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FFFFFFFFF      IIIIII      LL      EEEEEEEEE     DDDDDDD      EEEEEEEEE     FFFFFFFFFF
FFFFFFFFF      IIIIII      LL      EEEEEEEEE     DDDDDDD      EEEEEEEEE     FFFFFFFFFF
FF            II          LL      EE          DD          EE          FF
FF            II          LL      EE          DD          EE          FF
FF            II          LL      EE          DD          EE          FF
FF            II          LL      EE          DD          EE          FF
FFFFFFFF      II          LL      EEEEEEEEE     DD          DD      EEEEEEEEE     FFFFFFFF
FFFFFFFF      II          LL      EEEEEEEEE     DD          DD      EEEEEEEEE     FFFFFFFF
FF            II          LL      EE          DD          DD      EE          FF
FF            II          LL      EE          DD          DD      EE          FF
FF            II          LL      EE          DD          DD      EE          FF
FF            II          LL      EE          DD          DD      EE          FF
FF            IIIIII     LLLLLLLLLL  EEEEEEEEE     DDDDDDD      EEEEEEEEE     FF
FF            IIIIII     LLLLLLLLLL  EEEEEEEEE     DDDDDDD      EEEEEEEEE     FF

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IIIIII      NN      NN
IIIIII      NN      NN
II          NN      NN
II          NN      NN
II          NNNN     NN
II          NNNN     NN
II          NN  NN   NN
II          NN  NN   NN
II          NN      NNNN
II          NN      NNNN
II          NN      NN
II          NN      NN
IIIIII      NN      NN
IIIIII      NN      NN

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%replace file_constant_size      by 450; /* envir is not included */
%replace file_constant_revision  by 3;

%replace linenumber_offset       by 48;
%replace pagenumber_offset       by 50;
declare 1 file_constant based,
2 next                          pointer,
2 previous                      pointer,
2 error                         fixed bin(31),
2 attr(0:31)                   bit,
2 dttr(0:31)                   bit,
2 buffer                        pointer,
2 buffer_end                   pointer,
2 buffer_pointer               pointer,
2 rfa(2)                       fixed bin(31),
2 revision                     fixed bin(15); /* initialize to file_constant_
                                           revision */

2 linesize                    fixed bin(15),
2 pagesize                    fixed bin(15),
2 column                      fixed bin(15),
2 line                        fixed bin(15),
2 page                        fixed bin(15),
2 prn                         char(4),
2 kcb                         pointer,
2 numkcb                      fixed bin(7),
2 extra(3)                   fixed bin(7),
2 identifier                  char(32) var; /* init to symbol name of file */
2 rab,
3 rab$b_bid                   fixed bin(7); /* init to 1 */
3 rab$b_bln                   fixed bin(7); /* init to 68 */
3 rab$b_isi                   fixed bin(15),
3 rab$l_rop(0:31)            bit,
3 rab$l_sts                   fixed bin(31),
3 rab$l_stv                   fixed bin(31),
3 rab$b_rfa(2)               fixed bin(31),
3 rab$l_ctx                   fixed bin(31),
3 rab$b_extra                 fixed bin(15),
3 rab$b_rac                   fixed bin(7),
3 rab$b_tmo                   fixed bin(7),
3 rab$b_usz                   fixed bin(15),
3 rab$b_rsz                   fixed bin(15),
3 rab$l_ubf                   pointer,
3 rab$l_rbf                   pointer,
3 rab$l_rhb                   pointer,
3 rab$l_kbf                   pointer,
3 rab$b_ksz                   fixed bin(7),
3 rab$b_krf                   fixed bin(7),
3 rab$b_mbf                   fixed bin(7),
3 rab$b_mbc                   fixed bin(7),
3 rab$l_bkt                   fixed bin(31),
3 rab$l_fab                   pointer,
3 rab$l_extra                 fixed bin(31),

2 fab,
3 fab$b_bid                   fixed bin(7); /* init to 3 */
3 fab$b_bln                   fixed bin(7); /* init to 80 */

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3 fab$w_ifi      fixed bin(15),
3 fab$l_fop(0:31) bit,
3 fab$l_sts      fixed bin(31),
3 fab$l_stv      fixed bin(31),
3 fab$l_alq      fixed bin(31),
3 fab$w_deq      fixed bin(15),
3 fab$b_fac(0:7) bit,
3 fab$b_shr(0:7) bit,
3 fab$l_ctx      fixed bin(31),
3 fab$b_rtv      fixed bin(7),
3 fab$b_org      fixed bin(7),
3 fab$b_rat(0:7) bit,
3 fab$b_rfm      fixed bin(7),
3 fab$l_jnl      fixed bin(31),
3 fab$l_xab      pointer,
3 fab$l_nam      pointer,
3 fab$l_fna      pointer,
3 fab$l_dna      pointer,
3 fab$b_fns      fixed bin(7),
3 fab$b_dns      fixed bin(7),
3 fab$w_mrs      fixed bin(15),
3 fab$l_mrn      fixed bin(31),
3 fab$w_bls      fixed bin(15),
3 fab$b_bks      fixed bin(7),
3 fab$b_fsz      fixed bin(7),
3 fab$l_dev      fixed bin(31),
3 fab$l_sdc      fixed bin(31),
3 fab$l_extra(2) fixed bin(31),

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2 nam,

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3 nam$b_bid      fixed bin(7),
3 nam$b_bln      fixed bin(7),
3 nam$b_rss      fixed bin(7),
3 nam$b_rsl      fixed bin(7),
3 nam$l_rsa      pointer,
3 nam$w_extra    fixed bin(15),
3 nam$b_ess      fixed bin(7),
3 nam$b_esl      fixed bin(7),
3 nam$l_esa      pointer,
3 nam$l_rlf      fixed bin(31),
3 nam$t_dvi      char(22),
3 nam$w_did      fixed bin(15),
3 nam$w_did_seq  fixed bin(15),
3 nam$w_did_rvn  fixed bin(15),
3 nam$l_wcc      fixed bin(31),
3 nam$l_fnb(0:31) bit,

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2 esa          char(128),
2 fcb_condit(5) fixed bin(31),
2 fcb_end      fixed bin(7); /* envir starts here */

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```

/* bit offsets for attr */
%replace atr_v_eof      by 0;
%replace atr_v_opened   by 1;
%replace atr_v_comma_exp by 2;
%replace atr_v_recur     by 3;
%replace atr_v_update   by 4;

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```
%replace atr_v_output      by 5:
%replace atr_v_input       by 6:
%replace atr_v_print       by 7:
%replace atr_v_keyed       by 8:
%replace atr_v_direct      by 9:
%replace atr_v_seql        by 10:
%replace atr_v_stream      by 11:
%replace atr_v_record      by 12:
%replace atr_v_scalvar     by 13:
%replace atr_v_app         by 14:
%replace atr_v_recidacc    by 15:
%replace atr_v_indexed     by 16:
%replace atr_v_bfall       by 17:
%replace atr_v_currec      by 18:
%replace atr_v_delete      by 19:
%replace atr_v_write       by 20:
%replace atr_v_app_comma   by 21:
%replace atr_v_blockio     by 22:
%replace atr_v_string      by 23:
%replace atr_v_vcha        by 24:
%replace atr_v_virgin      by 25:
```

```
/* constants and bit offsets for fab */
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```
%replace fab$v_mxv         by 1:
%replace fab$v_sup         by 2:
%replace fab$v_tmp         by 3:
%replace fab$v_tmd         by 4:
%replace fab$v_dfw         by 5:
%replace fab$v_sqo         by 6:
%replace fab$v_rwo         by 7:
%replace fab$v_pos         by 8:
%replace fab$v_wck         by 9:
%replace fab$v_nef         by 10:
%replace fab$v_rvc         by 11:
%replace fab$v_dmo         by 12:
%replace fab$v_spl         by 13:
%replace fab$v_scf         by 14:
%replace fab$v_dlt         by 15:
%replace fab$v_nfs         by 15:
%replace fab$v_ufo         by 17:
%replace fab$v_ppf         by 18:
%replace fab$v_inp         by 19:
%replace fab$v_ctg         by 20:
%replace fab$v_cbt         by 21:
%replace fab$v_jnl         by 22:
%replace fab$v_rck         by 23:
%replace fab$v_nam         by 24:
%replace fab$v_cif         by 25:
%replace fab$v_ufm         by 26:
%replace fab$v_esc         by 27:
%replace fab$v_tef         by 28:
%replace fab$v_ofp         by 29:
%replace fab$v_kfo         by 30:

%replace fab$v_put         by 0:
%replace fab$v_get         by 1:
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%replace fab$V_del          by 2:
%replace fab$V_upd          by 3:
%replace fab$V_trn          by 4:
%replace fab$V_bio          by 5:
%replace fab$V_bro          by 6:
%replace fab$V_exe          by 7:
%replace fab$V_shrput       by 0:
%replace fab$V_shrget       by 1:
%replace fab$V_shrdel       by 2:
%replace fab$V_shrupd       by 3:
%replace fab$V_mse          by 4:
%replace fab$V_nil          by 5:
%replace fab$V_upi          by 6:
%replace fab$C_seq          by 0:
%replace fab$C_rel          by 16:
%replace fab$C_idx          by 32:
%replace fab$C_hsh          by 48:
%replace fab$V_ftn          by 0:
%replace fab$V_cr           by 1:
%replace fab$V_prn          by 2:
%replace fab$V_blk          by 3:
%replace fab$C_rfm_dflt     by 2:
%replace fab$C_udf          by 0:
%replace fab$C_fix          by 1:
%replace fab$C_var          by 2:
%replace fab$C_vfc          by 3:
%replace fab$C_maxrfm       by 3:
%replace fab$C_bid         by 3:
%replace fab$C_bln         by 80:

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```
/* constants and bit offsets for rab */
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```

%replace rab$C_bid         by 1:
%replace rab$C_bln         by 68:
%replace rab$C_seq         by 0:
%replace rab$C_key         by 1:
%replace rab$C_rfa         by 2:
%replace rab$V_asy         by 0:
%replace rab$V_tpt         by 1:
%replace rab$V_uif         by 4:
%replace rab$V_mas         by 5:
%replace rab$V_fdl         by 6:
%replace rab$V_hsh         by 7:
%replace rab$V_eof         by 8:
%replace rab$V_rah         by 9:
%replace rab$V_wbh         by 10:
%replace rab$V_bio         by 11:
%replace rab$V_loa         by 13:
%replace rab$V_lim         by 14:
%replace rab$V_loc         by 16:
%replace rab$V_wat         by 17:
%replace rab$V_ulk         by 18:
%replace rab$V_rlk         by 19:
%replace rab$V_nlk         by 20:
%replace rab$V_kge         by 21:
%replace rab$V_kgt         by 22:
%replace rab$V_nxr         by 23:

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```
%replace rab$y_rne      by 24:
%replace rab$y_tmo      by 25:
%replace rab$y_cvt      by 26:
%replace rab$y_rnf      by 27:
%replace rab$y_pta      by 29:
%replace rab$y_pmt      by 30:
%replace rab$y_cco      by 31:
```

```
/* constants for nam */
%replace nam$c_dvi      by 16:
%replace nam$c_bid      by 2:
%replace nam$c_bln      by 56:
```


