

# MQGem Product Overview

## MQSCX

```
Command Prompt - mqscx -m MYQM
DEFXMITQ < >          DESCR < >          DISTL<YES>          <more>
INHIBTEU<DISABLED>  IADDRU<IPU4>        LOCALEU<DISABLED>
LOGGREGU<DISABLED>  MARKINT<5000>       MAXHANDS<256>
MAXMSGSL<4194304>   MAXPROPL<NOLIMIT>  MAXPRTY<9>
MAXUMSGS<10000>    MONACLS<QMGR>       MONCHL<OFF>
MONQ<OFF>           PARENT < >         PERFMEU<DISABLED>
PLATFORM<WINDOWSNT> PSMODE<ENABLED>    PSCLUS<ENABLED>
PSNPMG<DISCARD>    PSNPRES<NORMAL>    PSRTYCNT<5>
PSSYNCP<IFPER>     QMID<MYQM_2013-05-26_11.34.34>
REMOTEEU<DISABLED> REPOS < >          REPOSNL< >
ROUTEREC<MSG>      SCHINIT<QMGR>      SCMDSERU<QMGR>
SPLCAP<ENABLED>    SSLCRLNL< >        SSLCRYP< >
SSLEU<DISABLED>    SSLFIPS<NO>
SSLKEYR<C:\mqdata\qmgs\MYQM\ss\key> SSLKEYC<0>
STATACLS<QMGR>    STATCHL<OFF>       STATINI<1000>
STATMQI<OFF>      STATQ<OFF>         STRSTPEU<ENABLED>
SUITEB<NONE>      SYNCP               TREELIFE<1000>
TRIGINT<999999999> U
```

MO71

NORTH/Queue List\*\*

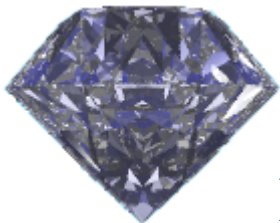
Last Refresh on Wed - 18 Jun 2014 (09:53:16)

Queue Name	Type	Depth	Alt Date	Alt Time	Back Thresh	Base Type	Clus Pri	Rank	Use Q	Cr. Date
MQMON.Paul.53A.155A.2021E020	Local	0	2014-06-18	09:53:08	0		0	0	0	2014-
SYSTEM.ADMIN.ACCOUNTING.QUEUE	Local	0	2014-06-18	09:49:24	0		0	0	0	2014-
SYSTEM.ADMIN.ACTIVITY.QUEUE	Local	0	2014-06-18	09:49:24	0		0	0	0	2014-
SYSTEM.ADMIN.CHANNEL.EVENT	Local	0	2014-06-18	09:49:24	0		0	0	0	2014-
SYSTEM.ADMIN.COMMAND.EVENT	Local	0	2014-06-18	09:49:25	0		0	0	0	2014-
SYSTEM.ADMIN.COMMAND.QUEUE	Local	0	2014-06-18	09:49:24	0		0	0	0	2014-
SYSTEM.ADMIN.CONFIG.EVENT	Local	0	2014-06-18	09:49:25	0		0	0	0	2014-
SYSTEM.ADMIN.LOGGER.EVENT	Local	0	2014-06-18	09:49:24	0		0	0	0	2014-
SYSTEM.ADMIN.PERFMON.EVENT	Local	0	2014-06-18	09:49:24	0		0	0	0	2014-
SYSTEM.ADMIN.PULSAR.EVENT	Local	0	2014-06-18	09:49:25	0		0	0	0	2014-
SYSTEM.ADMIN.QMGR.EVENT	Local	1	2014-06-18	09:49:24	0		0	0	0	2014-
SYSTEM.ADMIN.STATISTICS.QUEUE	Local	0	2014-06-18	09:49:24	0		0	0	0	2014-
SYSTEM.ADMIN.TRACE.ACTIVITY.QUEUE	Local	0	2014-06-18	09:49:25	0		0	0	0	2014-
SYSTEM.ADMIN.TRACE.ROUTE.QUEUE	Local	0	2014-06-18	09:49:24	0		0	0	0	2014-
SYSTEM.AUTH.DATA.QUEUE	Local	92	2014-06-18	09:49:24	0		0	0	0	2014-
SYSTEM.BROKER.ADMIN.STREAM	Local	0	2014-06-18	09:49:25	0		0	0	0	2014-
SYSTEM.BROKER.CONTROL.QUEUE	Local	0	2014-06-18	09:49:25	0		0	0	0	2014-
SYSTEM.BROKER.DEFAULT.STREAM	Local	0	2014-06-18	09:49:25	0		0	0	0	2014-
SYSTEM.BROKER.INTER.BROKER.COMMUNICATIONS	Local	0	2014-06-18	09:49:39	0		0	0	0	2014-
SYSTEM.CHANNEL.INITQ	Local	0	2014-06-18	09:49:39	0		0	0	0	2014-
SYSTEM.CHANNEL.SYNCRQ	Local	0	2014-06-18	09:49:24	0		0	0	0	2014-
SYSTEM.CH.AUTH.DATA.QUEUE	Local	3	2014-06-18	09:49:25	0		0	0	0	2014-



Come up to the desk now to get your free MQGem USB Key containing...

- This presentation
- MQSCX & MO71 products
- Trial licence



MQGem Software

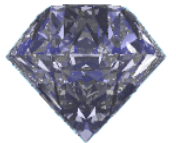
Paul Clarke

[support@mqgem.com](mailto:support@mqgem.com)

[www.mqgem.com](http://www.mqgem.com)

# Agenda

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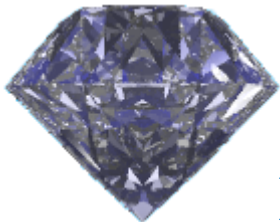
MQGem  
Software

- MQSCX
  - Feature Overview
  - New features
  
- MO71
  - Feature Overview
  - New features
  - Demo

# MQSCX (8.0.0)

```
Command Prompt - mqscx -m MYQM
DEFXMITQ( )          DESCR( )          DISTL(YES)          <more>
INHIBTEU(DISABLED)  IPADDRU(IPV4)       LOCALEU(DISABLED)
LOGGEREU(DISABLED)  MARKINT(5000)       MAXHANDS(256)
MAXMSGL(4194304)    MAXPROPL(NOLIMIT)  MAXPRTY(9)
MAXUMSGS(10000)     MONACLS(QMGR)       MONCHL(OFF)
MONQ(OFF)           PARENT( )          PERFMU(DISABLED)
PLATFORM(WINDOWSNT) PSMODE(ENABLED)     PSCLUS(ENABLED)
PSNPMMSG(DISCARD)  PSNPRES(NORMAL)    PSRTCNT(5)
PSSYNCP(IFPER)     QMID(MYQM_2013-05-26_11.34.34)
REMOETE(DISABLED)  REPOS( )           REPOSNL( )
ROUTEREC(MSG)       SCHINIT(QMGR)      SCMDSERU(QMGR)
SPLCAP(ENABLED)    SSLCRLNL( )        SSLCRYP( )
SSLEU(DISABLED)    SSLFIPS(NO)        SSLRKEYC(0)
SSLKEYR(C:\mqmdata\qmgrs\MYQM\ssl\key)
STATACLS(QMGR)     STATCHL(OFF)       STATINT(1800)
STATMQI(OFF)       STATQ(OFF)         STRSTPEU(ENABLED)
SUITEB(NONE)       SYNCPT             TREELIFE(1800)
TRIGINT(999999999) VERSION(07050000)  XRCAP(YES)

MYQM>dis CHANNEL<>
```



MQGem Software

# Overview

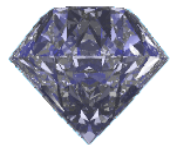


- Like RUNMQSC, but with so much more
  - Can be used interactively or in background
  - Fills many of the ‘holes’ in RUNMQSC
  - Runs as local or client bindings
  - More granular security
  - Less frustrating to use
  - More efficient and timely
  - Much Greater capabilities

```
Command Prompt - mqscx -m MYQM
DEFXMITQ< >          DESCR< >          DISTL<YES>          <more>
INHIBTEU<DISABLED>  IPADDRU<IPU4>        LOCALEU<DISABLED>
LOGGEREU<DISABLED>  MARKINT<5000>        MAXHANDS<256>
MAXMSGU<4194304>    MAXPROPL<NOLIMIT>    MAXPRTY<9>
MAXUMSGS<10000>     MONACLS<QMGR>        MONCHL<OFF>
MONQ<OFF>           PARENT< >           PERFMEU<DISABLED>
PLATFORM<WINDOWSNT> PSMODE<ENABLED>      PSCLUS<ENABLED>
PSNPMSG<DISCARD>    PSNPRES<NORMAL>     PSRTYCNT<5>
PSSYNCP<IFPER>     QMID<MYQM_2013-05-26_11.34.34>
REMOETEU<DISABLED>  REPOS< >            REPOSNL< >
ROUTEREC<MSG>       SCHINIT<QMGR>        SCMDSERU<QMGR>
SPLCAP<ENABLED>     SSLCRLNL< >          SSLCRYP< >
SSLEU<DISABLED>     SSLFIPS<NO>
SSLKEYR<C:\mqdata\qmgrs\MYQM\ssl\key> SSLRKEYC<0>
STATACLS<QMGR>     STATCHL<OFF>        STATINT<1800>
STATMQI<OFF>        STATQ<OFF>          STRSTPEU<ENABLED>
SUITEB<NONE>        SYNCPT
TRIGINT<999999999>  UERSION<07050000>   TREELIFE<1800>
XRCAP<YES>

MYQM>dis CHANNEL<>
```

# Command Retrieval



MQGem  
Software

- What is more annoying than no command retrieval?
- MQSCX allows generic and targeted retrieval.

Command Retrieval

The image shows two overlapping Command Prompt windows titled "Command Prompt - mqscx -m MYQM". The left window shows a sequence of commands and their outputs:

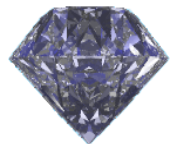
```
[13:38:59] DISPLAY QLOCAL<SYSTEM.ADMIN.QUEUE<SYSTEM.ADMIN.CHANNEL.EVENT>  
QUEUE<SYSTEM.ADMIN.COMMAND.EVENT>  
QUEUE<SYSTEM.ADMIN.COMMAND.QUEUE>  
QUEUE<SYSTEM.ADMIN.CONFIG.EVENT>  
[13:39:07] CLEAR QLOCAL<SYSTEM.ADMIN.CHANNEL.EVENT>  
AMQ8022: WebSphere MQ queue cleared.  
[13:39:12] DEFINE QLOCAL<Q1>  
AMQ8006: WebSphere MQ queue created.  
MYQM>c l
```

The right window shows the output of the DISPLAY command:

```
DISPLAY QLOCAL<SYSTEM.ADMIN.C*  
SYSTEM.ADMIN.CHANNEL.EVENT      TYPE<QLOCAL>  
SYSTEM.ADMIN.COMMAND.EVENT      TYPE<QLOCAL>  
SYSTEM.ADMIN.COMMAND.QUEUE      TYPE<QLOCAL>  
SYSTEM.ADMIN.CONFIG.EVENT       TYPE<QLOCAL>  
[13:39:12] DEFINE QLOCAL<Q1>  
AMQ8006: WebSphere MQ queue created.  
MYQM>CLEAR QLOCAL<SYSTEM.ADMIN.CHANNEL.EVENT>
```

At the bottom left, there is a diamond logo and the URL <http://www.mqgem.com>.

# Command Auto-Completion



MQGem  
Software

- Pressing 'Tab' will tab through available values
- Forwards and backwards supported
- Tab through commands, attributes or values
- Tab through like-named items

Command Auto-Completion

```
DEFXMITQ< >          DESCR< >          DISTL<YES>          <more>
INHIBTEU<DISABLED>  IPADDRU<IPU4>      LOCALEU<DISABLED>
LOGGEREU<DISABLED> MARKINT<5000>
MAXMSG<4194304>    MAXPROPL<NOLIMIT>
MAXUMSGS<10000>    MONACLS<QMGR>
MONQ<OFF>          PARENT< >
PLATFORM<WINDOWSNT> PSMODE<ENABLED>
PSNPMSG<DISCARD>   PSNPRES<NORMAL>
PSSYNCP<IFPER>    QMID<MYQM_2013-05-
REMOTEE<DISABLED>  REPOS< >
ROUTEREC<MSG>     SCHINIT<QMGR>
SPLCAP<ENABLED>   SSLCRLNL< >
SSLEU<DISABLED>   SSLFIPS<NO>
SSLKEYR<C:\mqmdata\qmgrs\MYQM\ssl\key>
STATACLS<QMGR>    STATCHL<OFF>
STATMQI<OFF>      STATQ<OFF>
SUITEB<NONE>      SYNCPT
TRIGINT<999999999> UERSION<07050000>
```

MYQM>dis cha

MYQM>dis CHANNEL<

Tab



# Object name completion



- Pressing 'Tab' will tab through available values
- Forwards and backwards supported
- Tab through like-named items

Object Name Auto-Completion

```
Command Prompt - mqscx -m MYQM
DEFXMLTQ< >          DESCR< >          DISTL<YES>          <more>
INHIBTEU<DISABLED>  IPADDRU<IPV4>    LOCALEU<DISABLED>
LOGGEREU<DISABLED> MARKINT<5000>
MAXMSGL<4194304>   MAXPROPL<NOLIMIT>
MAXUMSGS<10000>    MONACLS<QMGR>
MONQ<OFF>          PARENT< >
PLATFORM<WINDOWSNT> PSMODE<ENABLED>
PSNPMSG<DISCARD>   PSNPRES<NORMAL>
PSSYNCP<IPPER>     QMID<MYQM_2013-05-
REMOTEEU<DISABLED> REPOS< >
ROUTEREC<MSG>      SCHINIT<QMGR>
SPLCAP<ENABLED>    SSLCRLNL< >
SSLEU<DISABLED>    SSLFIPS<NO>
SSLKEYR<C:\mqdata\qmgrs\MYQM\ssl\key>
STATACLS<QMGR>    STATCHL<OFF>
STATMQI<OFF>      STATQ<OFF>
SUITEB<NONE>      SYNCPT
TRIGINT<999999999> UERSION<07050000>

MYQM>DISPLAY QLOCAL(system.ad)

Command Prompt - mqscx -m MYQM
DEFXMLTQ< >          DESCR< >          DISTL<YES>          <more>
INHIBTEU<DISABLED>  IPADDRU<IPV4>    LOCALEU<DISABLED>
LOGGEREU<DISABLED> MARKINT<5000>    MAXHANDS<256>
MAXMSGL<4194304>   MAXPROPL<NOLIMIT>
MAXUMSGS<10000>    MONACLS<QMGR>   MAXPRTY<9>
MONQ<OFF>          PARENT< >        MONCHL<OFF>
PLATFORM<WINDOWSNT> PSMODE<ENABLED> PERFMEU<DISABLED>
PSNPMSG<DISCARD>   PSNPRES<NORMAL> PSCLUS<ENABLED>
PSSYNCP<IPPER>     QMID<MYQM_2013-05-26_11.34.34>
REMOTEEU<DISABLED> REPOS< >         PSRTCNT<5>
ROUTEREC<MSG>      SCHINIT<QMGR>   REPOSNL< >
SPLCAP<ENABLED>    SSLCRLNL< >     SCMDSERU<QMGR>
SSLEU<DISABLED>    SSLFIPS<NO>     SSLCRYP< >
SSLKEYR<C:\mqdata\qmgrs\MYQM\ssl\key>
STATACLS<QMGR>    STATCHL<OFF>    SSLRKEYC<0>
STATMQI<OFF>      STATQ<OFF>      STATINT<1800>
SUITEB<NONE>      SYNCPT          STRSTPEU<ENABLED>
TRIGINT<999999999> UERSION<07050000> TREELIFE<1800>
XRCAP<YES>

MYQM>DISPLAY QLOCAL<SYSTEM.ADMIN.ACCOUNTING.QUEUE>
```



# Multiple Wildcards

- Wildcards can be specified anywhere
  - Wildcards '\*' and '?' supported

```
Command Prompt - mqscx -m MYQM

[22:06:25] DISPLAY QLOCAL<SYSTEM.ADMIN.*.EVENT>
QUEUE<SYSTEM.ADMIN.CHANNEL.EVENT> TYPE<QLOCAL>
QUEUE<SYSTEM.ADMIN.COMMAND.EVENT> TYPE<QLOCAL>
QUEUE<SYSTEM.ADMIN.CONFIG.EVENT> TYPE<QLOCAL>
QUEUE<SYSTEM.ADMIN.LOGGER.EVENT> TYPE<QLOCAL>
QUEUE<SYSTEM.ADMIN.PERFM.EVENT> TYPE<QLOCAL>
QUEUE<SYSTEM.ADMIN.PUBSUB.EVENT> TYPE<QLOCAL>
QUEUE<SYSTEM.ADMIN.QMGR.EVENT> TYPE<QLOCAL>

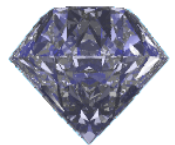
[22:06:31] DISPLAY QLOCAL<*.?????.*.EVENT>
QUEUE<SYSTEM.ADMIN.CHANNEL.EVENT> TYPE<QLOCAL>
QUEUE<SYSTEM.ADMIN.COMMAND.EVENT> TYPE<QLOCAL>
QUEUE<SYSTEM.ADMIN.CONFIG.EVENT> TYPE<QLOCAL>
QUEUE<SYSTEM.ADMIN.LOGGER.EVENT> TYPE<QLOCAL>
QUEUE<SYSTEM.ADMIN.PERFM.EVENT> TYPE<QLOCAL>
QUEUE<SYSTEM.ADMIN.PUBSUB.EVENT> TYPE<QLOCAL>
QUEUE<SYSTEM.ADMIN.QMGR.EVENT> TYPE<QLOCAL>

MYQM>
```





# Extended WHERE clause



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Software

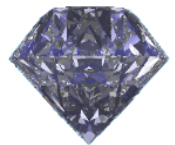
- Much more flexibility than standard WHERE
- Multiple expressions supported
- Greater list of operators
- Numeric expressions supported

```
Command Prompt - mqscx -m MYQM
[more]
[09:37:57] DIS QLOCAL(*) =WHERE<CURDEPTH > MAXDEPTH * 0.5>
QUEUE<Q.SMALL> TYPE<QLOCAL> CURDEPTH<51>
MAXDEPTH<100>
MYQM>
```

Are any  
of my queues  
more than  
half full?



# Separator Lines



MQGem  
Software

- Helps see the wood from the trees
- Can use significantly less screen real estate

```
Command Prompt - mqscx -m MYQM
[22:14:10] DISPLAY AUTHINFO(*) all
AUTHINFO(SYSTEM.DEFAULT.AUTHINFO.OCSP)  AUTHTYPE(OCSP)
OCSPURL( )          DESCR( )          ALTDATE(2013-05-26)
ALTTIME(11.34.39)
AUTHINFO(SYSTEM.DEFAULT.AUTHINFO.CRLLDAP)
AUTHTYPE(CRLLDAP)  CONNAME( )          LDAPUSER( )
LDAPPWD( )        DESCR( )          ALTDATE(2013-05-26)
ALTTIME(11.34.39)
MYQM>

-m MYQM
[22:14:10] DISPLAY AUTHINFO(*) all
T.AUTHINFO.OCSP)  AUTHTYPE(OCSP)
SCR( )          ALTDATE(2013-05-26)
T.AUTHINFO.CRLLDAP)
NNAME( )          LDAPUSER( )
SCR( )          ALTDATE(2013-05-26)

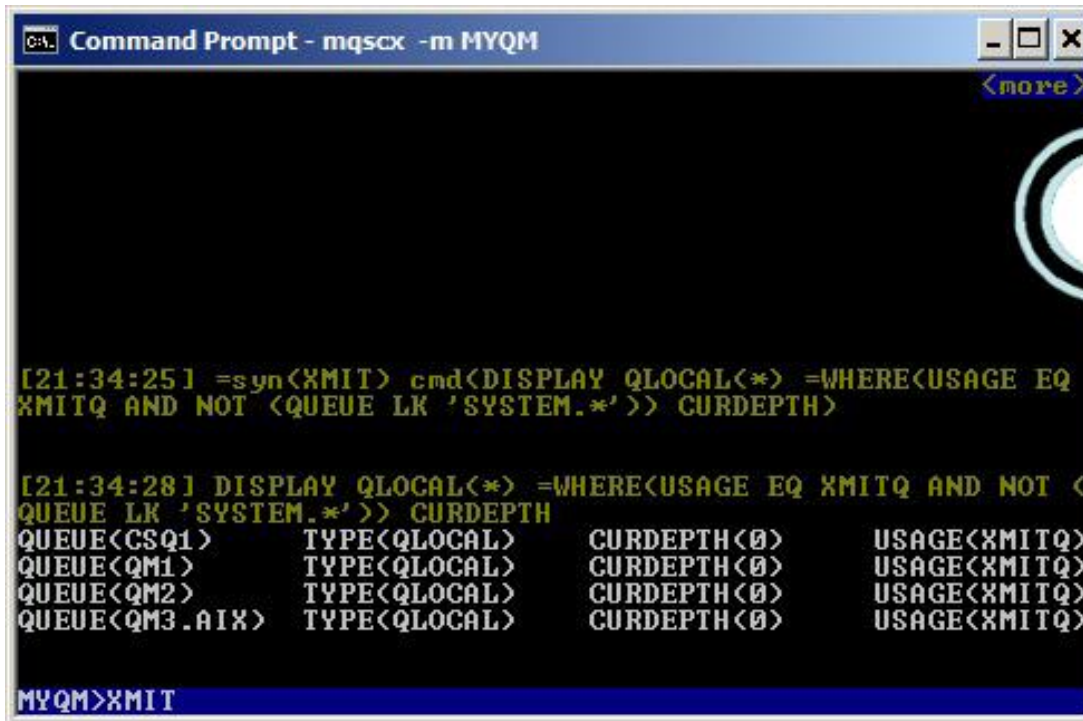
[22:13:32] DISPLAY AUTHINFO(*) all
AMQ8566: Display authentication inform
AUTHINFO(SYSTEM.DEFAULT.AUTHINFO.OCSP)  AUTHTYPE(OCSP)
OCSPURL( )          DESCR( )          ALTDATE(2013-05-26)
ALTTIME(11.34.39)
AMQ8566: Display authentication inform
AUTHINFO(SYSTEM.DEFAULT.AUTHINFO.CRLLDAP)
AUTHTYPE(CRLLDAP)  CONNAME( )          LDAPUSER( )
LDAPPWD( )        DESCR( )          ALTDATE(2013-05-26)
ALTTIME(11.34.39)
MYQM>

[22:12:24] DISPLAY AUTHINFO(*) all
AUTHINFO(SYSTEM.DEFAULT.AUTHINFO.OCSP)  AUTHTYPE(OCSP)
OCSPURL( )          DESCR( )          ALTDATE(2013-05-26)
ALTTIME(11.34.39)
AUTHINFO(SYSTEM.DEFAULT.AUTHINFO.CRLLDAP)
AUTHTYPE(CRLLDAP)  CONNAME( )          LDAPUSER( )
LDAPPWD( )        DESCR( )          ALTDATE(2013-05-26)
ALTTIME(11.34.39)
MYQM>
```



# Synonyms

- Saves laborious typing
- Reduces the chances of making mistakes
- Can go further even define a single keystroke as a command



```
Command Prompt - mqscx -m MYQM

[21:34:25] =syn<XMIT> cmd<DISPLAY QLOCAL(*) =WHERE<USAGE EQ XMITQ AND NOT <
QUEUE LK 'SYSTEM.*'>> CURDEPTH)

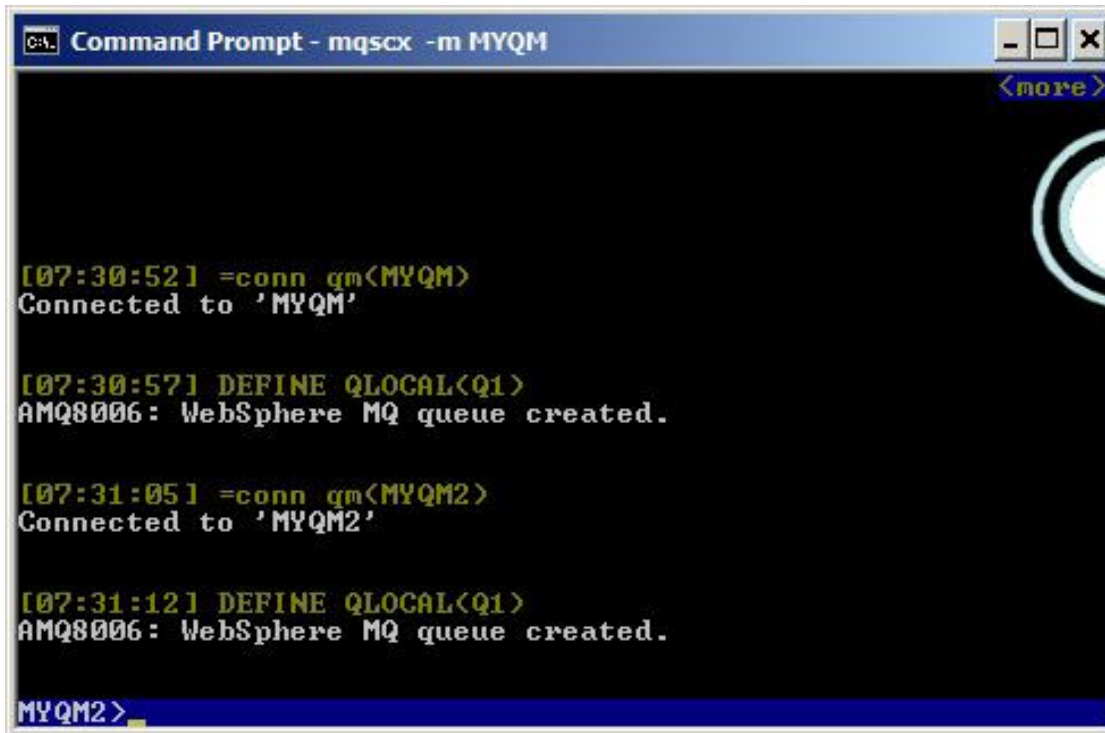
[21:34:28] DISPLAY QLOCAL(*) =WHERE<USAGE EQ XMITQ AND NOT <
QUEUE LK 'SYSTEM.*'>> CURDEPTH
QUEUE<CSQ1>      TYPE<QLOCAL>      CURDEPTH<0>      USAGE<XMITQ>
QUEUE<QM1>      TYPE<QLOCAL>      CURDEPTH<0>      USAGE<XMITQ>
QUEUE<QM2>      TYPE<QLOCAL>      CURDEPTH<0>      USAGE<XMITQ>
QUEUE<QM3.AIX>  TYPE<QLOCAL>      CURDEPTH<0>      USAGE<XMITQ>

MYQM>XMIT
```



# Connecting and Disconnecting

- Allows connecting and disconnecting
  - All within same script
  - Connect as client or local bindings
  - Prompt changes depending on connected Queue Manager



```
Command Prompt - mqscx -m MYQM


[07:30:52] =conn qm<MYQM>
Connected to 'MYQM'

[07:30:57] DEFINE QLOCAL<Q1>
AMQ8006: WebSphere MQ queue created.

[07:31:05] =conn qm<MYQM2>
Connected to 'MYQM2'

[07:31:12] DEFINE QLOCAL<Q1>
AMQ8006: WebSphere MQ queue created.

MYQM2>
```



I need  
to work with  
two queue  
managers



# FIND clause

- Simpler way of just filtering by text
  - Text matched against any of the response
  - Much easier to get right than WHERE clause

```
Command Prompt - MQSCX - m MYQM

MQSCX Extended MQSC Program - Version 7.5.0
Licenced to Paul Clarke
Connected to 'MYQM'

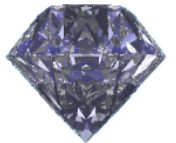
[22:24:45] DISPLAY CHLAUTH(*) ALL =FIND(privileged)
CHLAUTH(*)          TYPE(BLOCKUSER)
DESCR(Default rule to disallow privileged users)
CUSTOM( )          USERLIST(*MQADMIN)  WARN(NO)
ALTDATE(2013-05-26) ALTTIME(11.34.40)

MYQM>
```



# Plus much more....

---



MQGem  
Software

- Colour configuration
- Multiple commands on a single line
- Display totals
- Full prompt configuration
- Search through responses
- IMPORT other command files
  - Which can also IMPORT command files
- .....

# CCDT Editing



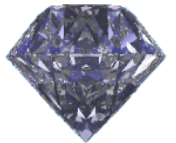
- MQSCX can be run in 'CCDT' mode
  - CLNTCONN channels can be defined, changed, deleted
  - CCDT can be created of any MQ version
  - Two CCDT files can be merged (by channel name)

```
C:\ MQ Environment : 750GA - mqscx -n

CCDT commands directed to file 'C:\mqmdata\AMQCLCHL.TAB'
MQSCX Extended MQSC Program - Version 7.5.1
Licenced to Paul Clarke
Licence Location: Home
[11:00:19] dis chl(*) conname =where<not<channel == "SYS*")>>
CHANNEL(FRED)          CHLTYPE(CLNTCONN)    CONNAME(localhost(1415))
CHANNEL(NTPGC1.SRU)    CHLTYPE(CLNTCONN)    CONNAME(LOCALHOST)
CHANNEL(X)             CHLTYPE(CLNTCONN)    CONNAME(198.162.45.67)
Total display responses - Received:4 Matched:3
>
```

# Control Language

---



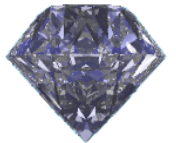
MQGem  
Software

- MQSC is a very static language
  - Very difficult to parse
  - No control constructs
  - Just a list of commands to execute
- MQSCX extends the language
  - Easy to process responses
  - Adds loops, if statements, list processing
  - User variables



# Control Language

---



MQGem  
Software

- Extends MQSC uses enormously
  - Augment or modify command responses
  - Display consolidated result of multiple commands
  - Perform health checking
  - Perform monitoring
  - Write report file of Queue Manager status
  - Check objects against naming conventions
  - Bulk updates
    - For example, change all objects with a particular value

# Control Language 'Top' Example



```
* Get the local queues and their depth and store in array

* First delete any previous results
delvar(@val)

* Now, get a list of queues with messages
@i = 0;
foreach(DIS QL(*) CURDEPTH WHERE(CURDEPTH GT 0))
  @i = @i + 1
  @val[1,@i] = QUEUE
  @val[2,@i] = CURDEPTH
endfor

* Sort the array in descending order by second column
sortd(@val,2)

* Print out a screen full unless there are even less returned
if (_height)      @limit = _height-3; else @limit = 20; endif
if (@limit > @i) @limit = @i; endif

* Ok, print out the top few
@i = 0;
print :48:"Queue Name","Depth"
print :48:"=====", "====="
while(@i < @limit)
  @i = @i + 1
  print :48:@val[1,@i],:5:@val[2,@i]
endwhile
```

# Control Language 'XmitQs' Example



\* Get all the transmission queues

```
foreach(DISPLAY QUEUE(*) CURDEPTH WHERE(USAGE EQ XMITQ))
  * Is the depth non-zero ?
  if (curdepth > 0)
    @qname = QUEUE
    @depth = CURDEPTH
    * Read channel status for this queue
    foreach(DISPLAY CHSTATUS(*) WHERE(XMITQ EQ <@qname>))
      print @qname,"depth",@depth, CHANNEL,"is",STATUS
    endfor
    if (_matches = 0)
      print @qname,"depth",@depth,"No channel status"
    endif
  endif
endfor
```

# MO71 (8.0)

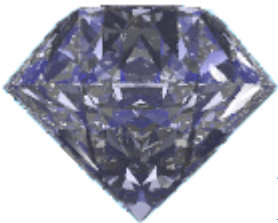
NORTH/Queue List \*+ Last Refresh on Wed - 18 Jun 2014 (09:53:16)

Queue Name \*  
Queue Type \*

Queue Name	Type	Depth	Alt Date	Alt Time	Back Thresh	Base Type	Clus Pri	Rank	Use Q	Cr.Date
MQMON.Paul.53A152A2021E0020	Local	0	2014-06-18	09.53.08	0		0	0	Local	2014-
SYSTEM.ADMIN.ACCOUNTING.QUEUE	Local	0	2014-06-18	09.49.24	0		0	0	Qmgr	2014-
SYSTEM.ADMIN.ACTIVITY.QUEUE	Local	0	2014-06-18	09.49.24	0		0	0	Qmgr	2014-
SYSTEM.ADMIN.CHANNEL.EVENT	Local	0	2014-06-18	09.49.24	0		0	0	Qmgr	2014-
SYSTEM.ADMIN.COMMAND.EVENT	Local	0	2014-06-18	09.49.25	0		0	0	Qmgr	2014-
SYSTEM.ADMIN.COMMAND.QUEUE	Local	0	2014-06-18	09.49.24	0		0	0	Qmgr	2014-
SYSTEM.ADMIN.CONFIG.EVENT	Local	0	2014-06-18	09.49.25	0		0	0	Qmgr	2014-
SYSTEM.ADMIN.LOGGER.EVENT	Local	0	2014-06-18	09.49.24	0		0	0	Qmgr	2014-
SYSTEM.ADMIN.PERFM.EVENT	Local	0	2014-06-18	09.49.24	0		0	0	Qmgr	2014-
SYSTEM.ADMIN.PUBSUB.EVENT	Local	0	2014-06-18	09.49.25	0		0	0	Qmgr	2014-
SYSTEM.ADMIN.QMGR.EVENT	Local	1	2014-06-18	09.49.24	0		0	0	Qmgr	2014-
SYSTEM.ADMIN.STATISTICS.QUEUE	Local	0	2014-06-18	09.49.24	0		0	0	Qmgr	2014-
SYSTEM.ADMIN.TRACE.ACTIVITY.QUEUE	Local	0	2014-06-18	09.49.25	0		0	0	Qmgr	2014-
SYSTEM.ADMIN.TRACE.ROUTE.QUEUE	Local	0	2014-06-18	09.49.24	0		0	0	Qmgr	2014-
SYSTEM.AUTH.DATA.QUEUE	Local	92	2014-06-18	09.49.24	0		0	0	Qmgr	2014-
SYSTEM.BROKER.ADMIN.STREAM	Local	0	2014-06-18	09.49.25	0		0	0	Qmgr	2014-
SYSTEM.BROKER.CONTROL.QUEUE	Local	0	2014-06-18	09.49.25	0		0	0	Qmgr	2014-
SYSTEM.BROKER.DEFAULT.STREAM	Local	0	2014-06-18	09.49.25	0		0	0	Qmgr	2014-
SYSTEM.BROKER.INTER.BROKER.COMMUNICATIONS	Local	0	2014-06-18	09.49.39	0		0	0	Qmgr	2014-
SYSTEM.CHANNEL.INITQ	Local	0	2014-06-18	09.49.39	0		0	0	Qmgr	2014-
SYSTEM.CHANNEL.SYNCQ	Local	0	2014-06-18	09.49.24	0		0	0	Qmgr	2014-
SYSTEM.CHLAUTH.DATA.QUEUE	Local	3	2014-06-18	09.49.25	0		0	0	Qmgr	2014-

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Refresh Usage... Browse... Cancel



MQGem Software

# MO71 Overview

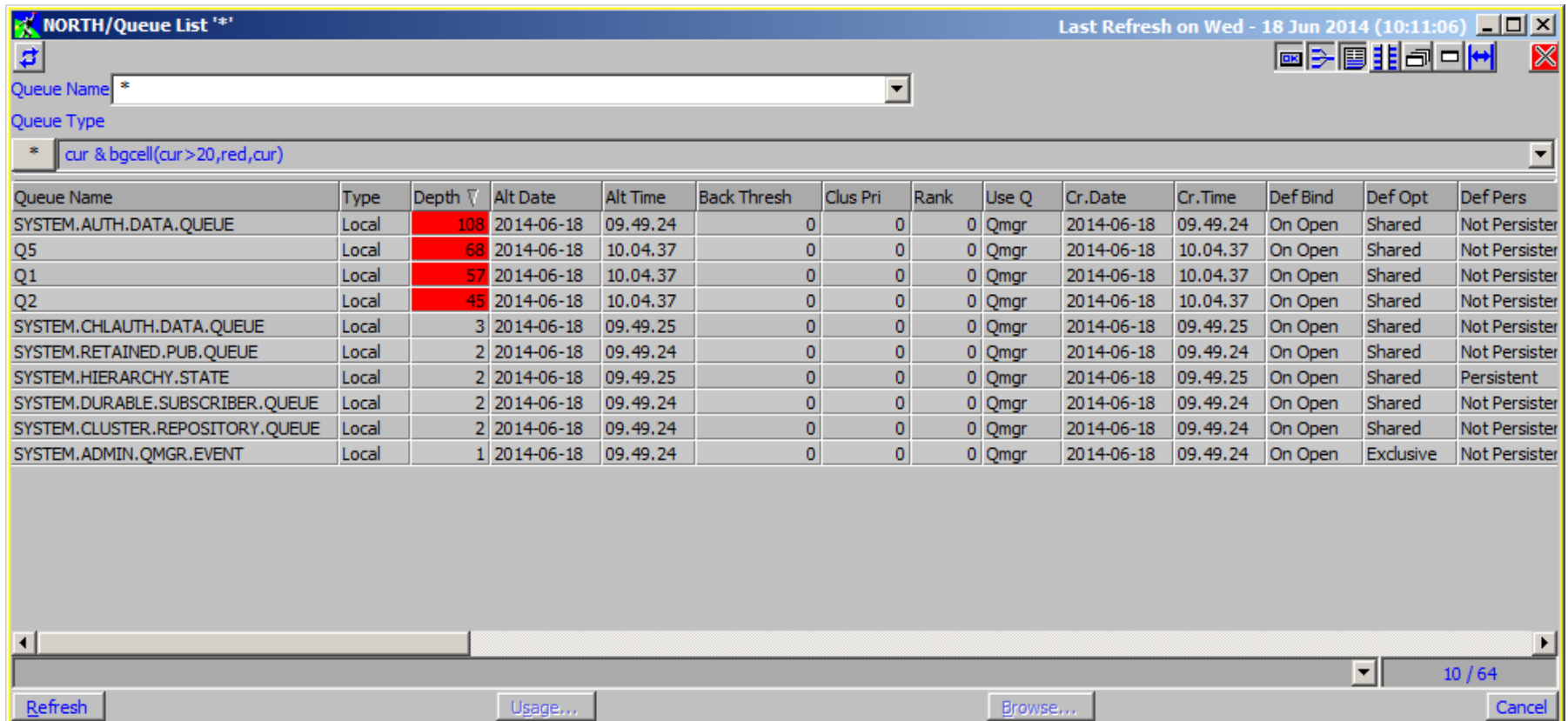
---



- **Windows GUI**
  - Multiple window design
    - Show what you want, where ever you want it.
  - Single EXE install, small (<2MB) and fast
- **Been around for almost 20 years**
  - Used by hundreds of customers all over the world
- **Very extensive list of features**
  - Not just configuration
  - Monitoring and Administration

# Filtering

- Very simple and yet very powerful filtering
  - Simple Boolean expression
  - Expression controls what and how fields are displayed



The screenshot shows the 'NORTH/Queue List' window in MQGem. The window title is 'NORTH/Queue List \*' and it shows a 'Last Refresh on Wed - 18 Jun 2014 (10:11:06)'. The 'Queue Name' field is empty, and the 'Queue Type' is set to 'Local'. The filter expression is '\* cur & bgcell(cur>20,red,cur)'. The table below shows the filtered results, with the 'Depth' column highlighted in red for the first four rows.

Queue Name	Type	Depth	Alt Date	Alt Time	Back Thresh	Clus Pri	Rank	Use Q	Cr.Date	Cr.Time	Def Bind	Def Opt	Def Pers
SYSTEM.AUTH.DATA.QUEUE	Local	108	2014-06-18	09.49.24	0	0	0	Qmgr	2014-06-18	09.49.24	On Open	Shared	Not Persister
Q5	Local	68	2014-06-18	10.04.37	0	0	0	Qmgr	2014-06-18	10.04.37	On Open	Shared	Not Persister
Q1	Local	57	2014-06-18	10.04.37	0	0	0	Qmgr	2014-06-18	10.04.37	On Open	Shared	Not Persister
Q2	Local	45	2014-06-18	10.04.37	0	0	0	Qmgr	2014-06-18	10.04.37	On Open	Shared	Not Persister
SYSTEM.CHLAUTH.DATA.QUEUE	Local	3	2014-06-18	09.49.25	0	0	0	Qmgr	2014-06-18	09.49.25	On Open	Shared	Not Persister
SYSTEM.RETAINED.PUB.QUEUE	Local	2	2014-06-18	09.49.24	0	0	0	Qmgr	2014-06-18	09.49.24	On Open	Shared	Not Persister
SYSTEM.HIERARCHY.STATE	Local	2	2014-06-18	09.49.25	0	0	0	Qmgr	2014-06-18	09.49.25	On Open	Shared	Persistent
SYSTEM.DURABLE.SUBSCRIBER.QUEUE	Local	2	2014-06-18	09.49.24	0	0	0	Qmgr	2014-06-18	09.49.24	On Open	Shared	Not Persister
SYSTEM.CLUSTER.REPOSITORY.QUEUE	Local	2	2014-06-18	09.49.24	0	0	0	Qmgr	2014-06-18	09.49.24	On Open	Shared	Not Persister
SYSTEM.ADMIN.QMGR.EVENT	Local	1	2014-06-18	09.49.24	0	0	0	Qmgr	2014-06-18	09.49.24	On Open	Exclusive	Not Persister

The window also shows a 'Refresh' button, 'Usage...' button, 'Browse...' button, and 'Cancel' button. The status bar indicates '10 / 64'.

# Filter Manager



- Allows a name to be assigned to each filter
  - Handy if it's complicated
  - Or just to save typing
  - Each filter given a name and invoked with \$filtername
  - For example, **writedepth** below:

```
if (_first)
{
    @fd:= fopen("c:\\temp\\qs.csv", "w");
}
fprintf(@fd, "%s, %s, %d\n", date$(_time), queue, curdepth);
if(_last)
{
    fclose(@fd);
}
1;
```

# Multi-Queue Manager Dialogs



- Shows the results multiple Queue Managers
  - In the same dialog
  - Subject to the same filters
  - Uses less screen real-estate

The screenshot shows a software dialog box titled "NORTH[Multi QMgr]/Queue List 'Q1'". The window title bar includes "Last Refresh on Wed - 18 Jun 2014 (16:35:57)". On the left, there are four status indicators for EAST, NORTH, SOUTH, and WEST, each with a green checkmark and a computer icon. The main area contains a search filter for "Queue Name" set to "Q1" and "Queue Type" set to "\*". Below this is a table with the following data:

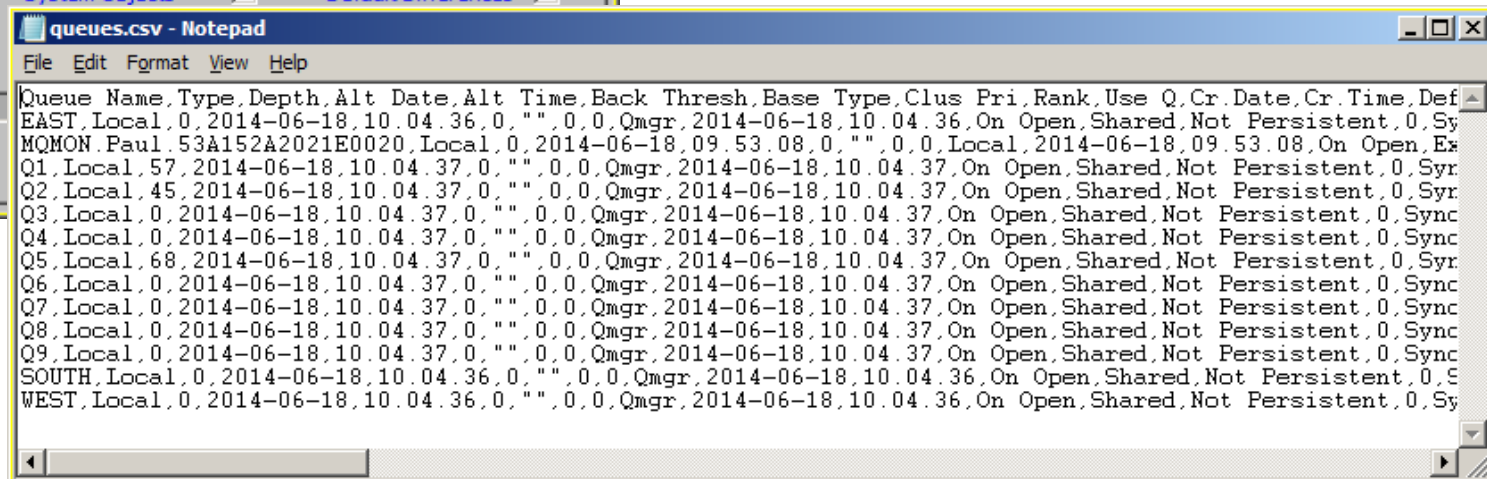
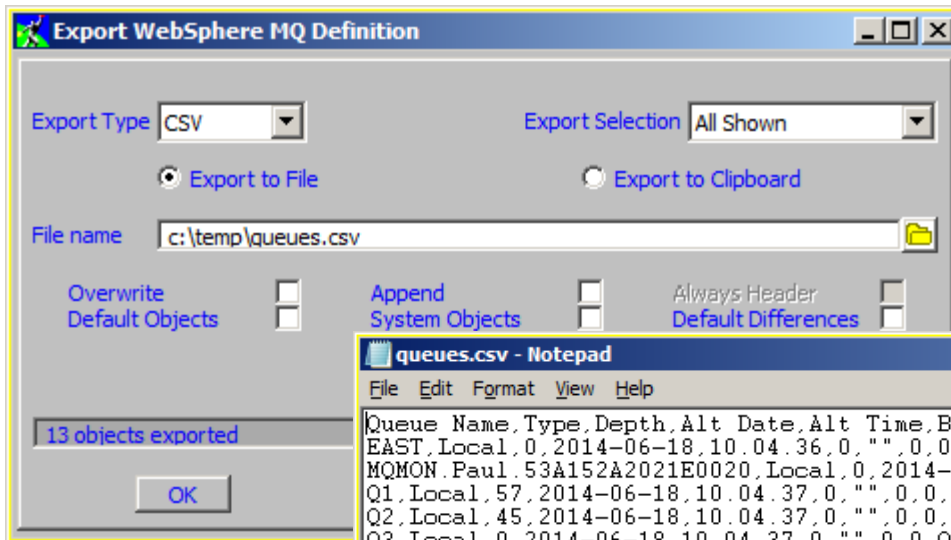
QMgr	Name	Type	Depth	Alt Date	Alt Time	Back Thresh	Clus Pri	Rank	Use Q	Cr.Date	Cr.Time	Def Bind	Def Opt	Def Pers	Def Pri	Def
WEST	Q1	Local	126	2014-06-18	10.04.38	0	0	0	Qmgr	2014-06-18	10.04.38	On Open	Shared	Not Persistent	0	Syn
SOUTH	Q1	Local	25	2014-06-18	10.04.37	0	0	0	Qmgr	2014-06-18	10.04.37	On Open	Shared	Not Persistent	0	Syn
NORTH	Q1	Local	57	2014-06-18	10.04.37	0	0	0	Qmgr	2014-06-18	10.04.37	On Open	Shared	Not Persistent	0	Syn
EAST	Q1	Local	8	2014-06-18	10.04.38	0	0	0	Qmgr	2014-06-18	10.04.38	On Open	Shared	Not Persistent	0	Syn

At the bottom of the dialog, there are buttons for "Refresh All", "Usage...", "Browse...", and "Cancel". A page indicator "4 / 4" is visible in the bottom right corner.



# Export Objects

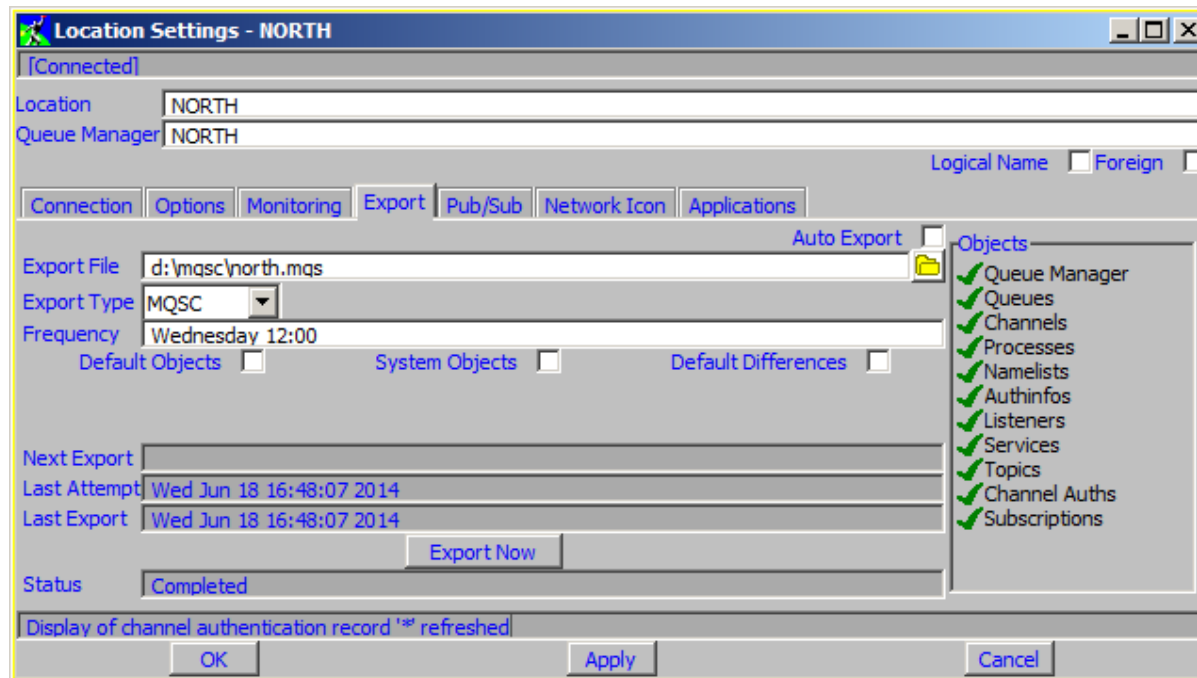
- All lists of MQ objects can be exported
  - To a file or the clipboard
  - In text, MQSC, CSV or XML formats
  - Various options to control what gets exported



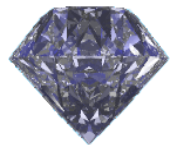
# Exporting the whole Queue Manager



- Will save all the object definitions
  - Can be scheduled to run at any frequency
  - Again you can choose what gets exported
    - Such as default objects, system objects.



# Comparing Definitions



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Software

- Compare definitions on any two Queue Managers
  - Shows which objects are different
  - Shows which attributes are different
- Allows object definitions to be synchronised

NORTH-SOUTH/Compare Queue List 'Q\*'

Queue Manager Name A NORTH

Queue Manager Name B SOUTH

Queue Name Q\*

Queue Type \*

Queue Name	Max Q Depth	Max Msg Length	Queue Name	Max Q Depth	Max Msg Length
Q1	5,000	4,194,304	Q1	5,000	4,194,304
Q2	5,000	4,194,304	Q2	5,000	4,194,304
Q3	6,000	4,194,304	Q3	5,000	4,194,304
Q4	5,000	4,194,304	Q4	5,000	4,194,304
Q5	5,000	4,194,304	Q5		
Q6	5,000	4,194,304	Q6	5,000	4,194,304
Q7			Q7	5,000	4,194,304
Q8	5,000	100,000	Q8	5,000	4,194,304
Q9	5,000	4,194,304	Q9	5,000	4,194,304

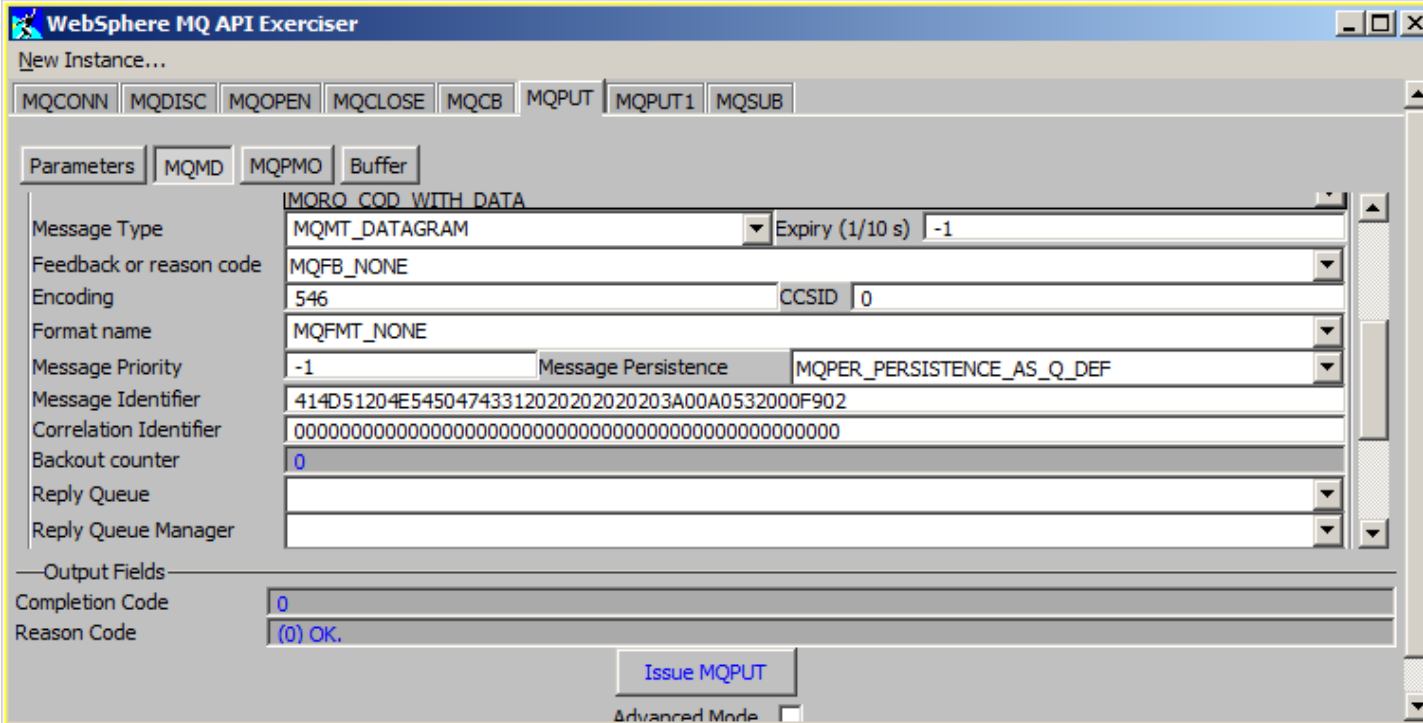
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Refresh Refresh A Refresh B Synchronise... Cancel

# API Exerciser

- Allows you to try out most of the MQI
  - Try out MQI combinations
  - See the effect or generate error conditions
  - Supports multiple local or client connections
  - Shows the whole of the MQI structures



The screenshot shows the 'WebSphere MQ API Exerciser' application window. The title bar reads 'WebSphere MQ API Exerciser'. Below the title bar is a 'New Instance...' section with buttons for MQCONN, MQDISC, MQOPEN, MQCLOSE, MQCB, MQPUT, MQPUT1, and MQSUB. Below these are tabs for Parameters, MQMD, MQPMO, and Buffer. The main area is filled with fields for configuring an MQI call. The 'Message Type' is set to 'MQMT\_DATAGRAM' with a dropdown menu and 'Expiry (1/10 s)' set to '-1'. 'Feedback or reason code' is 'MQFB\_NONE', 'Encoding' is '546' with 'CCSID' '0', and 'Format name' is 'MQFMT\_NONE'. 'Message Priority' is '-1' and 'Message Persistence' is 'MQPER\_PERSISTENCE\_AS\_Q\_DEF'. 'Message Identifier' is '414D51204E545047433120202020203A00A0532000F902', 'Correlation Identifier' is a long string of zeros, and 'Backout counter' is '0'. 'Reply Queue' and 'Reply Queue Manager' are empty. 'Output Fields' shows 'Completion Code' as '0' and 'Reason Code' as '(0) OK.'. An 'Issue MQPUT' button is at the bottom, and an 'Advanced Mode' checkbox is at the very bottom.

Field	Value
Message Type	MQMT_DATAGRAM
Expiry (1/10 s)	-1
Feedback or reason code	MQFB_NONE
Encoding	546
CCSID	0
Format name	MQFMT_NONE
Message Priority	-1
Message Persistence	MQPER_PERSISTENCE_AS_Q_DEF
Message Identifier	414D51204E545047433120202020203A00A0532000F902
Correlation Identifier	00
Backout counter	0
Reply Queue	
Reply Queue Manager	
Completion Code	0
Reason Code	(0) OK.

# Browser Access

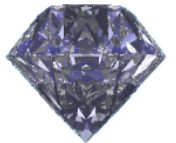


- View your MQ status from anywhere
  - Read-only
  - Fully configurable

Queue Name	Queue Type	Queue Depth
<a href="#">EAST</a>	Local	0
<a href="#">MOMON.Paul.53A152A202230020</a>	Local	0
<a href="#">Q1</a>	Local	57
<a href="#">Q2</a>	Local	45
<a href="#">Q3</a>	Local	0
<a href="#">Q4</a>	Local	0
<a href="#">Q5</a>	Local	68
<a href="#">Q6</a>	Local	0
<a href="#">Q8</a>	Local	0
<a href="#">Q9</a>	Local	0
<a href="#">SOUTH</a>	Local	0
<a href="#">SYSTEM.ADMIN.ACCOUNTING.QUEUE</a>	Local	0
<a href="#">SYSTEM.ADMIN.ACTIVITY.QUEUE</a>	Local	0
<a href="#">SYSTEM.ADMIN.CHANNEL.EVENT</a>	Local	0
<a href="#">SYSTEM.ADMIN.COMMAND.EVENT</a>	Local	0
<a href="#">SYSTEM.ADMIN.COMMAND.QUEUE</a>	Local	0
<a href="#">SYSTEM.ADMIN.CONFIG.EVENT</a>	Local	0
<a href="#">SYSTEM.ADMIN.LOGGER.EVENT</a>	Local	0
<a href="#">SYSTEM.ADMIN.PERFM.EVENT</a>	Local	0
<a href="#">SYSTEM.ADMIN.PUBSUB.EVENT</a>	Local	0
<a href="#">SYSTEM.ADMIN.QMGR.EVENT</a>	Local	1
<a href="#">SYSTEM.ADMIN.STATISTICS.QUEUE</a>	Local	0

# Event Monitoring

---

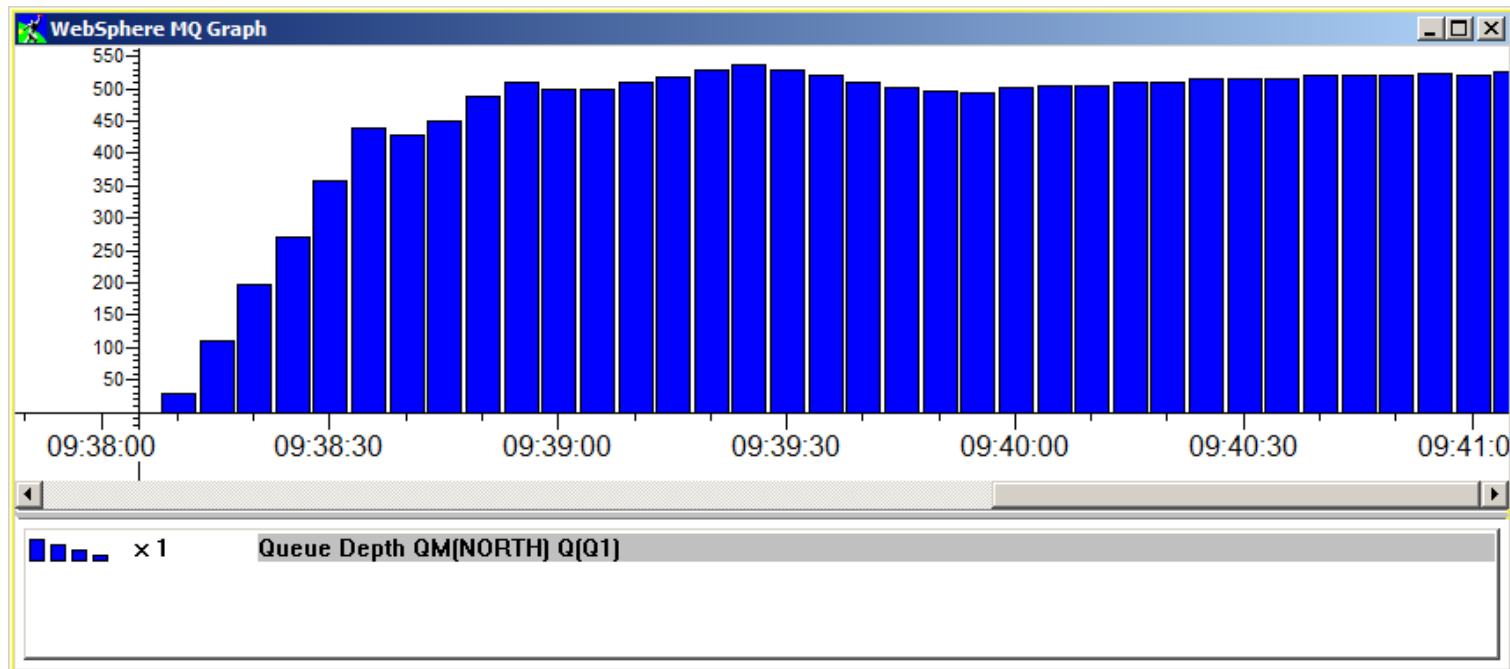


MQGem  
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- Will 'listen' on any event queue for given event
  - Can filter by any event field
- Choice of event actions
  - Log to console
  - Log to a file
  - Send to another queue
  - Issue a command
    - Can be used to send email or pager etc

# Graphing

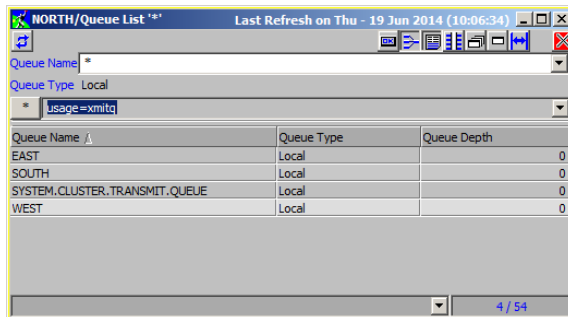
- Monitor virtual any numeric value
  - Set frequency, graph type etc
  - Graph multiple objects and object types
  - Export data-points to CSV



# Predefined Dialogs



- Allow you to pre-set dialog...
  - Content
  - Even Multi-Queue Manager supported via `qm()` filter fn.
  - Filtering
  - Position and Size
  - Refresh rate
- Groups supported
  - Any number of dialogs can be started with single click



NORTH/Queue List \*  
Last Refresh on Thu - 19 Jun 2014 (10:06:34)

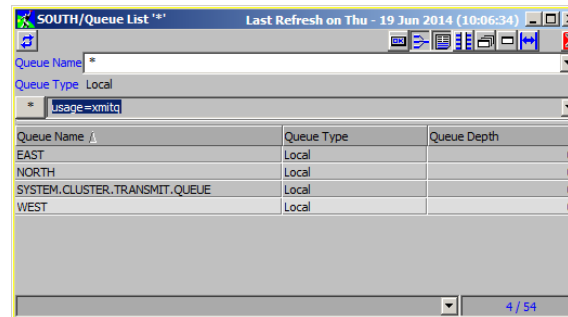
Queue Name \*

Queue Type Local

Usage=xmitq

Queue Name	Queue Type	Queue Depth
EAST	Local	0
SOUTH	Local	0
SYSTEM.CLUSTER.TRANSMIT.QUEUE	Local	0
WEST	Local	0

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SOUTH/Queue List \*  
Last Refresh on Thu - 19 Jun 2014 (10:06:34)

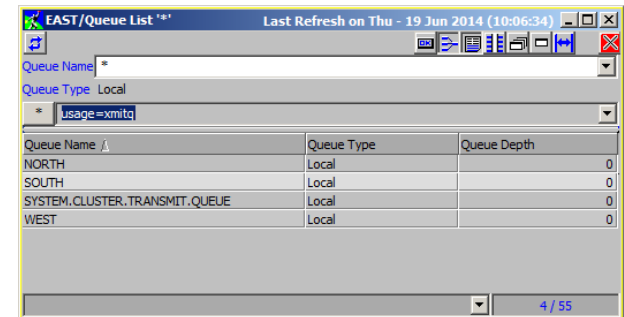
Queue Name \*

Queue Type Local

Usage=xmitq

Queue Name	Queue Type	Queue Depth
EAST	Local	0
NORTH	Local	0
SYSTEM.CLUSTER.TRANSMIT.QUEUE	Local	0
WEST	Local	0

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EAST/Queue List \*  
Last Refresh on Thu - 19 Jun 2014 (10:06:34)

Queue Name \*

Queue Type Local

Usage=xmitq

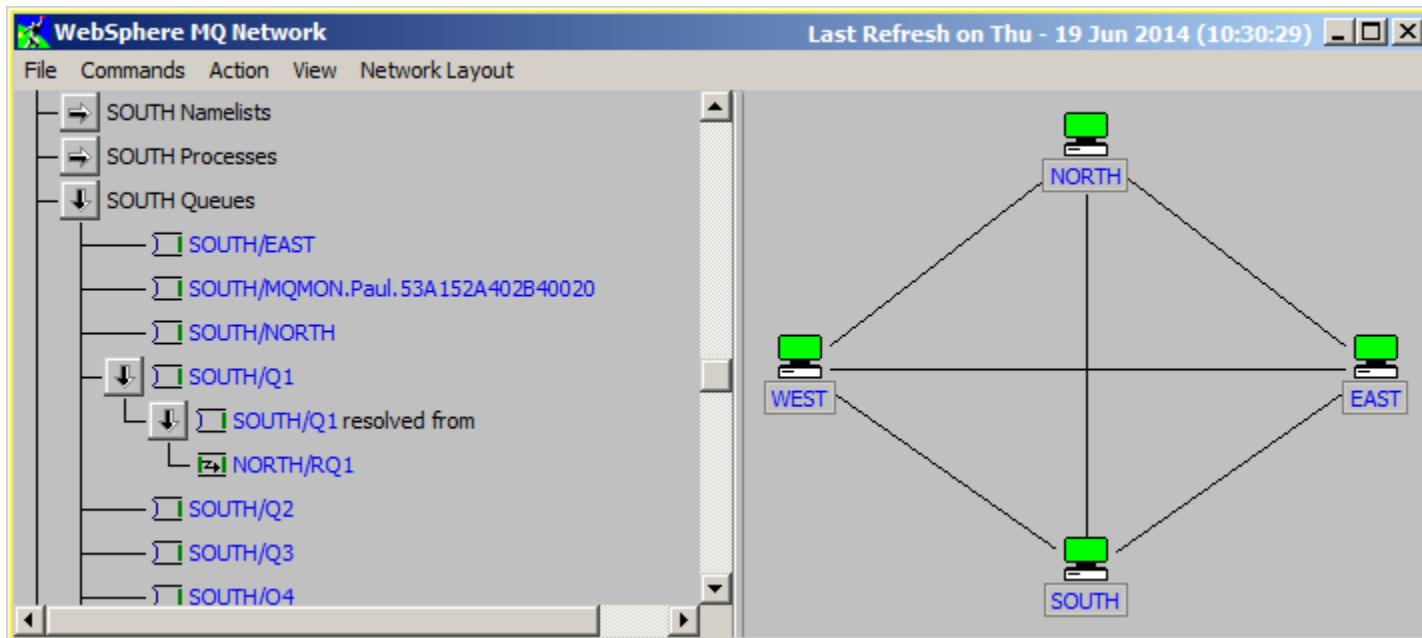
Queue Name	Queue Type	Queue Depth
NORTH	Local	0
SOUTH	Local	0
SYSTEM.CLUSTER.TRANSMIT.QUEUE	Local	0
WEST	Local	0

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# Network Display

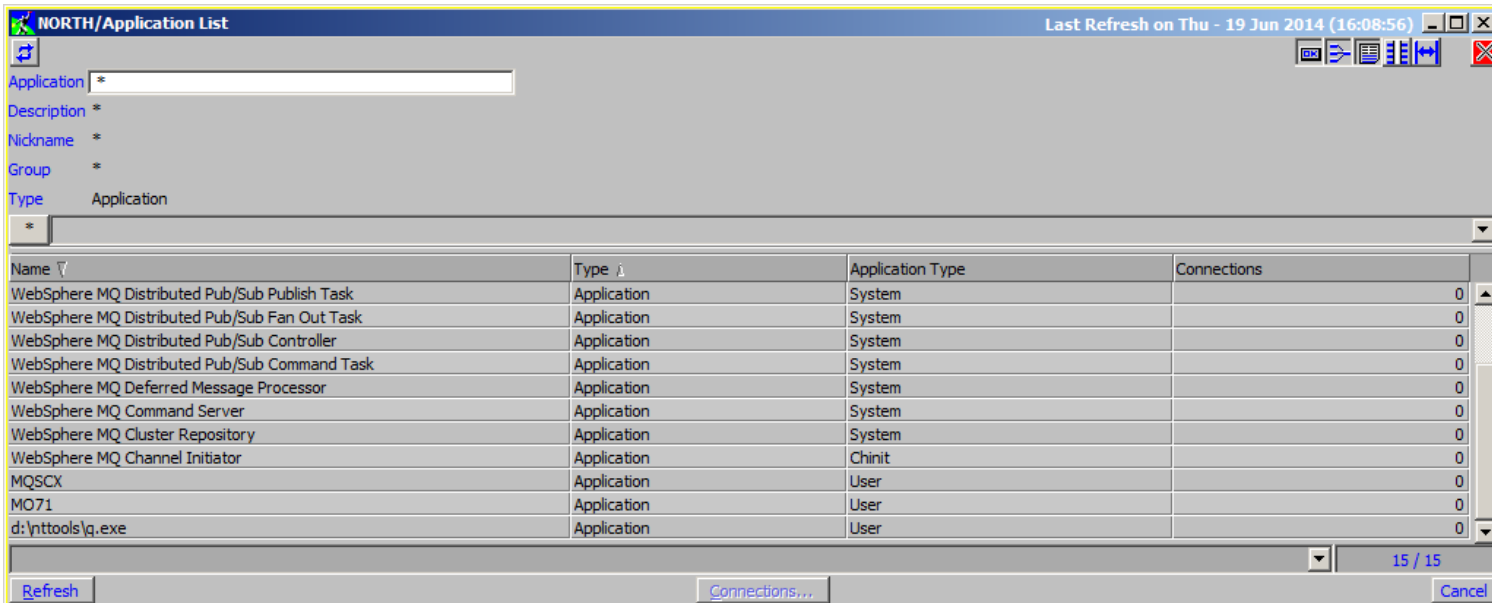
- Diagrammatic view of your network
  - Position Queue Managers with your own picture
- Verify view
  - Shows object resolution both to and from
  - Shows any health-check problems



# Application List

- List of applications

- Generate dynamically from monitoring
- Show status, inactive, running or error
- Shows history of objects opened by the application
  - Including last used times



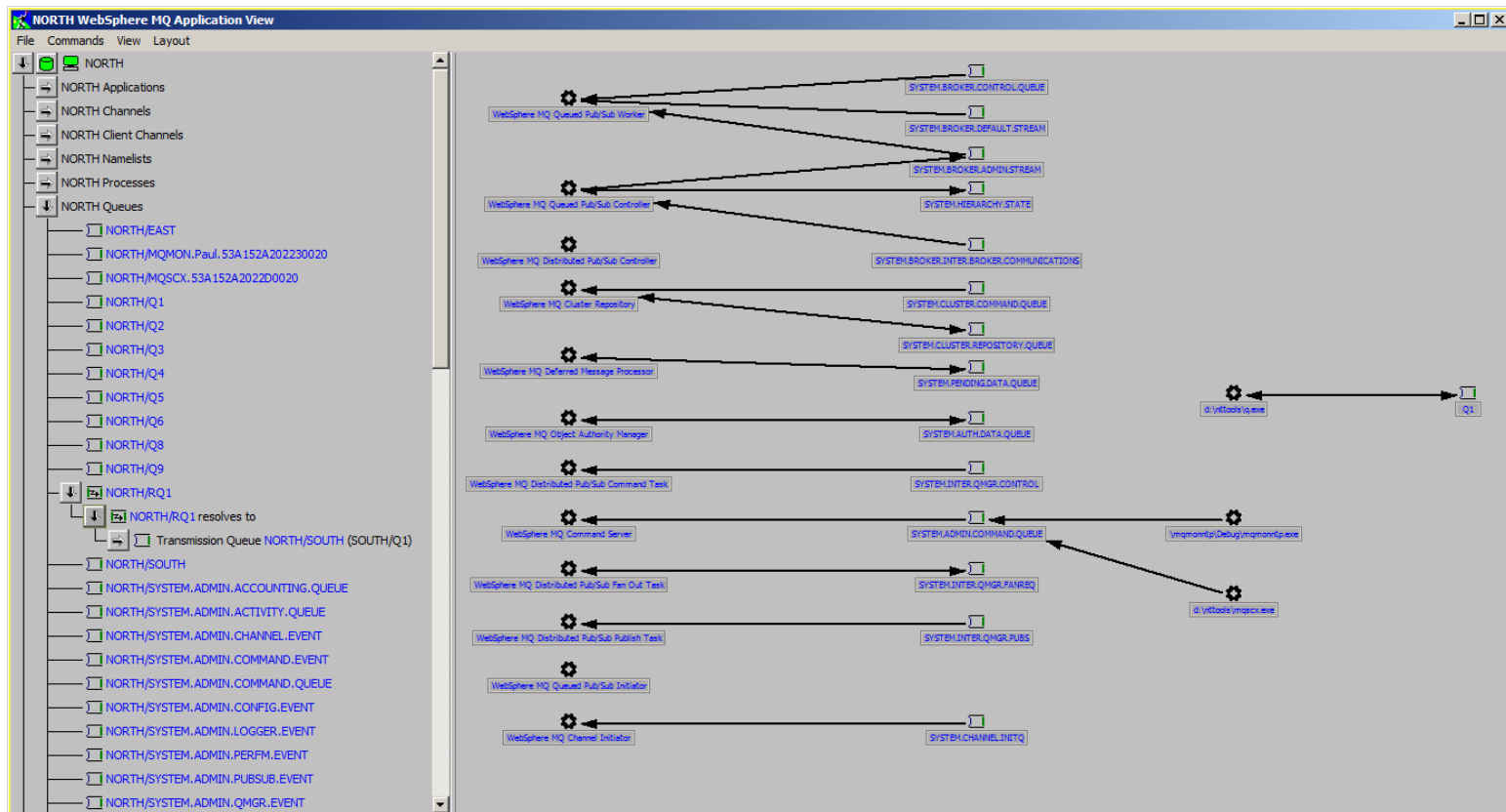
The screenshot shows a window titled "NORTH/Application List" with a refresh button and a timestamp "Last Refresh on Thu - 19 Jun 2014 (16:08:56)". Below the title bar are search filters for Application, Description, Nickname, Group, and Type. The main area contains a table with the following data:

Name	Type	Application Type	Connections
WebSphere MQ Distributed Pub/Sub Publish Task	Application	System	0
WebSphere MQ Distributed Pub/Sub Fan Out Task	Application	System	0
WebSphere MQ Distributed Pub/Sub Controller	Application	System	0
WebSphere MQ Distributed Pub/Sub Command Task	Application	System	0
WebSphere MQ Deferred Message Processor	Application	System	0
WebSphere MQ Command Server	Application	System	0
WebSphere MQ Cluster Repository	Application	System	0
WebSphere MQ Channel Initiator	Application	Chinit	0
MQSCX	Application	User	0
MO71	Application	User	0
d:\nttools\q.exe	Application	User	0

At the bottom of the window, there are buttons for "Refresh", "Connections...", and "Cancel", along with a page indicator "15 / 15".

# Application View

- Shows status of applications in a diagram
  - Choose what applications to show...and where
  - Whether application is active and/or has queue open
  - User picture can be assigned to an application



# MQ Version 8 Support



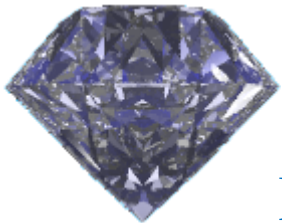
- New object attributes
- Support for V8 Userid/Password authentication
  - Via location dialog

The screenshot shows the 'Location Settings - NORTH' dialog box. The 'Userid' checkbox is checked and highlighted with a red box. Other fields include Location: NORTH, Queue Manager: NORTH, and various queue names. The 'Security Exit Only' checkbox is also visible.

Field	Value
State	Unknown
Location	NORTH
Queue Manager	NORTH
Logical Name	<input type="checkbox"/>
Foreign	<input type="checkbox"/>
QM Group	
Network Names	
Via QM	
Reply Queue	SYSTEM.DEFAULT.MODEL.QUEUE
Reply Prefix	
Command Queue	SYSTEM.ADMIN.COMMAND.QUEUE
Server Queue	
Client	<input type="checkbox"/>
Configure	
MVS	<input type="checkbox"/>
Auto Connect	<input type="checkbox"/>
Cache on Success Only	<input type="checkbox"/>
Disconnect Interval	0
Retry Interval	0
Userid	<input checked="" type="checkbox"/>
Security Exit Only	<input type="checkbox"/>

# Any Questions?

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MQGem Software

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