

# **A Batch Interface Capability For Managing Control Elements In The HourGlass Repository**

## **1. Functional Design**

### **1.1 User Interface**

#### **1.1.1 HourGlass Control Center Batch Utility (AGGCXB) Program**

A new program, the HourGlass Control Center Batch Utility (AGGCXB) program, will be provided. The AGGCXB program will provide support for a number of operations that are analogous to functions provided in the existing HourGlass Control Center application for TSO/ISPF, but it will be designed to execute in the MVS batch environment. The AGGCXB program will execute against an existing, active HourGlass Repository dataset. The scope of this offering is limited to operations on existing Control Elements. The capability to create new Control Elements will not be provided at this time.

The processing of the AGGCXB program will be controlled via control statements that are retrieved from a dataset allocated to the process. The control statements will be free form. Statements can be coded in any column between 2 and 72 (inclusive). Control statements can be continued onto multiple lines. If a list of values, separated by commas, is coded, it may be continued on multiple lines, but keywords and values cannot be split onto multiple lines.

##### **1.1.1.1 AGGCXB Control Statement Syntax**

You can write AGGCXB program control statements in free form in columns 2 through 72 (inclusive). Any character in column 1 or beyond column 72 is ignored. Syntax requirements are:

**COMMANDS:** A command must appear first, followed by its keywords and sub-keywords. Each command must take up only one line, unless a continuation character is used to indicate continuation of the command on the next line. A command is separated from its keywords by one or more blanks, a comment, or both. For example:

```
FETCH CENAME(CENAME1,CENAME2,CENAME3);  
or  
/* comment */FETCH          /* THIS IS A COMMENT */ +  
  CENAME /* comment */ ( /* comment */ CENAME1,  
+          /* COMMENT FOR CENAME1 */ +  
  CENAME2, /* COMMENT FOR CENAME2 */ +
```

---

```
CENAME3) ; /* COMMENT FOR CENAME3 */
```

**COMMENTS:** Two forms of comments are supported.

**Inline Comments.** A string of characters that begins with “/\*” and ends with “\*/” is an inline comment. For example:

```
/* THIS IS AN INLINE COMMENT */
```

Inline comments must begin and end on the same line. Inline comments may not be terminated on one line with a continuation character and continued on the next line, or a syntax error will result.

**Comment Statement.** An asterisk character (“\*”) appearing in column 1 designates that the entire control statement is to be considered a comment. Any other value appearing in in column 1 is invalid, and is ignored.

**SEPARATORS:** A separator can be a comma (,), one or more blanks, or an inline comment (“/\* COMMENT \*/”). Where space permits, an inline comment may be substituted for a blank character anywhere a blank character can be coded. If used, comma characters are limited to functioning as separators in multi-value sub-keyword lists. Separators shown in the sample syntax diagrams in this document are always commas, but any of the three types can be used.

**Keywords:** Keywords are parameters separated by one or more separators.

**Sub-keywords:** Sub-keywords follow their associated keyword and are separated from them by a pair of enclosing parentheses. One or more blanks can precede and follow each parenthesis in the pair. For example:

```
SET STATUS( ENABLE )  
or  
SET STATUS (ENABLE)
```

If two or more sub-keywords are permissible for a single keyword, they are separated from one another by one or more blanks or by commas. Each comma can be preceded and followed by one or more blanks. For example:

```
FETCH CENAME(CENAME1 , CENAME2 , CENAME3);  
or  
FETCH CENAME(CENAME1,CENAME2,CENAME3);  
or  
FETCH CENAME(CENAME1 CENAME2 CENAME3);
```

**Continuation:** Continuation of a command is specified by placing a plus-sign (+) as the right-most nonblank character, preceded by one or more blanks. If a continuation character is used, the following line is read as if it were part of the previous line. Since only one command is allowed per line, no additional commands may be included on the continued line. If no continuation character is used, the first word on the following line must be a command. For example:

```
FETCH          /* THIS IS A COMMENT */ +
```

---

```
CENAME(CENAME1, /* COMMENT FOR CENAME1 */ +
        CENAME2, /* COMMENT FOR CENAME2 */ +
        CENAME3); /* COMMENT FOR CENAME3 */
```

**End of a command:** The end of a command is indicated by a semicolon (;). Everything to the right of the semicolon is ignored.

### 1.1.1.2 Commands

The commands supported by the AGGCXB utility program are as follows:

**FETCH:** This command can be used to retrieve Control Elements (CE's), by CE name, and/or by CE type, and/or by CE USER-ID, from the HourGlass Repository dataset, to one or more internal data structures known as Repository Queues. Only Control Elements that have been thus "enqueued" to a Repository Queue may be altered in subsequent operations. An input stream may contain multiple FETCH commands, but each FETCH command initiates a new session. That is, the Repository Queues are reinitiated for each FETCH command. Any pending CE updates: updates not processed via the SAVE command, are lost when a FETCH command is subsequently encountered in the input stream.

**SELECT:** This command operates on enqueued Control Elements, and can be used to change the selection status of specified Control Elements from the "UNSELECTED" status to the "SELECTED" status. Certain of the following commands only apply to enqueued Control Elements in "SELECTED" status.

**UNSELECT:** This command operates on enqueued Control Elements, and can be used to change the selection status of specified Control Elements from the "SELECTED" status to the "UNSELECTED" status.

**SET:** This command operates on enqueued and selected Control Elements to effect modifications to the enablement status and/or the date and time values of Control Elements.

**SAVE:** This command causes any modified Control Elements currently in the Repository Queues to be permanently stored in the HourGlass Repository dataset.

**REFRESH:** This command initiates the process of bringing on-line all modifications made to the HourGlass Repository dataset since the startup of the HourGlass product, or the latest Refresh operation, whichever is most recent. The refresh process rebuilds the Active Control Element Set (ACES) from the updated contents of the HourGlass Repository dataset.

**LIST:** This command operates on enqueued and selected Control Elements, and can be used to list Control Elements and their properties. The resulting listing is written to the SYSPRINT dataset.

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### 1.1.1.3 Keywords and Sub-Keywords

The Keywords and Sub-Keywords that are supported by the AGGCXB program are as follows:

Command	Keyword/Sub-Keyword	Description
FETCH	CENAME(n1,n2,n3,...) and/or CETYPE(t1,t2,t3,...) and/or CEUSERID(userid)	<p>The CENAME keyword, with at least one CENAME sub-keyword value, is required for the FETCH command. One or more CENAME sub-keyword values, consisting of fully- or partially-qualified CENAME values, may be coded. Partially-qualified CENAME sub-keyword values are designated by coding an asterisk (“*”) as the right-most character of the value. The specification CENAME(*) is supported.</p> <p>For the CETYPE keyword, one or more of the following sub-keyword values may be coded: MB: MVS Batch; TI: TSO/ISPF; JS: Job Schedule; IM: IMS Online; and DB: DB2. The special value “ALL” may be used to select all Control Element types. If no CETYPE keyword is supplied, the specification “CETYPE(ALL)” is assumed.</p> <p>For the CEUSERID keyword, one CEUSERID sub-keyword value, consisting of a fully- or partially-qualified CEUSERID value, may be coded. in each FETCH command. A partially-qualified CEUSERID sub-keyword value is designated by coding an asterisk (“*”) as the right-most character of the value. If no CEUSERID keyword is supplied, the specification “CEUSERID(*)” is assumed.</p>
SELECT or UNSELECT	CENAME(...)	Used to specify the selection status of a list of one or more Control Element names previously retrieved using the FETCH command. The special value “ALL” may be specified for the SELECT and UNSELECT

Command	Keyword/Sub-Keyword	Description
		commands.
SET	STATUS("status value")	Used to modify the enablement status of currently retrieved and selected Control Elements. The valid sub-keyword values are: ENABLED, DISABLED, and TOGGLE. ENABLE/DISABLE sets the enablement status of the currently selected Control Elements. TOGGLE resets the selected Control Element enablement status to the opposite of its current value. The status will take effect once the element changes are saved and refreshed.
SET	CEDATE("date value")	Used to modify the date value of currently selected Control Elements. Any date value supported by the HourGlass Control Center for TSO/ISPF (AGGCXT) may be specified. See Chapter 4, "Displaying properties for a control element", the "Date" section, in the IBM HourGlass Usage and Installation Guide, Version 6, Release 1 (SC23-8561), for a description of valid date specification values. In addition, the special value "CURRENT" may be specified. Specifying the "CURRENT" value causes any HourGlass-altered date values previously specified in the affected Control Elements to be cleared. The updates will take effect once the changed Control Elements are saved and refreshed.
SET	CETIME("time value")	Used to modify the time value of currently selected Control Elements. Any time value supported by the HourGlass Control Center for TSO/ISPF (AGGCXT) may be specified. See Chapter 4, "Displaying properties for a control element", the "Time" section, in the IBM HourGlass Usage and Installation Guide, Version 6, Release 1 (SC23-8561), for a description of valid time specification values. In addition, the special value "CURRENT" may be specified. Specifying

Command	Keyword/Sub-Keyword	Description
		the "CURRENT" value causes any HourGlass-altered date values previously specified in the affected Control Elements to be cleared. The updates will take effect once the changed Control Elements are saved and refreshed.
SAVE		Modified Control Elements currently in the Repository Queues will be permanently stored in the HourGlass Repository dataset.
REFRESH		REFRESH implies SAVE: Modified Control Elements currently in the Repository Queues are permanently stored in the Repository dataset. In addition, modifications made to the HourGlass Repository dataset since the last startup of the HourGlass product are retrieved and activated for date/time processing.
LIST		Control Elements, that are currently in SELECT status, and their properties, are listed. The resulting listing is written to the SYSPRINT dataset.

### 1.1.1.4 Command Examples

```
FETCH CENAME(job1, job2, job3, job4); /* retrieve elements by name */
```

```
FETCH CENAME(jobab*) CETYPE(DB); /* retrieve elements by type, "jobab" */
/* and CETYPE, "DB". */
```

```
FETCH CENAME(job*) CETYPE(DB) CEUSERID(K202*);
/* retrieve elements by CENAME, CETYPE and CEUSERID*/
```

```
SELECT CENAME(JOB*); /* SELECT all "JOB*" CE's for processing */
```

```
SET STATUS(ENABLE); /* enable job1 and job2 for use upon next save/refresh
*/

SELECT CENAME(job3 job4); /* select elements to be modified "without "," */

SET STATUS(DISABLE); /* disable job3 and job4 usage upon next
save/refresh */

UNSELECT CENAME(ALL); /* unselect all currently selected control elements
*/

SELECT CENAME(job1, job2, job5); /* select control elements to be modified
*/

SET CETIME(P0100); /* set time for job1, job2, job5 */

SET CEDATE(2010-12-01); /* set date for job1, job2, job5 */

SAVE; /* saves job1, job2, job3, job4 and job5 elements */

REFRESH; /* job1, job 2 and job5 are now utilize for date/time transactions
        job3 and job4 are no longer utilized for date/time transactions */

LIST; /* shows currently selected control elements job1, job2, job5 but not job3
and job4 which are not currently selected */
```

## 2. Required RACF Authorization

To successfully run the HourGlass Control Center Batch Utility application in full EXECUTE mode, the batch process must be permitted for Update Access on the HOURGLASS\_CX\_ADMIN resource. This is equivalent to Administrator/Update access in the HourGlass Control Center for TSO/ISPF application. Also, if the REFRESH command is used, the batch process must also be permitted for Update Access on the HOURGLASS\_CX\_REFR resource.

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