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ABSTRACT and CONTENTS

Specification of format of the file containing

records of accounting events as logged by the

Utility.

FORMAT OF SYSTEM OWNER'S DAEL

The System Owner's DAEL will be filled with records for

accounting events by the Utility. The System Owner's

DAEL is a file whose creation has been requested by

the Demultiplex Program. It is created as a new file with

the time in its name six (6) times a day. Its name is of

the form SYS-DAEL-time:BIN where time is in the format

yydddhh. This file is pointed to by an object titled

SYSTEM-DAEL:BIN in the System Owner's MIB.

The records in this file will be of the following format:

Common Header {	Shifted Process Id 38 | Type 5 | Length 5
	Group Number 7 | Time 17
Information Portion {	Variable information depending on the type of record

In the Common Header the items have the following meanings:

> Shifted Process Id is the User Number and Sequence
> Number from the Unique Name (i.e. the Unique Name
> less the first two and last eight bits).

> Length is the length of this record in 24 bit words.

> Group Number is a number in a file called GROUP-TABLE
> which gives the Group Owner's Unique Name.

> Time is the time in seconds since the beginning of
> the day. The beginning of the day has been chosen
> to be zero hundred hours of the "yyddd" in the name
> of this file.

Type is a number specifying the type of accounting record this is. The format of the information portion of this record is dependent upon type. Type currently has the following values:

Value	Type of Record
1	Log on occurred
2	Log off occurred
3	Incremental record
4	Proprietary Program Usage

The Information Portions of Type 1 and Type 2 (log on and log off) records are identical. It consists of a section of Process Counters which is seven (7) words long and an Identification Section which is ten (10) words long. The values in the Process Counters for these records are absolute values. Type 3 (Incremental) Records contain only the Process Counters in the Information Portion of the record. The values of these counters in Type 3 records are incremental rather than absolute. The contents of these two sections are shown below:

Process Counters
CPU time (in tens of milliseconds)
Excessive swap time (in tens of milliseconds)
Number of Disk Accesses
Number of Input Characters
Number of Output Characters
Size of DWS Integrated over Time (in page-seconds)
Size of CWS Integrated over Time (in page-seconds)

*

Identification Section
Terminal Identification
Project Accounting Id (4 words of 16 six-bit characters)
User Name (5 words)

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*   Information Portion of Type 3 Records.
** Information Portion of Type 1 and 2 Records.

It should be noted that using absolute values of the Process Counters in Log on and Log off records allows the accounting software to perform a validity check on the sum of the values of the Process Counter in the Incremental records.

The Information Portion of the Type 4 (Proprietary Program Usage) Records is not yet specified.

For future consideration is the possibility that actual usage will show that the Process Counter for Incremental records may be compacted to a smaller size. In that case the format of that section of Type 3 records will be re-defined in order to produce shorter files.

Also, since it is possible that one word may not hold all the particular units being counted in any particular Process Counter, both the Utility doing the logging of the accounting records and the accounting programs should be aware of the possibility of a smaller absolute value at Log off than at Log on. This indicates that the word was filled and that the value present at Log off time is just that portion of a larger number which can be seen (i.e. modulo 2^{24}).

When other facilities are made available to the users of the BCC 500 other types of accounting records will have to be defined. One specified instance is a record of usage by a user of any of the Model 30 peripherals (tape, printer, etc.).