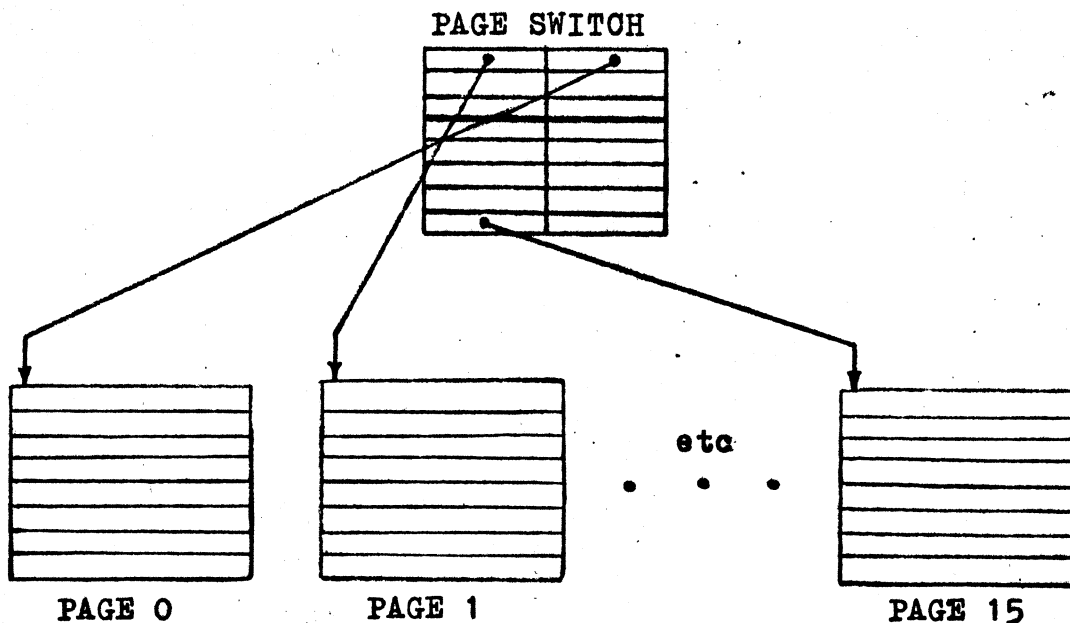


PAGE SWITCH AND POINTER PAGES

7/5/70

ECS (Disk-Data-Structure) version of pointer-block.

A. FORMAT IN ECS



PAGE SWITCH RECORD: 16 DDS addresses (@ 30 bits) of pointer-page records

POINTER PAGE RECORDS: 8 pointers (@ 60 bits) to next level data/pointer blocks

B. FORMAT OF DISK ADDRESSES:

3	4	5	5	7
check sum	unit no	arm pos	head group	sector no

Note: null disk address = 24-bit zero for each block at fixed-disk-address to be deleted at close/pseudo-close time.

C. BLOCK-STATUS FIELD IN POINTERS:

value	meaning
0	block out on disk
1	block cannot be recovered from disk
2	block in from fixed-disk-address
3	block in from swapped-disk-address*
4	block going out to disk
5	block does not exist
6	block coming in from fixed-disk-address
7	block coming in from swapped-disk-address*

*applicable only to data-blocks

Possible data-block situations:

	1	3	8	24	24
type = 0	block status	attach count	swapped disk block addr	fixed disk block addr	

1. Old block is out unchanged:

	0	0	null	addr
--	---	---	------	------

2. Old block is out, unchanged, cannot be recovered:

	1	0	null	addr
--	---	---	------	------

3. Old block is out changed:

	0	0	addr	addr
--	---	---	------	------

4. Old block is out changed and cannot be recovered:

	1	0	addr	addr
--	---	---	------	------

5. New Block is out:

	0	0	addr	null
--	---	---	------	------

6. New block is out and cannot be recovered:

	1	0	addr	null
--	---	---	------	------

7. Old block is in from fixed addr:

	2	≠ 0	addr	addr
--	---	-----	------	------

8. Old block is in from swapped addr:

	3	≠ 0	addr	addr
--	---	-----	------	------

9. New block is in:

	3	≠ 0	addr	null
--	---	-----	------	------

10. Old block has been deleted:

	5	0	null	addr
--	---	---	------	------

11. Block does not exist:

	5	0	null	null
--	---	---	------	------

Possible pointer-block situations:

1	3	14	18	24
type = 1	block status	not used	page switch pointer	fixed disk block addr

1. Old block is out:

	0	/ / / / / / / /	0	addr
--	---	-----------------	---	------

2. Old block is out, cannot be recovered:

	1	/ / / / / / / /	0	addr
--	---	-----------------	---	------

3. Old block is in:

	2	/ / / / / / / /	ptr	addr
--	---	-----------------	-----	------

4. New block is in:

	2	/ / / / / / / /	ptr	null
--	---	-----------------	-----	------

5. Block does not exist:

	5	/ / / / / / / /	0	null
--	---	-----------------	---	------