FCXTREND Package

Pruning Performance Toolkit FCXTREND History Files)

The Package

The FCXTREND package is a VMARC archive consisting of the following two files:

```
FCONX    TRDPRUNE        The sample control file
FCXTREND MODULE          The executable code
```

Unpack it with 'VMARC UNPK ..' after transferring it to your VM system in binary mode.

Introduction

The FCXTREND package is intended to assist you in pruning the trend files generated by IBM's Performance Toolkit for VM. These trend files may become very large within a short time, especially if a lot of detail records for individual users and/or I/O devices are created. Just deleting all of the oldest records may be all you need, in which case you could simply use XEDIT or COPYFILE to perform your housekeeping, but you can also use the FCXTREND MODULE with the DAYS argument.

However, it usually makes more sense to use a more elaborate logic when deleting trend data:

- The records that contain overall system load information do not take up that much space. Since you may want to use them for capacity planning at some later time it is probably a good idea to keep them around for several months, or even years.
- Most of the records containing very detailed data for some subset (e.g. specific users and/or I/O devices), on the other hand, are probably no longer of great interest after a few weeks, and could be deleted at a much earlier time.
- One might even want to differentiate between records of the same type, i.e. keep the user specific data longer for some selected virtual machines than for others.

The FCXTREND package therefore allows to specify the pruning rules by means of a special TRDPRUNE control file. The comment lines in the file explain how to use it (see section 'The TRDPRUNE Control File').

Since the name of the control file to be used can be specified when invoking the FCXTREND module (see command description in section 'Invoking FCXTREND' on the next page) it is possible to keep multiple such control files, and to use different ones at different times (e.g. end of week, end of month, end of year).

Invoking FCXTREND

The expected command format is:

```
FCXTREND  <? or HELP                                          >
          <LIST   infile                                      >
          <PRUNE  infile <CTL  <ctlfile> > <(STATIST>   >
          <               <DAYS nnn       >              >
```

where

? / HELP   display this text with a short explanation of the different arguments.

LIST   will simply list the contents of the FCXTREND file specified as 'infile'. This argument has been implemented mainly for my own testing.

PRUNE   will process the FCXTREND file specified as 'infile' and will remove any records older than 'nnn' days (for DAYS argument) or older than the specification found in the control file 'ctlfile' (for CTL argument).

infile   specifies the file-ID of the trend file to be processed. At least the file name must be entered; file type and file mode default to 'FCXTREND' and '*' when omitted.

CTL   indicates that the prune control information (the retention period in days for different trend record types) can be found in the control file *'ctlfile'*.

ctlfile   specifies the file-ID of the control file to be used for PRUNE processing. Filename, file type and file mode default to 'FCONX', 'TRDPRUNE' and '*' respectively when omitted.
See the comments in the sample control file for information on how to code the file.

DAYS *nnn*   indicates that a fixed retention period of *'nnn'* days is to be applied to all trend records. Records older than *'nnn'* days will be removed from the input file.

(STATIST   indicates that prune statistics are to be shown at the end, i.e. the number of trend records in the input and output file will be displayed.

Note that space for both the original input file and the pruned output file is temporarily required during FCXTREND processing.

The TRDPRUNE Control File

The following is a 1:1 listing of the sample control file FCONX TRDPRUNE delivered as part of the FCXTREND package. Any records starting with an asterisk '*' in column 1 are treated as comment lines. As you see the larger part of the sample file consists of such comments; they explain the format of the valid control arguments.

```
*---------------------------------------------------------------*
* PRUNE control file for Performance Toolkit for VM Trend Files. *
*                                                               *
* This file defines the maximum number of days that specific    *
* trend records must be kept. It is used when the FCXTREND       *
* command is invoked for PRUNE processing with the 'CTL'         *
* argument.                                                      *
*                                                               *
* The following specifications are accepted:                    *
*                                                               *
*   nnn  ALL                                                     *
*        The ALL specification indicates that all records older  *
*        than 'nnn' days are to be cleared, regardless of        *
*        record type.                                            *
*                                                               *
*        The ALL specification MUST be included.                 *
*                                                               *
*   nnn  RECORDS  CHANNEL PRIVOPS DIAGS NSS DSPACES             *
*   nnn  RECORDS  USER SFS MTUSER TCPIP RSK LINUX               *
*   nnn  RECORDS  DASD QDIO SCSI SEEKS VSWITCH VNIC PCIFUNC     *
*                                                               *
*        The RECORDS specification allows deleting specific      *
*        kinds of trend records earlier, after 'nnn' days,       *
*        to free up some disk space.                            *
*        The same record types can be specified here as for      *
*        the creation of trend files in an FCONX TRENDREC file,  *
*        i.e. they all contain some kind of more detailed data.  *
*        While this detailed data will, obviously, no longer be  *
*        available for viewing once it has been deleted, some    *
*        general overall system load information will still      *
*        be there for very general load analysis until the       *
*        remaining records are also deleted by means of the      *
*        'ALL' specification.                                     *
*                                                               *
*        Multiple RECORDS specifications can be made. If more    *
*        than one specification is made for the same record      *
*        type the last one will become effective.               *
*                                                               *
*        Record types not specifically specified for clearing    *
*        in a RECORDS statement will be deleted after the        *
*        number of days specified in the 'ALL' statement.        *
*                                                               *
*   nnn  USERID   user1 user2 user3 ..                          *
*        The USERID specification allows setting a different      *
*        (longer or shorter) retention period for trend records  *
*        pertaining to a specific user-ID than the general one   *
*        set for the user-related trend records with a RECORDS   *
*        specification, or the one set with the common 'ALL'     *
*        entry.                                                   *
*        The USERID specifications affect the housekeeping of     *
*        DSPACES, USER, SFS, MTUSER, TCPIP, RSK and LINUX         *
*        trend records.                                          *
*                                                               *
*        Multiple USERID specifications can be made. If more     *
*        than one specification is made for the same user-ID      *
*        then the last one will become effective.               *
*                                                               *
*   nnn  DEVNO    dev1 dev2 dev3 ..                             *
*        The DEVNO specification allows setting a different       *
*        (longer or shorter) retention period for trend records  *
*        pertaining to a specific I/O device than the general    *
*        one set for the device related trend records with a     *
*        RECORDS specification, or the one set with the common    *
```

```
*          'ALL' entry.                                      *
*          The DEVNO specifications affect the housekeeping of  *
*          DASD, SEEKS, SCSI, VSWITCH and QDIO trend records.   *
*                                                            *
*          Multiple DEVNO specifications can be made. If more   *
*          than one specification is made for the same device   *
*          number then the last one will become effective.     *
*                                                            *
*   THE 'nnn' VALUES SET FOR 'RECORDS', 'USERID' AND 'DEVNO'    *
*   SPECIFICATIONS MUST NOT EXCEED THE 'nnn' VALUE SET WITH      *
*   THE 'ALL' ENTRY.                                         *
*                                                            *
*------------------------------------------------------------*

* Overall Trend Record Retention Period in Days
  100  ALL

* General Trend Record Retention Periods in Days
    60  RECORDS  CHANNEL PRIVOPS DIAGS NSS DSPACES
    30  RECORDS  USER SFS MTUSER TCPIP RSK LINUX
    30  RECORDS  DASD QDIO SCSI SEEKS VSWITCH VNIC PCIFUNC
```