

FFFFFFF FFFF	DDDDDDDDDDDD	LLL
FFFFFFF FFFF	DDDDDDDDDDDD	LLL
FFFFFFF FFFF	DDDDDDDDDDDD	LLL
FFF	DDD	DDD
FFF	DDDDDDDDDDDD	LLLLL LLLL
FFF	DDDDDDDDDDDD	LLLLL LLLL
FFF	DDDDDDDDDDDD	LLLLL LLLL

FFFFFFFFF	DDDDDDDD	LL	PPPPPPP	AAAAA	RRRRRRR	DDDDDDD	EEEEEEEEE	FFFFFFFFF
FFFFFFFFF	DDDDDDDD	LL	PPPPPPP	AAAAA	RRRRRRR	DDDDDDD	EEEEEEEEE	FFFFFFFFF
FF	DD	DD	PP	PP	AA	RR	RR	FF
FF	DD	DD	PP	PP	AA	RR	RR	FF
FF	DD	DD	PP	PP	AA	RR	RR	FF
FF	DD	DD	PP	PP	AA	RR	RR	FF
FF	DD	DD	PPPPPPP	AA	AA	RRRRRRR	DD	FF
FF	DD	DD	PPPPPPP	AA	AA	RRRRRRR	DD	FF
FF	DD	DD	PP	AAAAAAA	RR	RR	DD	FF
FF	DD	DD	PP	AAAAAAA	RR	RR	DD	FF
FF	DD	DD	PP	AA	AA	RR	RR	FF
FF	DD	DD	PP	AA	AA	RR	RR	FF
FF	DDDDDDDD	LLLLLLLLL	PP	AA	AA	RR	RR	FF
FF	DDDDDDDD	LLLLLLLLL	PP	AA	AA	RR	RR	FF

....

SSSSSSS	DDDDDDDD	LL
SSSSSSS	DDDDDDDD	LL
SS	DD	DD
SSSSSS	DD	DD
SSSSSS	DD	DD
SS	DD	DD
SSSSSSS	DDDDDDDD	LLLLLLLLL
SSSSSSS	DDDDDDDD	LLLLLLLLL

```
{  
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```

module \$FDLDEF3;

```
/** These fields are found in FDL$AB_CTRL
/*
```

```
aggregate FDLDEF3 union prefix FDL$;
  FDLDEF BITS0 structure;
    STATUS bitfield mask length 3;          /* Status code for processing
    WARNING bitfield mask;                  /* A warning message has been issued for this secondary
    PRIMARY bitfield mask;                 /* Primary has been parsed
    NEWPRI bitfield mask;                  /* A new primary has been parsed
    SECONDARY bitfield mask;               /* Secondary has been parsed
    INITIAL bitfield mask;                /* Initial pass
    COMMENT bitfield mask;                /* Secondary comment has been detected
    LINECMT bitfield mask;                /* Line comment has been detected
    PCALL bitfield mask;                  /* This is an EDF Parse call
    DCL bitfield mask;                   /* Called by a DCL utility
    STRING SPEC bitfield mask;           /* An FDL STRING
    USED STRING bitfield mask;           /* FDL STRING has been set up
    APOST PRES bitfield mask;            /* An apostrophe was found by the pre_parse
    QUOTE PRES bitfield mask;           /* A quotation mark was found by the pre_parse
    REPARSE bitfield mask;              /* Doing a parse into a parse
    DFLT PRES bitfield mask;            /* The DFLT FDL SPEC argument was present
    STVALID bitfield mask;              /* FDL$GL_STNUMPTR is valid
    GCALL bitfield mask;                /* This is an EDF Generate call
    FULLGEN bitfield mask;              /* Generate the full FDL spec
    DEALLOC bitfield mask;              /* Make FDL$$CHECK_BLOCKS deallocate the
                                         /* RMS control blocks after it checks them
```

end FDLDEF_BITS0;

```
/* Codes found in FDL$GL_PRIMARY
/*
```

```
constant(
  DUMMY_PRIMARY$                      /* Dummy_primary$
  , ACCESS                            /* Access
  , ACL                               /* Access Control Lists
  , ANALA                             /* Analysis_of_area
  , ANALK                             /* Analysis_of_key
  , AREA                              /* Area
  , CONNECT                           /* Connect
  , DATE                             /* Date
  , FILE                             /* File
  , "IDENT"                           /* Ident
  , JNL                               /* Journal
  , KEY                               /* Key
  , RECORD                            /* Record
  , SHARING                           /* Sharing
  , SYSTEM                            /* System
  , TITLE                             /* Title
```

```
/* LAST PRIMARY
/* PRITAB_SIZE
} equals 0 increment 1 prefix FDL tag $C;
/* Bits defined for FDL$AB_PRIMCTRL
```

```
/*
 FDLDEF BITS1 structure;
 ACCESS bitfield mask;           /* Access
 ACL bitfield mask;              /* Access Control List
 ANALA bitfield mask;             /* Analysis_of_area
 ANALK bitfield mask;             /* Analysis_of_key
 AREA bitfield mask;              /* Area
 CONNECT bitfield mask;            /* Connect
 DATE bitfield mask;              /* Date
 FILE bitfield mask;              /* File
 "IDENT" bitfield mask;            /* Ident
 JNL bitfield mask;               /* Journal
 KEY bitfield mask;                /* Key
 RECORD bitfield mask;              /* Record
 SHARING bitfield mask;             /* Sharing
 SYSTEM bitfield mask;              /* System
 TITLE bitfield mask;               /* Title
 end FDLDEF_BITS1;

/*
 Single field switch for YES - NO qualifiers
/*
 constant FALSE      equals 0  prefix FDL tag $C;    /* No
 constant TRUE       equals -1  prefix FDL tag $C;   /* Yes

/*
 Secondary codes for each primary
/* These codes are found in FDL$GL_SECONDARY
/*
 Qualifiers for each secondary are listed seperately
/*
 !!!!!!!REMEMBER TO UPDATE XXX BEG AND XXX END MARKERS IF AN ATTRIBUTE IS
/* ADDED/SUBTRACTED ONTO/OFF EITHER END OF A PRIMARY SECTION
!!!!!!!!

/*
 Access primary
/*
 constant(
    DUMMY_SECONDARY$          /* Dummy_secondary$
    , FACBIO                  /* Block I/O only
    , FACDEL                  /* Deletes
    , FACGET                  /* Gets
    , FACPUT                  /* Puts
    , FACBRO                  /* Record and Block I/O
    , FACTRN                  /* Truncate
    , FACUPD                  /* Updates

/*
 ACL
/*
 . ACE                      /* Entry

/*
 Codes for Analysis_of_area primary
/*
 , RECL                     /* Reclaimed_space
```

```
/*
 * Analysis_of_key primary
 */
, DFIL                                /* Data_fill
, DKC                                 /* Data_key_compression
, DRC                                 /* Data_record_compression
, DREC                                /* Data_record_count
, DSPC                                /* Data_space_occupied
, DELE                                /* Deletions
, DEPTH                               /* Depth
, DUPL                                /* Duplicates_per_value
, ICOMP                               /* Index_compression
, IFIL                                 /* Index_fill
, ISPC                                /* Index_space_occupied
, L1RCNT                             /* LevelT_record_count
, MDL                                 /* Mean_data_length
, MIL                                 /* Mean_index_length
, RANACC                             /* Random_acceses
, RANINS                             /* Random_inserts
, SEQACC                             /* Sequential_acceses

/*
 * Codes for Area primary
 */
, ALLOC                               /* Allocation
, BTCONT                             /* Best_try_contiguous
, BKT                                /* Bucket_size
, CONTG                               /* Contigous
, EXACT                               /* Exact_position
, EXTND                               /* Extend
, POSI                                /* Position
, VOLU                                /* Voulme

/*
 * Codes for Connect primary
 */
, ASY                                 /* Asynchronous
, BIO                                /* Block_IO
, BUCODE                             /* Bucket_code
, RCTX                                /* Context
, EOF                                 /* End_of_file
, FLOA                               /* Fill_buckets
, FDEL                                /* Fast_delete
, KRF                                 /* Key_of_reference
, KGE                                /* Key_greater_equal
, KGT                                /* Key_greater_than
, KLIM                               /* Key_limit
, LOCMODE                            /* Locate_mode
, REA                                 /* Lock_on_read
, RLK                                /* Lock_on_write
, ULK                                /* Manual_unlocking
, MBC                                 /* Multiblock_count
, MBF                                /* Mulitbuffer_count
, NLK                                 /* Nolock
, NXR                                 /* Nonexistent_record
, RAH                                 /* Read_ahead
, RRL                                /* Readregardless
, TMENB                             /* Timeout_enable
, TMO                                /* Timeout_period
```

```
. TPT                                /* Truncate_on_put
. TTCCO                               /* TT_cancel_control_o
. TTCVT                               /* TT_upcase_input
. TPPMT                               /* TT_prompt
. TTPTA                               /* TT_purge_type_ahead
. TTRNE                               /* TT_read_noecho
. TTRNF                               /* TT_read_nofilter
. UIF                                 /* Update_if
. WAT                                 /* Wait_for_record
. WBH                                 /* Write_behind

/* Codes for Date primary
. BACKUP                             /* Backup
. CREAT                               /* Creation
. EXPR                                /* Experation
. REV                                 /* Revision

/* Codes for File primary
. ALL                                 /* Allocation
. BTC                                 /* Best_try_contiguous
. BKTSIZ                             /* Bucket_size
. CLUSIZ                             /* Cluster_size
. FCTX                                /* Context
. CONT                                /* Contiguous
. CIF                                 /* Create_if
. DFNAM                             /* Default_name
. DEFWRIT                            /* Deferred_write
. DOC                                 /* Delete_on_close
. DIR                                 /* Directory_entry
. EODEL                               /* Erase_on_delete
. EXTEEN                             /* Extension
. GBC                                 /* Global_buffer_count
. MTBLSIZ                            /* MT_block_size
. MTCP                                /* MT_current_position
. MTNEF                               /* MT_not_eof
. MTPRO                               /* MT_protection
. MTREW                               /* MT_rewind / MT_open_rewind
. MTRWC                               /* MT_close_rewind
. MAXRECN                            /* Max_record_number
. MAXVER                             /* Maximize_version
. NAME                                /* Name
. BKTUP                               /* Nobackup
. NFS                                 /* Non_file_structured
. OFP                                 /* Output_file_parse
. ORG                                 /* Organization
. OWNER                               /* Owner
. POC                                 /* Print_on_close
. PROT                                /* Protection
. READC                               /* Read_check
. REVISN                             /* Revision
. SQO                                 /* Sequential_only
. SOC                                 /* Submit_on_close
. SUPER                               /* Superscede
. TEMPO                               /* Temporary
```

```
, TOC                                /* Truncate_on_close
, UFO                                /* User_file_open
, WIN                                /* Window_size
, WRITEC                             /* Write_check

/* Codes for Journal primary
, AFTIM                             /* After_image
, AFTNAM                            /* After_name
, AUDIT                             /* Audit_trail
, AUDNAM                            /* Audit_name
, BEFIM                             /* Before_image
, BEFNAM                            /* Before_name
, RU                                 /* Recovery_unit

/* Codes for Key primary
, CHANGE                            /* Changes
, DAREA                             /* Data_area
, DFILL                             /* Data_fill
, DATKC                            /* Data_key_compression
, DATRC                            /* Data_record_compression
, DUPS                              /* Duplicates
, IAREA                             /* Index_area
, IDXC                             /* Index_compression
, IFILL                             /* Index_fill
, LAREA                             /* LevelT_index_area
, KYNAME                            /* Name
, NULL                             /* Null_key
, NULLVAL                           /* Null_value
, PROL                             /* Prologue_version
, SEGLEN                            /* Segment_Length
, SEGPOS                            /* position
, SEGTYP                            /* type

/* Codes for Record primary
, BLKSPN                            /* Block_span
, CARCTRL                           /* Carriage_control
, VFCSIZ                            /* Control_field_size
, FMT                               /* Format
, SIZE                              /* Record_size

/* Sharing primary
, SHRDEL                            /* Deletes
, SHRGET                            /* Gets
, SHRMSE                            /* Multi-stream connects
, SHRNIL                            /* Dissallow sharing
, SHRPUT                            /* Puts
, SHRUPD                            /* Updates
, SHRUPI                            /* User provided interlocking

/* Codes for System primary
, DEVICE                            /* Device
```

```
; SOURCE                                /* Source
; TARGET                                 /* Target

/** THE LAST SECONDARY FOLLOWS:
/*
; SECTAB_SIZE
; equals 0 increment 1 prefix FDL tag $C;

/* The following are markers which are useful to FDL$GENERATE
/*
constant ACCESS_BEG equals FDL$C_FACBIO prefix FDL$ tag C;
constant ACCESS_END equals FDL$C_FACUPD prefix FDL$ tag C;

constant ACL_BEG equals FDL$C_ACE prefix FDL$ tag C;
constant ACL_END equals FDL$C_ACE prefix FDL$ tag C;

constant ANALYSIS_OF_AREA_BEG equals FDL$C_RECL prefix FDL$ tag C;
constant ANALYSIS_OF_AREA_END equals FDL$C_RECL prefix FDL$ tag C;

constant ANALYSIS_OF_KEY_BEG equals FDL$C_DFIL prefix FDL$ tag C;
constant ANALYSIS_OF_KEY_END equals FDL$C_SEQACC prefix FDL$ tag C;

constant AREA_BEG equals FDL$C_ALLOC prefix FDL$ tag C;
constant AREA_END equals FDL$C_VOLU prefix FDL$ tag C;

constant CONNECT_BEG equals FDL$C_ASY prefix FDL$ tag C;
constant CONNECT_END equals FDL$C_WBH prefix FDL$ tag C;

constant DATE_BEG equals FDL$C_BACKUP prefix FDL$ tag C;
constant DATE_END equals FDL$C_REV prefix FDL$ tag C;

constant FILE_BEG equals FDL$C_ALL prefix FDL$ tag C;
constant FILE_END equals FDL$C_WRITEC prefix FDL$ tag C;

constant JOURNAL_BEG equals FDL$C_AFTIM prefix FDL$ tag C;
constant JOURNAL_END equals FDL$C_RU prefix FDL$ tag C;

constant KEY_BEG equals FDL$C_CHANGE prefix FDL$ tag C;
constant KEY_END equals FDL$C_SEGTYP prefix FDL$ tag C;

constant RECORD_BEG equals FDL$C_BLKSPN prefix FDL$ tag C;
constant RECORD_END equals FDL$C_SIZE prefix FDL$ tag C;

constant SHARING_BEG equals FDL$C_SHRDEL prefix FDL$ tag C;
constant SHARING_END equals FDL$C_SHRUPI prefix FDL$ tag C;

constant SYSTEM_BEG equals FDL$C_DEVICE prefix FDL$ tag C;
constant SYSTEM_END equals FDL$C_TARGET prefix FDL$ tag C;

/*
Qualifiers
/*
These codes are found in FDL$GL_QUALIFIER
/*
Qualifiers for the Area secondary
```

```
constant(
    ANYPOS          /* Any_Cylinder
    , CLUSPOS        /* Cluster
    , CYLPOS         /* Cylinder
    , FIDPOS         /* File_ID
    , FNMPPOS        /* File_name
    , LOGPOS         /* Logical
    , NOPOS          /* None
    , VIRPOS         /* Virtual

    /* Qualifiers for the Record secondary
    . NONE           /* None
    . CR             /* Carriage return
    . FTN            /* Fortran
    . PRINT          /* Print

    . UDF            /* UNDEFINED
    . FIX            /* FIXED
    . VAR            /* VARIABLE
    . VFC            /* VFC
    . STM            /* STREAM
    . STMLF          /* STREAM_LF
    . STMCR          /* STREAM_CR

    /* Qualifiers for the Journal secondary
    . IF_IN          /* If_in_recovery_unit
    . NEC            /* Necessary_to_write
    . NEVER          /* Never_RU_Journal

    /* Qualifiers for the System secondary
    . IAS            /* IAS
    . RSTS           /* RSTS/E
    . M              /* RSX-11M
    . MPLUS          /* RSX-11M-PLUS
    . RT             /* RT-11
    . TRAX           /* TRAX-11
    . VMS            /* VAX/VMS

    /* Qualifiers for the File secondary
    . SEQ            /* SEQUENTIAL
    . REL            /* RELATIVE
    . IDX            /* INDEXED
    . HSH            /* HASHED

    /* Qualifiers for the Key secondary
    . STG            /* STRING
    . IN2            /* INT2
    . BN2            /* BIN2
    . IN4            /* INT4
```

```
. BN4          /* BIN4
. IN8          /* INT8
. BN8          /* BIN8
. PAC          /* DECIMAL

) equals 0 increment 1 prefix FDL tag $C;

/* Constants for FDLGENTAB

constant(
    FAB
    RAB
    XAB
    NAM

) equals 0 increment 1 prefix FDL tag $C;

constant(
    DUMMY
    BYTE
    WORD
    LONG
    QUAD
    OCTA
    SWITCH
    STRING
    QUALIFIER
    SPECIAL

) equals 0 increment 1 prefix FDL tag $C;

Parse data stuff
/*
These structures must be contiguous so that EDF can access them from
one point. If they need to be changed consult with the owner of edf

FDL$AL_BLOCK:      ctrl      0
                    pcall     1
                    primary   2
                    prinum   3
                    prictrl   4
                    secondary 5
                    secnum   6
                    -----   7
```



```
/*
*/
/** FDL$K_BLOCK_END equals the offset to the last longword in FDL$AL_BLOCK
*/
constant CTRL      equals 0          prefix FDL tag $L;
constant PCALL     equals FDL$L_CTRL + 1    prefix FDL tag $L;
constant PRIMARY   equals FDL$L_PCALL + 1    prefix FDL tag $L;
constant PRINUM    equals FDL$L_PRIMARY + 1  prefix FDL tag $L;
constant PRICTRL   equals FDL$L_PRINUM + 1   prefix FDL tag $L;
constant SECONDARY equals FDL$L_PRICTRL + 1  prefix FDL tag $L;
constant SECNUM    equals FDL$L_SECONDARY + 1 prefix FDL tag $L;

/** FDL$K_SCTRL_LONG is the number of longwords in FDL$AB_SECCTRL
/** FDL$K_SCTRL_VEC is the number of bits in FDL$AB_SECCTRL
/** Each Longword has enough bits to map 32 unique secondary attributes

constant SCTR'_LONG equals 6          prefix FDL tag $K;
constant SCTRL_VEC   equals FDL$K_SCTRL_LONG * 32  prefix FDL tag $K;
constant SECCTRL    equals FDL$L_SECNUM + 1   prefix FDL tag $A;
constant QUALIFIER   equals FDL$A_SECCTRL + FDL$K_SCTRL_LONG prefix FDL tag $L;

constant NUMBER     equals FDL$L_QUALIFIER + 1  prefix FDL tag $L;
constant SWITCH     equals FDL$L_NUMBER + 1   prefix FDL tag $L;
constant OWNER_UIC  equals FDL$L_SWITCH + 1   prefix FDL tag $L;
constant SPARET    equals FDL$L_OWNER_UIC + 1  prefix FDL tag $L;
constant PROTECTION equals FDL$L_SPARET + 1   prefix FDL tag $L;
constant FID1       equals FDL$L_PROTECTION + 1 prefix FDL tag $L;
constant FID2       equals FDL$L_FID1 + 1     prefix FDL tag $L;
constant FID3       equals FDL$L_FID2 + 1     prefix FDL tag $L;
constant DATE_TIME  equals FDL$L_FID3 + 1     prefix FDL tag $Q;
constant STRING     equals FDL$Q_DATE_TIME + 2  prefix FDL tag $Q;
constant COMMENT    equals FDL$Q_STRING + 2    prefix FDL tag $Q;
constant LINE       equals FDL$Q_COMMENT + 2   prefix FDL tag $Q;
constant UPCASED   equals FDL$Q_LINE + 2     prefix FDL tag $Q;
constant STMNTNUM  equals FDL$Q_UPCASED + 2   prefix FDL tag $L;
constant ITEM       equals FDL$L_STMNTNUM + 1  prefix FDL tag $Q;
constant GCALL      equals FDL$Q_ITEM + 2    prefix FDL tag $L;
constant BLOCK_END  equals FDL$L_GCALL     prefix FDL tag $K;

/*
Misc.
*/
/* Max size of the fdl line
constant MAXLINE   equals 1024    prefix FDL tag $K;
constant CLEAR     equals 0      prefix FDL tag $C;
end FDLDEF3;
end_module $FDLDEF3;
```

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