

Meeting with John Wood White Plains

Nov 18, '58

IDP.

- no big studies yet.

8 factors which will affect computing requirements

(7 of them say larger & faster, 1 doesn't.)

IDP wants to use one machine IBM builds - may need 2, one for  
standby.

1. addition capacity to hold supervisory program. To solve multiprogramming problem.
2. Often a single <sup>input</sup> transaction will be followed thru all the ~~one~~ master records to which it applies. Machine will need programs for all the jobs on hand.
3. Need more redundant equipment to guard against breakdowns (additional computer or extra checking in one computer.)  
~~②~~ - real time requirement -
4. When one has real time ~~off~~ capability many customers will want to make more frequent cycles of same old applications e.g. forecast daily not weekly - more current data.
5. Existence of more current data will bring about new applications & - more detail or scientific management reports
6. Disks & tapes: In an IDP with disks - random access has less compute time between data seeking opn - access is faster so computing must be faster too.

7. Real time - sufficient comp. capacity to handle peak rates just average rates.

(will be in STAFF Report Early Dec will be out  
one to decrease req.)

8. In today's batch processing there are peak loads e.g. payroll at end of week - IDP will tend to smooth out these peaks.

f: Variety of IDP applications.

Made survey of 23 650-Ramrod - <sup>none</sup> ~~not~~ close to IDP

- just replacing disk files for tapes.

- <sup>305</sup> ~~300~~ application are not either

310 probably not unless better data collection system is provided

IDP system will have 3 main sections:

1. Computer

2. I/O

3. Storage - Fast-Random access (faster than tapes)

10C.ms

The above 3 should be coupled as closely as possible. For particular

customer - different configuration - can use any computer!

File control (File will require separate computer for its control (may be 310?))

It may need computer tied to I/O also (STRETCH exchange?)

(File control: 5000 ~~1000~~ character storage, + processing ops.)

Still want access to files even if computer is down.

- also - all info which goes into file must be recorded on tape - to be reconstructed in case of trouble -

Stretch properties:

- facilities for multiprog.

- I/O control words

etc - editing done internally

may come in faster than computer can handle it.

IDP - Feed in from many points - written on tape by processor.

Tape is fed into computer later.

Tape processor would have to have additional stand-by - in case of down  
-- (Stretch couldn't accept if down) --

- auditing - tape serves as record of transactions put into file - imp  
"any old machine" which can read tape or write tape can work  
in the system -- manual switching of tapes in 2k.

Recorder - may not require stored prog as such.

- input comes from remote point (telephone line)

- cards

- drgs.

- manual input

→ phone → incremental

line tape drive - would be ideal.

question of error correction on 2000-X:

7050 - why no checking of arithmetic itself - only check memory

How many errors can IDP stand?

- if check mechanical drives + have solid state.

then ~~exp~~ equipment will be <sup>10<sup>10</sup></sup> times more reliable than  
data being entered - (human errors), so can live with  
this reliability - but can't stand down periods.

IDP methods are more expensive than present methods - but IPP does jobs we can't do now - there must be economies for customer overall. such as decreased stocks + increased efficiency - customer goodwill - etc.

IDP - planning, recording, controlling — (at present we record only)  
SABRE = an IPP - only full scale project at the moment "Too linear" is the excuse.  
SAGE - IDP - military  
bank program - some study of machine use a savings bank.

2 computers e.g. 709 is on same file. Other. Options ?  
how do they change machine?

IDP: computer: essentially batch processing  
perhaps do a search for priority before doing each job from tape. - tape records chronologically only.  
- purely tape fed - print records from disk + tape  
output also tape  
- interrogation to file only - depends on file computer -  
but may have to go thru computer to check all of conditions  
e.g. drawing a tool kit, bonus salary.

Time: Transactions in - several minutes are OK.  
requests - answer in seconds. (not millions)

→ Tape: writing head → reading head (Tape comes as buffer & log)  
1 tape to each telephone line -- may have come into on line.

many remote inputs are typical

350, were specified for Boeing Wichita

(cut to 350 later) proposal is being made, deliver summer '59

40. phone lines

s

[at Seller's Request]  
SE

presently 5 characters per sec is proposed, best we can do now.

- can't justify computer for IDP only - want to be able to use any computer -

Internal characteristics of computer - same as any commercial application s

- Boeing SE project = special small serial card reader - ignores blanks etc.

Question of market above 705?

IDP has not been proved yet.

Special applications field

- smaller systems will be put together & grow.

- in several years will require larger machines - can't justify now,

~~All~~ but know on faith that they will grow.

- market isn't there now (except for special cases) - it will

develop with proof of systems in above cases. - an economic proof.