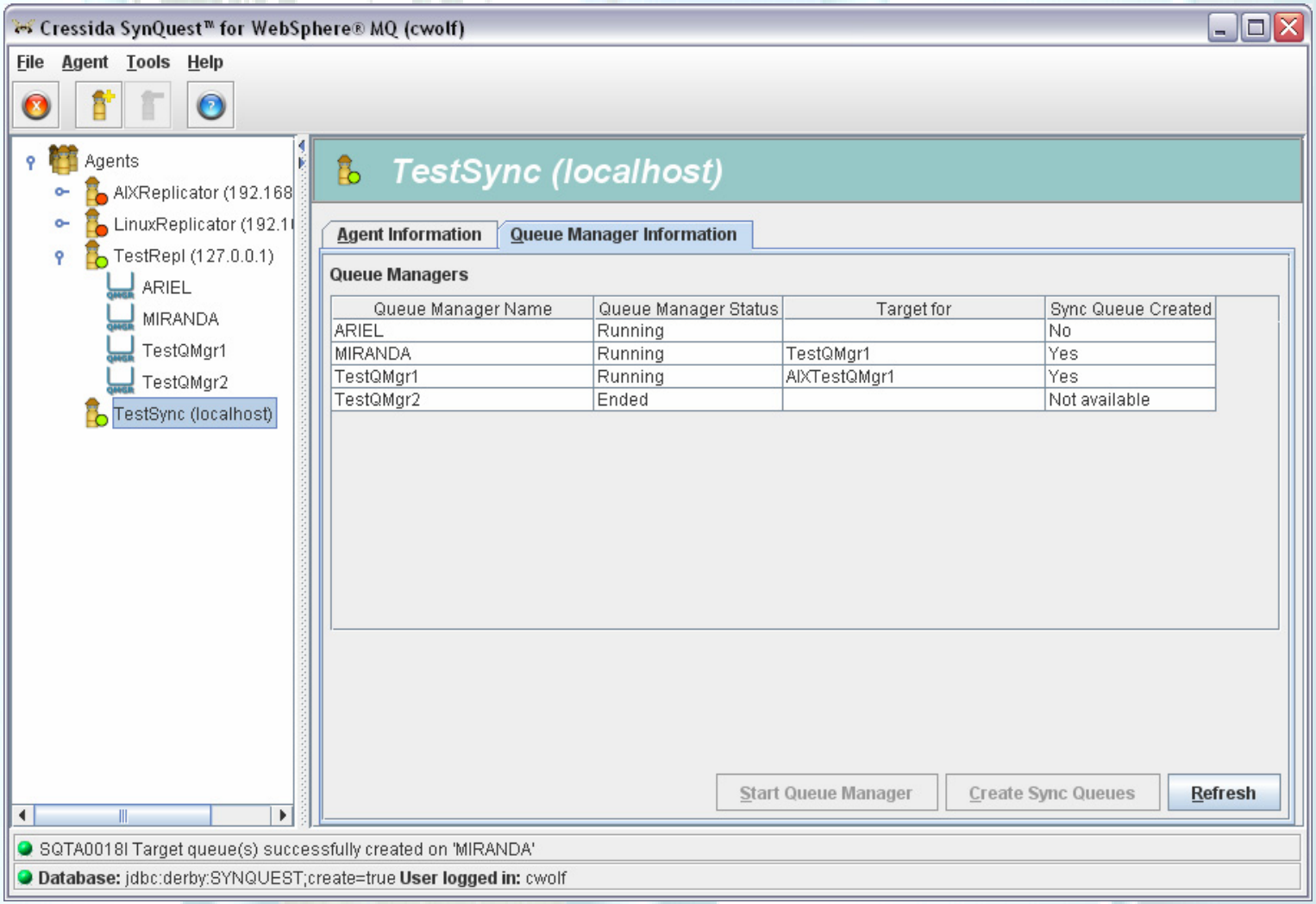
Source Queue Managers

- Defines which queues are replicated



Synchronizing Agent

- Handles the target queue manager



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SynQuest Summary

- Action oriented, no coding needed MirrorQ & Disaster Recovery Functionality
- Uses reliable existing IBM MQ technology
- No MQ API coding skills required
- Easy to use graphical front end
- High-performance & Industrial Strength
- Multi-Platform enabled
  - Windows XP, 2003 (32 bits)
  - AIX 5.3 and 6.x, Solaris 8 & 9, HP-UX 11i V2 & V3
  - 2.6 based RedHat and Suse Linuxes …