EntireX Broker Reporting

This chapter details the reporting options of EntireX Broker. The following topics are covered:

- Configuration Report
- Load Module Report
- Storage Report
- Persistent Store Report
- License Report

Configuration Report

EntireX Broker reads configuration information from an attribute file during startup. In order to reduce the number of different attribute files, you may define a global attribute file and specify the individual settings within a variable definitions file. Thus unique attributes like `BROKER-ID` and `PORT` are kept as part of the variable definitions file, while other parameters such as service definitions can be shared among a group of Broker instances. This feature is described in detail in Variable Definition File.

In the past there was a one-to-one relationship between Brokers and attribute files. To determine your Broker configuration, you could reference your attribute file. Now that you may create a global attribute file and substitute parameters at startup, it may not be clear what configuration was used to start your Broker. To see the exact configuration used at startup, you can now view the configuration report for each Broker. The configuration report will display exactly which values were used for each attribute at startup.

Here is a sample configuration report:

```
EntireX 8.0.0.12     Configuration Report      2007-10-02 08:56:23    Page     1

Variable definitions file:
   1: BID = ETB191
   2: N   = 113
   3: P   = HOT
   4: PCA = localhost:3938:SSL
   5: PT  = ADABAS
   6: RM  = STANDARD
   7: SP  = 3939
   8: TP  = 3930
   9: TR  = SSL-TCP-NET
EntireX 8.0.0.0     Configuration Report      2007-10-02 08:56:23    Page     2

Attribute file:
   1: ************************************************************************
   2: *                                                                      *
   3: *                     EntireX Broker Attribute File                    *
   4: *                                                                      *
   5: ************************************************************************
   6:
   7: ******************** Global section ***********************************
   8:
   9: DEFAULTS = BROKER
  10:   ABEND-MEMORY-DUMP               = NO
```

```
  11:   ACCOUNTING                      = NO
  12:   AUTOLOGON                       = YES
  13:   BROKER-ID                       = ${BID}
- - - - Substitution: ${BID} = ETB191
  14:   CLIENT-NONACT                   = 15M
```

The contents of the variable definitions file and the contents of the attribute file are copied to this configuration report. In addition, all variables in the attribute file will be appended by another line reporting the effective value for the variable. Thus, it's possible to keep track of the substitution procedure.

On UNIX and Windows, a file called `CONFIG.REPORT` is created in the current working directory of Broker. The environment variable `ETB_CONFIG_REPORT` may contain an alternative location. However, on z/OS, `DDNAME ETBCREP` is required to assign an output file for this report. Any failure will trigger a diagnostic message in the Broker log.

Load Module Report

The Load Module Report is created during startup of EntireX Broker on z/OS. All modules in all data sets concatenated to the `STEPLIB` chain for Broker execution are listed.

```
Operating System: z/OS 06.00
Node Name:        DAEF
IPL Date:         2007-10-02
IPL Time:         07:19:21
CPU Model:        2096

EntireX 8.0.0.12     Load Module Report 2007-10-02 08:56:23    Page     1
Total  Module   Date       Time  VRSPP Build number     Alias Level CurNo
                Steplib level 0: SAG.EXB731.LOAD
    1  ADAACK                                              NO      0     1
    2  ADABSP                                              NO      0     2
    3  ADACDC                                              NO      0     3
    4  ADACLU                                              NO      0     4
    5  ADACLX                                              NO      0     5
    6  ADACMO                                              NO      0     6
    7  ADACMP                                              NO      0     7
    8  ADACMR                                              NO      0     8
    9  ADACMU                                              NO      0     9
   10  ADACNS                                              NO      0    10
   11  ADACNV                                              NO      0    11
...
  156  ETBCMD   2007-10-01 15.48 73012 2007-10-01 15:01   NO      0   156
  157  ETBINFO  2007-10-01 15.48 73012 2007-10-01 15:01   NO      0   157
  158  ETBMISC                                             NO      0   158
  159  ETBNATTR 2007-10-01 15.48 73012 2007-10-01 15:01   NO      0   159
  160  ETBNUC   2007-10-01 15.48 73012 2007-10-01 15:01   NO      0   160
```

This report provides STEPLIB level, date, and time stamps if a certain pattern is used for the module structure. `DDNAME ETBMREP` must be assigned to get this report.

Storage Report

You can create an optional report file that provides details about all activities to allocate or to deallocate memory pools. This section details how to create the report and provides a sample report.

- Creating a Storage Report
- Platform-specific Rules
- Sample Storage Report

See also Broker-specific attribute `STORAGE-REPORT`.

Creating a Storage Report

Use Broker's global attribute `STORAGE-REPORT` with the value `YES`. If attribute value `YES` is supplied, all memory pool operations will be reported if the output mechanism is available. If the value `NO` is specified, no report will be created.

Platform-specific Rules

z/OS

`DDNAME ETBSREP` assigns the report file. Format `RECFM=FB, LRECL=121` is used.

UNIX and Windows

Broker creates a file with the name *STORAGE.REPORT* in the current working directory. If the environment variable `ETB_STORAGE_REPORT` is supplied, the file name specified in the environment variable will be used. If Broker receives the command-line argument `-r`, the token following argument `-r` will be used as the file name.

BS2000

`LINK-NAME ETBSREP` assigns the report file. Format `REC-FORM=V, REC-SIZE=0, FILE-TYPE ISAM` is used by default.

z/VSE

Logical unit `SYS015` and logical file name *ETBSREP* are used. Format `RECORD-FORMAT=FB, RECORD-LENGTH=121` is used.

Sample Storage Report

The following is an excerpt from a sample STORAGE report.

```
EntireX 8.1.0.00     STORAGE Report     2009-06-26 12:28:58    Page     1

Identifier                  Address            Size             Total         Date       Time      Action
KERNEL POOL                 0x25E48010     407184 bytes     407184 bytes  2009-06-26 12:28:58.768  Allocated
HEAP POOL                   0x25EB4010    1050692 bytes    1457876 bytes  2009-06-26 12:28:58.769  Allocated
COMMUNICATION POOL          0x25FB5010   16781380 bytes   18239256 bytes  2009-06-26 12:28:58.769  Allocated
ACCOUNTING POOL             0x26FB7010     762052 bytes   19001308 bytes  2009-06-26 12:28:58.769  Allocated
BROKER POOL                 0x27072010      61540 bytes   19062848 bytes  2009-06-26 12:28:58.775  Allocated
CONVERSATION POOL           0x27082010     368964 bytes   19431812 bytes  2009-06-26 12:28:58.775  Allocated
CONNECTION POOL             0x270DD010     233668 bytes   19665480 bytes  2009-06-26 12:28:58.779  Allocated
LONG MESSAGES POOL          0x27117010    4395204 bytes   24060684 bytes  2009-06-26 12:28:58.782  Allocated
SHORT MESSAGES POOL         0x27549010    3703876 bytes   27764560 bytes  2009-06-26 12:28:58.806  Allocated
PARTICIPANT POOL            0x278D2010     134244 bytes   27898804 bytes  2009-06-26 12:28:58.827  Allocated
PARTICIPANT EXTENSION POOL  0x278F3010      36996 bytes   27935800 bytes  2009-06-26 12:28:58.829  Allocated
PROXY QUEUE POOL            0x278FD010      26724 bytes   27962524 bytes  2009-06-26 12:28:58.829  Allocated
SERVICE ATTRIBUTES POOL     0x27904010     131668 bytes   28094192 bytes  2009-06-26 12:28:58.829  Allocated
SERVICE POOL                0x27925010      54372 bytes   28148564 bytes  2009-06-26 12:28:58.830  Allocated
SERVICE EXTENSION POOL      0x27933010      32900 bytes   28181464 bytes  2009-06-26 12:28:58.831  Allocated
```

```
TIMEOUT QUEUE POOL          0x2793C010      87268 bytes   28268732 bytes  2009-06-26 12:28:58.831  Allocated
TRANSLATION POOL            0x27952010     179300 bytes   28448032 bytes  2009-06-26 12:28:58.832  Allocated
UNIT OF WORK POOL           0x2797E010     176324 bytes   28624356 bytes  2009-06-26 12:28:58.834  Allocated
WORK QUEUE POOL             0x279AA010     391268 bytes   29015624 bytes  2009-06-26 12:28:58.835  Allocated
BLACKLIST POOL              0x27A0A010      42084 bytes   29057708 bytes  2009-06-26 12:28:58.838  Allocated
SUBSCRIPTION POOL           0x27A15010     344148 bytes   29401856 bytes  2009-06-26 12:28:58.839  Allocated
TOPIC ATTRIBUTES POOL       0x27A6A010     129620 bytes   29531476 bytes  2009-06-26 12:28:58.841  Allocated
TOPIC POOL                  0x26FB6068       2952 bytes   29534428 bytes  2009-06-26 12:28:58.842  Allocated
TOPIC EXTENSION POOL        0x27A8A010      30852 bytes   29565280 bytes  2009-06-26 12:28:58.842  Allocated
PSTORE SUBSCRIBER POOL      0x27A92010      33892 bytes   29599172 bytes  2009-06-26 12:28:58.843  Allocated
PSTORE TOPIC POOL           0x27A9B010      19540 bytes   29618712 bytes  2009-06-26 12:28:58.843  Allocated
COMMUNICATION POOL          0x25FB5010   16781380 bytes   12837332 bytes  2009-06-26 12:30:58.514  Deallocated
ACCOUNTING POOL             0x26FB7010     762052 bytes   12075280 bytes  2009-06-26 12:30:58.515  Deallocated
BROKER POOL                 0x27072010      61540 bytes   12013740 bytes  2009-06-26 12:30:58.516  Deallocated
CONVERSATION POOL           0x27082010     368964 bytes   11644776 bytes  2009-06-26 12:30:58.518  Deallocated
CONNECTION POOL             0x270DD010     233668 bytes   11411108 bytes  2009-06-26 12:30:58.519  Deallocated
LONG MESSAGES POOL          0x27117010    4395204 bytes    7015904 bytes  2009-06-26 12:30:58.520  Deallocated
SHORT MESSAGES POOL         0x27549010    3703876 bytes    3312028 bytes  2009-06-26 12:30:58.526  Deallocated
PROXY QUEUE POOL            0x278FD010      26724 bytes    3285304 bytes  2009-06-26 12:30:58.530  Deallocated
SUBSCRIPTION POOL           0x27A15010     344148 bytes    2941156 bytes  2009-06-26 12:30:58.530  Deallocated
TOPIC ATTRIBUTES POOL       0x27A6A010     129620 bytes    2811536 bytes  2009-06-26 12:30:58.531  Deallocated
TOPIC POOL                  0x26FB6068       2952 bytes    2808584 bytes  2009-06-26 12:30:58.531  Deallocated
TOPIC EXTENSION POOL        0x27A8A010      30852 bytes    2777732 bytes  2009-06-26 12:30:58.531  Deallocated
TIMEOUT QUEUE POOL          0x2793C010      87268 bytes    2690464 bytes  2009-06-26 12:30:58.532  Deallocated
UNIT OF WORK POOL           0x2797E010     176324 bytes    2514140 bytes  2009-06-26 12:30:58.533  Deallocated
WORK QUEUE POOL             0x279AA010     391268 bytes    2122872 bytes  2009-06-26 12:30:58.533  Deallocated
BLACKLIST POOL              0x27A0A010      42084 bytes    2080788 bytes  2009-06-26 12:30:58.534  Deallocated
PSTORE SUBSCRIBER POOL      0x27A92010      33892 bytes    2046896 bytes  2009-06-26 12:30:58.534  Deallocated
PSTORE TOPIC POOL           0x27A9B010      19540 bytes    2027356 bytes  2009-06-26 12:30:58.534  Deallocated
PARTICIPANT POOL            0x278D2010     134244 bytes    1893112 bytes  2009-06-26 12:49:25.817  Deallocated
PARTICIPANT EXTENSION POOL  0x278F3010      36996 bytes    1856116 bytes  2009-06-26 12:49:25.818  Deallocated
SERVICE ATTRIBUTES POOL     0x27904010     131668 bytes    1724448 bytes  2009-06-26 12:49:25.818  Deallocated
SERVICE POOL                0x27925010      54372 bytes    1670076 bytes  2009-06-26 12:49:25.818  Deallocated
SERVICE EXTENSION POOL      0x27933010      32900 bytes    1637176 bytes  2009-06-26 12:49:25.819  Deallocated
TRANSLATION POOL            0x27952010     179300 bytes    1457876 bytes  2009-06-26 12:49:25.819  Deallocated
HEAP POOL                   0x25EB4010    1050692 bytes     407184 bytes  2009-06-26 12:49:25.820  Deallocated
KERNEL POOL                 0x25E48010     407184 bytes          0 bytes  2009-06-26 12:49:25.820  Deallocated
```

Header	Description
Identifier	Name of the memory pool.
Address	Start address of the memory pool.
Size	Size of the memory pool.
Total	Total size of all obtained memory pools.
Date, Time	Date and time of the action.
Action	The action of Broker. The following actions are currently supported: Allocated: memory pool is allocated . Deallocated: memory pool is deallocated.

Persistent Store Report

You can create an optional report file that provides details about all records added to or deleted from the persistent store. This section details how to create the report and provides a sample report.

- Configuration
- Sample Report

Configuration

To create a persistent store report, use Broker's global attribute `PSTORE-REPORT` with the value `YES`.

When the attribute value `YES` is supplied, all created or deleted persistent records will be reported if the output mechanism is available.

If the value `NO` is specified, no report will be created.

The report file is created using the following rules:

BS2000/OSD

`LINK-NAME ETBPREP` assigns the report file. Format `REC-FORM=V, REC-SIZE=0, FILE-TYPE ISAM` is used by default.

UNIX

Broker creates a file with the name *PSTORE.REPORT* in the current working directory. The file name *PSTORE.REPORT.LOAD* will be used if Broker is started with `RUN-MODE` = `PSTORE-LOAD`.

The file name *PSTORE.LOAD.UNLOAD* will be used if Broker is started with `RUN-MODE` = `PSTORE-UNLOAD`.

If the environment variable `ETB_PSTORE_REPORT` is supplied, the file name specified in the environment variable will be used.

If Broker receives the command-line argument `-p`, the token following argument `-p` will be used as the file name.

Windows

Same as UNIX.

z/OS

`DDNAME ETBPREP` assigns the report file. Format `RECFM=FB, LRECL=121` is used.

z/VSE

Logical unit `SYS003` and logical file name *ETBPREP* are used. Format `RECORD-FORMAT` = `FB`, `RECORD-LENGTH` = `121` is used.

Sample Report

The following is an excerpt from a sample `PSTORE` report.

```
EntireX 8.0.0.00     PSTORE Report      2008-02-21 17:18:38    Page     1

Identifier        Elements  Total length  Record Type   Date       Time          Action
100000000D000016        5          1148   Conversation  2008-02-21 17:18:57.190  Created
100000000D000017        5          1148   Conversation  2008-02-21 17:18:57.654  Created
100000000D000018        5          1148   Conversation  2008-02-21 17:18:58.122  Created
100000000D000019        5          1148   Conversation  2008-02-21 17:18:58.590  Created
100000000D00001A        5          1148   Conversation  2008-02-21 17:18:59.054  Created
```

```
100000000D00001B        5          1148   Conversation  2008-02-21 17:18:59.518  Created
100000000D00001C        5          1148   Conversation  2008-02-21 17:18:59.982  Created
100000000D00001D        5          1148   Conversation  2008-02-21 17:19:00.538  Created
100000000D00001E        5          1148   Conversation  2008-02-21 17:19:01.002  Created
100000000C000001        0             0   Conversation  2008-02-21 17:19:30.676  Deleted
100000000C000002        0             0   Conversation  2008-02-21 17:19:31.675  Deleted
100000000C000003        0             0   Conversation  2008-02-21 17:19:32.675  Deleted
100000000C000004        0             0   Conversation  2008-02-21 17:19:33.675  Deleted
100000000C000005        0             0   Conversation  2008-02-21 17:19:34.675  Deleted
100000000C000006        0             0   Conversation  2008-02-21 17:19:35.675  Deleted
```

The following fields are provided in the report:

- Identifier provides the UOWID (record ID).
- Elements gives the number of messages per UOW when creating or loading records.
- Total Length gives the size of the raw record when creating or loading records.
- Record Type describes the type of the data. Following types are currently supported:
  - Cluster: a special record for synchronization purposes
  - Conversation: a unit of work as part of a conversation
  - Master: a special record to manage the persistent store
  - Publication: a record containing a publication for a durable topic
  - Subscription: a record containing subscriber data (if `SUBSCRIBER-STORE` = `PSTORE`) is defined
- Date and time of the action
- Action describes the action of Broker. The following actions are currently supported:
  - Created: record is created
  - Deleted: record is deleted
  - Loaded: record is loaded (Broker instance with `RUN-MODE` = `PSTORE-LOAD`)
  - Unloaded: record is unloaded (Broker instance with `RUN-MODE` = `PSTORE-UNLOAD`)

License Report

The License Report is created during broker startup on the respective platform. It contains the contents of the license file itself and some machine data.

z/OS

DDNAME `ETBLREP` must be assigned to get this report. See *Step 2: Edit the Broker Startup Procedure*.

BS2000/OSD

`LINK-NAME ETBLREP` must be assigned to get this report.