

ACCOUNTING BLOCK SERVICES

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All manipulations of Accounting Blocks are to be performed using a single operation (DF:ABSV in OPERCL). The 1st parameter indicates the service to be performed. Unneeded parameters are indicated by "-" and are ignored. A maximum of 8 data words may be returned to the caller; no capabilities are ever returned.

All errors are class E.ABLOCK unless otherwise noted.

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Service: Create Accounting Block

Input Parameters:

IP1 D: 0
IP2 D: -
IP3 D: -
IP4 D: -

Output Parameters:

D: (1 word) Accounting Block Number of new block
C: (none)

Action: New accounting block is created in Inactive state.
All reservations, charges, etc. are zero, and may not
be changed until the block has been activated.

Errors: (none)

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Service: Activate Accounting Block

Input Parameters:

IP1 D: 1
IP2 D: Accounting Block Number
IP3 D: -
IP4 D: -

Output Parameters:

D: (none)
C: (none)

Action: Places the Accounting Block in the active state, allowing space to be moved in, charges to accumulate, etc.

Errors:

E.NOABLK Accounting Block does not exist.
E.ACTIV Accounting Block already active.

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Service: Destroy Accounting Block

Input Parameters:

IP1 D: 2
IP2 D: Accounting Block Number
IP3 D: -
IP4 D: -

Output Parameters:

D: (none)
C: (none)

Action: Accounting Block is destroyed unless destruction is prevented by some error condition.

Errors:

E.NOABLK Accounting Block does not exist, or is inactive.
E.BUSY Accounting Block still funding processes and/or files.
E.RESV Accounting Block still holding reserved space.
E.BUSY Accounting Block "Account Tag" field non-zero.
E.BUSY Charge meters in Accounting block non-zero.

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Service: Display Accounting Block

Input Parameters:

IP1 D: 3
IP2 D: Accounting Block Number
IP3 D: -
IP4 D: -

Output Parameters:

D: (8 words) Contents of Accounting Block
C: (none)

Action: The entire accounting block is returned.

Errors:

E.NOABLK Accounting Block does not exist, or is inactive.

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Service: Move Disk Space (Father-to-Son)

Input Parameters:

IP1 D: 4
 IP2 D: Accounting Block Number (Father)
 IP3 D: Accounting Block Number (Son)
 IP4 D: Amount of Disk Space (sectors)

Output Parameters:

D: (none)
 C: (none)

Action: Surplus := Reserved(Father) - Occupied(Father);
if Surplus < IP4 then go to Trimfather;
 Occupied (Father) := Occupied(Father) + IP4;
 Reserved (son) := Reserved (son) + IP4;
 Rate(son) := Rate(son) + IP4;
 Return;
 Trimfather: Occupied(Father) := Reserved(Father);
 Reserved(Son) := Reserved(son) + Surplus;
 Rate(Son) := Rate(son) + Surplus;
 X6(Caller) := Surplus;
 Freturn

Errors:

E.NOABLK Accounting block does not exist
 E.NEGPAR* Amount to move is negative

(* class = E.PARMS)

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Service: Move Disk Space (Son-to-Father)

Input Parameters:

IP1 D: 5
IP2 D: Accounting Block Number (Father)
IP3 D: Accounting Block Number (Son)
IP4 D: Amount of Disk Space (sectors)

Output Parameters:

D: (none)
C: (none)

Action: Surplus := Reserved(Son) - Occupied(Son);
if Surplus < IP4 then go to Trimson;
Occupied (Father) := Occupied(Father) - IP4;
Reserved (Son) := Reserved (Son) - IP4;
Rate(Son) := Rate(son) - IP4;
Return;
Trimson: Occupied(Father) := Occupied(Father) - Surplus;
Reserved(Son) := Occupied(son);
Rate(Son) := Rate(Son) - Surplus;
X6(Caller) := Surplus;
Freturn

Errors:

E.NOABLK Accounting Block does not exist
E.NEGPAR* Amount to move is negative

(* class = E.PARMS)

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Service: Increment Charge Meter

Input Parameters:

IP1 D: 6
IP2 D: Accounting block Number
IP3 D: Increment (+ or -)
IP4 D: -

Output Parameters:

D: (none)
C: (none)

Action: The increment is added to the discontinuous charge meter in the accounting block. (60 bit integer add). The meter counts up by usec/1024 , hence the units of the increment should be sector-milliseconds.

Errors:

E.NOABLK Accounting block does not exist (or is inactive)

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Service: Set Accounting Tag in Accounting Block

Input Parameters:

IP1 D: 7
IP2 D: Accounting Block Number
IP3 D: Value for Tag
IP4 D: -

Output Parameters:

D: (none)
C: (none)

Action: Sets the 18 bit Account Tag field in the Accounting Block to the value provided.

Errors:

E.NOABLK Accounting Block does not exist, or is inactive.