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ACR/Summary

Variable Cycle Processing Guide

For z/OS, Windows, Unix and Linux



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1700 District Ave Ste 300
Burlington MA 01803-5231
USA

www.precisely.com

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Understanding Variable Cycle Processing

This chapter introduces you to variable cycle processing. It reviews cycle IDs and relative cycle processing and then explains how variable cycle processing works. This chapter contains the following sections:

- “Review of Cycle IDs” on page 5
- “What Is Relative Cycle Processing?” on page 5
- “What Is Variable Cycle Processing?” on page 8
- “Choosing a Variable Cycle Processing Option” on page 11

For a tutorial, troubleshooting tips, and frequently asked questions on variable cycle processing, see the *ACR/Summary Variable Cycle Processing* guide.

Review of Cycle IDs

Before learning about relative or variable cycle processing, let’s review what cycle IDs are about.

A cycle ID is a way to uniquely identify each run of a job. It consists of an 8-digit cycle number and a 3-digit run number.

$$(\text{Cycle number} + \text{run number}) = \text{Cycle ID}$$

Cycle IDs are especially important for identifying and retrieving values from history records (containing results of previous job runs) in the history database.

Often the best choice for a cycle number is the system date associated with the job run in Gregorian or Julian date format or a date extracted directly from the input source. However, cycle numbers do not have to be dates.

The examples in this guide use dates because they are easy to understand.

Cycle IDs can be assigned various ways. In the examples in this guide, you will assign them as an online option.

What Is Relative Cycle Processing?

Relative cycle processing allows your ACR/Summary job to retrieve history items based on a comparison of the current cycle to previous cycles.

The current cycle is always classified as +000, the previous cycle is -001, the one previous to that is -002, and so forth. You can retrieve up to the -998 cycle.

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What Is Relative Cycle Processing?

So, to retrieve a history item from a run four cycles in the past, you would choose a relative cycle of -004. For a job running on Friday, the relative cycle for Thursday would be -001 and for Wednesday it would be -002, as shown below.

	Relative Cycle
Daily Job - Monday	-004
Daily Job - Tuesday	-003
Daily Job - Wednesday	-002
Daily Job - Thursday	-001
Daily Job - Friday	+000 (current)

Relative Cycle Processing

The **cycle accumulation option** allows you to automatically total all history items retrieved.

If you specify cycle accumulation, then the relative cycle number refers to the oldest cycle retrieved. If you do not specify cycle accumulation, then only the oldest cycle is retrieved.

Daily Job - Monday	-004	} With a relative cycle processing option of -004 and cycle accumulation selected, these five values are added together to use in the rule
Daily Job - Tuesday	-003	
Daily Job - Wednesday	-002	
Daily Job - Thursday	-001	
Daily Job - Friday	+000	

Relative Cycle Processing with Cycle Accumulation

Of course, there may be processing situations where the current cycle (+000) is not available and yet you've specified it in your job.

For this situation, you can choose to do one of the following:

- Use the most recent cycle record as the +000 relative cycle. Subsequent relative cycles are then based from this history.

This option is specified by entering Y in the **Should most recent cycle be retrieved when cycle does not match current cycle?** field.

- Do not adjust the cycle numbers.

This option is specified by entering N in the **Should most recent cycle be retrieved when cycle does not match current cycle?** field.

These options are available in the ACR/Summary History Items panel.

```

History Items

Item number      ----- Description -----
001              _____
                _____

History job ID:
  Job name: _____ Item type: I Item number: 000 (I/X: 1-100)
  Step name: _____
  Qualifier: _____ Relative cycle: +000 (-998 to +000)

If item type is cycle number, specify format:
_  1. YYMMDD  2. MMDDYY  3. MMDDCCYY  4. DDMYY  5. YYJJJ
   6. DDMCCYY 7. As is  8. CYYMMDD  9. CCYYMMDD 10. CCYYJJJ

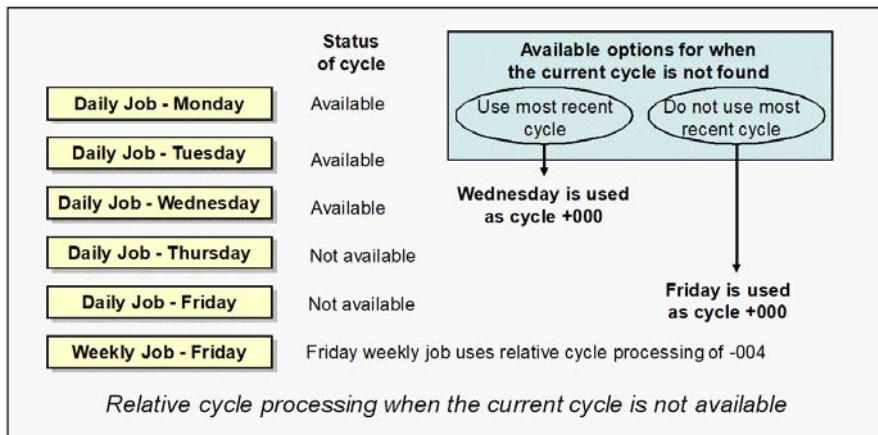
Should most recent cycle be retrieved when cycle does not match
current cycle? N (Y/N)

Specify an action to take when a history is not found:
2_ 1. Set the history item to zero or spaces and continue processing
    2. Set all rules involving this item out of balance
    3. Skip all balancing rules involving the history item

Set advanced features? N (Y/N) Cross platform history item? N (Y/N)

F1=Help    F2=Split    F3=Exit    F4=Retain    F5=Accept    F7=Prev
F8=Next    F9=Swap
    
```

The following example shows how this option works in a situation where some jobs are unavailable. In this case, the Thursday and Friday jobs are not available.



Notice the situation for the **Do not use most recent cycle option**. The Friday values are not available, but the ACR/Summary job must still use it. In this situation, the ACR/Summary job will use zeroes as the values for that cycle.

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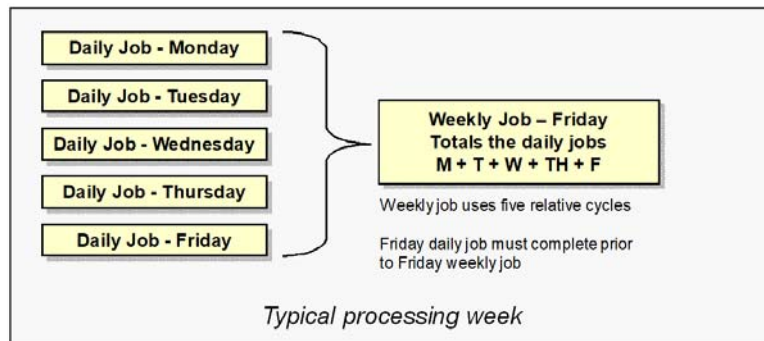
What Is Variable Cycle Processing?

What Is Variable Cycle Processing?

Variable cycle processing allows you to control the retrieval of a history item based on the run date and time or the cycle ID of another job or both. This is unlike relative cycle processing, which relies exclusively upon cycle IDs.

The purpose of variable cycle processing is to accommodate situations where the run date and time of other jobs that provide the history items are different than usual.

For example, you might have a weekly job that performs balancing that uses the history items from daily jobs:

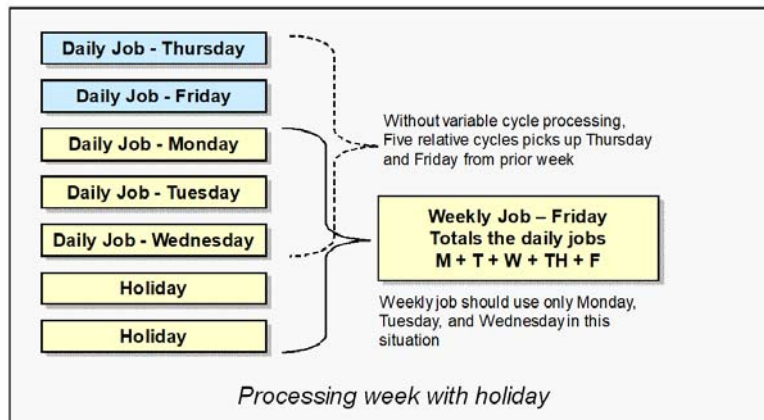


In this situation, the cycle processing indicates five relative cycles to use for the weekly job.

However, the daily job might not run every day. For example, during Thanksgiving week in the U.S., the daily processing for Thursday and Friday might not take place.

If your ACR/Summary controls are for the financial industry, any holiday might mean a cycle with no processing, and therefore no historical data to use in a subsequent balancing job.

In our example, if the “five relative cycles” were used for input to the weekly job, the job would use input data from Thursday and Friday of the prior week.



Variable cycle processing relies upon the cycle IDs or run dates of retrieved history items. By making comparisons, ACR/Summary can correctly choose to use or not use the history item.

ACR/Summary offers selections that match your processing environment. These options are available in the **Variable Cycle** panel, as shown below. Each option is discussed in detail in “Choosing a Variable Cycle Processing Option” on page 11.

Specifying the Relative Cycle and Variable Cycle

The retrieved history item that you will use in your comparisons is specified in the **Relative cycle** field in the History Items panel.

The variable cycle ID that will be used for the Variable Cycle job is specified in the **Relative cycle** field in the Variable Cycle panel.

The following graphic shows:

- The History Items panel for the weekly sales job. This history item accumulates the daily totals at week end.
- The Variable Cycle panel for the weekly sales job. To access this panel, choose **Set advanced features > Variable cycle** from the History Items panel.

■ Understanding Variable Cycle Processing

What Is Variable Cycle Processing?

Daily Sales Data

Cycle	Run date	Run time	Relative cycle
20060304	060304	10:05	-002
20060305	060305	10:15	-001
20060306	060306	10:02	-000

The retrieved history item cycle ID is selected based on the Relative Cycle field in the History Items panel.

History Items

Item number	Description
001	DAILY SALES TOTAL

History job ID:
 Job name: SALES Internal item number: 001 (1-100)
 Step name: DAILY
 Qualifier: Relative cycle: -002 (-998 to +000)

Should most recent cycle be retrieved when cycle does not match current cycle? = (Y/N)

Specify an action to take when a history is not found:
 1. Set the history item to zero or spaces and continue processing
 2. Set all rules involving this item out of balance
 3. Skip all balancing rules involving the history item

Set advanced features? N (Y/N) Cross platform history item? N (Y/N)
 F1=Help F2=Split F3=Exit F4=Retain F5=Accept F7=Prev
 F8=Next F9=Swap

Weekly Sales Data

Cycle	Run date	Run time	Relative cycle
20060304	060307	8:00	-000

The variable cycle ID is selected based on the Relative Cycle field in the Variable Cycle Panel.

Typically, this is the currently running job, or +000.

Variable Cycle

Variable cycle indicator:
 1. Variable cycle processing not in effect
 2. Compared to cycle ID and most recent run date and time
 3. Compared to most recent run date and time
 4. Compared to most recent cycle number

Variable cycle information:
 Job name: SALES
 Step name: WEEKLY
 Qualifier: Relative cycle: -000 (-998 to +000)

Most recent indicator:
 1. Use most recent
 2. Exact match only

Is this a cross platform variable cycle history item? N (Y/N)

F1=Help F2=Split F3=Exit F5=Accept F9=Swap

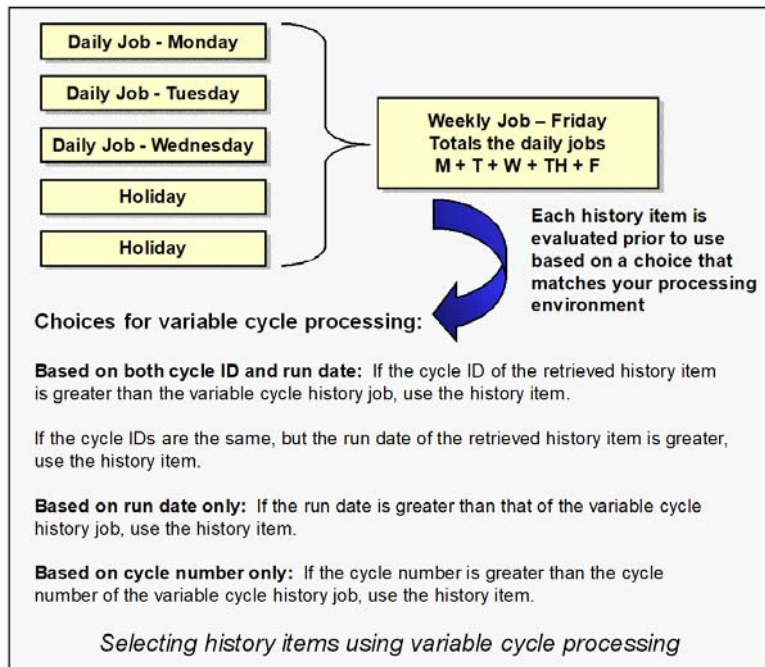
Choosing a Variable Cycle Processing Option

When setting up variable cycle processing, you will need to make choices that reflect your processing environment. You have four choices:

- No variable cycle processing (option 1, the default)
- Compared to cycle ID and most recent run date and time (option 2)
- Compared to most recent run date and time (option 3)
- Compared to most recent cycle number (option 4)

By carefully choosing the appropriate option for your site, you can be sure that the history item that ACR/Summary uses for balancing is the correct one.

Options 2, 3, and 4 are described in detail in this section.



Compared to Cycle ID and Most Recent Run Date/Time

This option uses both the cycle ID and the run date and time to select the history item.

This option will use a retrieved history item for balancing if either of the following is true:

- a. The retrieved history item cycle ID is greater than the variable cycle history job's cycle ID. (See "Example A" on page 12)

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Choosing a Variable Cycle Processing Option

- b. The cycle IDs are equal and the run date and time of the retrieved history item is greater than the run date and time of the variable cycle history job's cycle ID. (See "Example B" on page 13)

When to Use this Option

Use this option when your balancing jobs use the same cycle ID format and it is possible that the retrieved history item cycle ID could be the same as the current job cycle ID.

Example A

The following example shows which history is retrieved when the history is normally retrieved from the day before, but it's not available. ACR/Summary selects the first available history item with an earlier cycle ID. This option accommodates holidays or any other situation where data must be retrieved from the last available history.

Daily Jobs – Provide the history item				
Day	Cycle	Run No.	Run date	Run time
Monday	20060304	001	060304	10:05
Tuesday	20060305	001	060305	10:15
Wednesday	20060306	001	060306	10:02
Holiday			060307	10:12
Holiday			060308	10:03

Daily Job:
Retrieved history cycles have a cycle ID greater than that of the variable cycle job.

Weekly Job – Needs history item for balancing				
Day	Cycle	Run No.	Run date	Run time
Saturday	20060309	001	060309	12:15

Currently Running Job:
Retrieves the history cycles with a cycle ID greater than that of the variable cycle job.

Variable Cycle History Job				
Day	Cycle	Run No.	Run date	Run time
Saturday	20060302	001	060302	10:05

Variable Cycle History Job:
Provides the cycle ID and run date and time used for comparison to determine the histories to include.

Example B

The following example shows how the this option can locate history when the cycle IDs are the same.

Daily Jobs – Provide the history item				
Day	Cycle	Run No.	Run date	Run time
Monday	20060304	001	060304	10:05
Tuesday	20060305	001	060305	10:15
Wednesday	20060306	001	060306	10:02
Thursday	20060307	001	060307	10:12
Friday	20060308	001	060308	09:45

Weekly Job – Needs history item for balancing				
Day	Cycle	Run No.	Run date	Run time
Saturday	20060309	001	060308	12:15

Variable Cycle History Job				
Day	Cycle	Run No.	Run date	Run time
Monday	20060304	001	060304	10:00

Daily Job:
When a cycle ID for the daily history is the same as that of the variable cycle history, items are retrieved based on run date and time.

Currently Running Job:
Processes the selected cycles (see Variable Cycle History Job below) and retrieves items based on run date and time.

Variable Cycle History Job:
Provides the cycle ID and run date and time used for comparison to determine the histories to include.

Compared to Most Recent Run Date and Time

This option relies on the run date and time only for selecting a history item. This option will use a retrieved history item for balancing if its run date and time are greater than the run date and time of the variable cycle job ID.

When to Use this Option

Use this option if the current job and the job that stored the history item do not store history in the same cycle number format. For example, if one format is Gregorian and the other format is Julian.

Processing Logic Is Different for this Option

Note that when you choose this option, the processing logic is different:

- When filtering in history records for external item and variable cycle, histories will not be filtered based on cycle number.
- The Variable Cycle Most Recent Indicator will not be used.

■ Understanding Variable Cycle Processing

Choosing a Variable Cycle Processing Option

- The Equal Cycle Comparison has no effect since Compared to most recent run date and time will not exclude histories based on cycle number.

Example C

This example shows how ACR/Summary retrieves history based on run date and time alone.

Daily Jobs – Provide the history item				
Day	Cycle	Run No.	Run date	Run time
Monday	03042006	001	060304	10:05
Tuesday	03052006	001	060305	10:15
Wednesday	03062006	001	060306	10:02
Thursday	03072006	001	060307	10:12
Friday	03082006	001	060308	09:45

Daily Job:
Daily and weekly jobs have a different cycle format. History is retrieved based on run date and time alone.

Weekly Job – Needs history item for balancing				
Day	Cycle	Run No.	Run date	Run time
Friday	20060308	001	060308	10:05

Currently Running Job:
Processes the selected cycles (see Variable Cycle History Job below) and retrieves items based on run date and time.

Variable Cycle History Job				
Day	Cycle	Run No.	Run date	Run time
Saturday	20060302	001	060302	10:05

Variable Cycle History Job:
Provides the run date and time used for comparison to determine the histories to include.

Compared to Most Recent Cycle Number

This option uses cycle numbers only, no run numbers. This means it will never retrieve histories that were run on the same cycle number.

This option will use a retrieved history item for balancing if its cycle number is greater than the cycle number of the variable cycle history job.

When to Use this Option

Use this option if you always want to retrieve history items from prior cycles. This option is intended for those situations where both of the following are true:

- You use the date for the cycle number.
- The source job runs on the same day and you do not want the history item.

Example D

This example shows how ACR/Summary retrieves history based on cycle number alone and ignores the run number.

Daily Jobs – Provide the history item				
Day	Cycle	Run No.	Run date	Run time
Monday	03022006	002	060302	10:05
Tuesday	03032006	001	060303	10:15
Wednesday	03042006	001	060304	10:02
Thursday	03052006	001	060305	10:12
Friday	03062006	001	060306	09:45

Daily Job:
Retrieved history cycle number is greater than the variable cycle number.

Weekly Job – Needs history item for balancing				
Day	Cycle	Run No.	Run date	Run time
Friday	03062006	001	060306	10:05

Currently Running Job:
Ignores cycles with same cycle number as the variable cycle history job (even if the variable cycle job has a smaller run number) and retrieves from cycle numbers greater than that of the variable cycle history job.

Variable Cycle History Job				
Day	Cycle	Run No.	Run date	Run time
Monday	03022006	001	060302	10:05

Variable Cycle History Job:
Provides the cycle ID used for comparison to determine the histories to include.

When the Variable Cycle ID Is Not Found

For those situations when the variable cycle ID is not found, you can set the **Most Recent Indicator**.

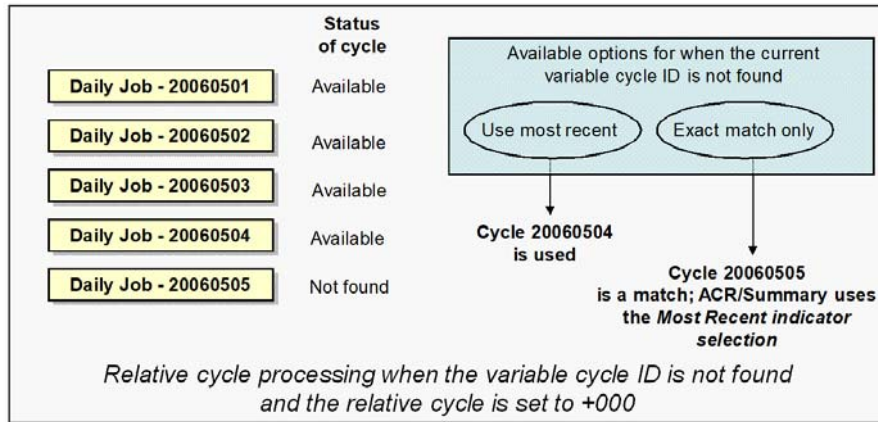
This option lets ACR/Summary automatically choose which values to use based on one of the following:

- Use the most recent cycle as +000. For example, if yesterday's run is the most recent cycle, then yesterday's cycle becomes +000.
- No adjustment; only an exact match is considered +000. In this case, the value you use for the **Most recent indicator** applies.

The graphic below shows how both options work when the relative cycle is set to +000.

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Choosing a Variable Cycle Processing Option



The graphic below shows how both options work when the relative cycle is set to -001.

