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Subject: TH AES System – Audit

AES 7300 HARDWARE AND SOFTWARE OPTIONS

Hardware Configuration

- System model AES MULTIPLUS II Model 33 C, 512 kilobytes of memory (256 for programs, 256 for data).
- 2 × 600K floppy disk units.
- One 25 megabyte fixed disk.
- One 25 megabyte removable disk.
- One 15" supervisor screen. Located in TH secretariat.
- Seven 15" secondary screens. Three are located in the TH secretariat, two in EP (L.Breize, G.Fidecaro, C.Wirz) and one in DG (A.M.Bugge).
- One twin-track printer, with soundproof cover and sheet feeder.
- Three model M45 printers (plus ????? in EP).
- One communications controllers.

Operating System and Software

Operating system is 2.1 J which also includes the following functionality :

- At a screen level
 - semi automatic hyphenation
 - multiple tabs and alneas
 - temporary left and right margins
 - sub and super scripts
 - recall of pages...forward and back
 - text move on a page or in a document
 - Flip Screen (available from release 3.2 and on)
- In terms of printers
 - easy access to any printer from any screen
 - change of line spacing (horizontally in 1/60th of an inch, vertically in 1/48th of an inch, according to choice)
 - proportional spacing
 - justification
 - echo mode for the creation of masks
 - printing from disk or screen
- In terms of revisions
 - manual repagination
 - moving, copying or deleting parts of texts
- In terms of system utilities
 - management of disk space
 - disk back – up and recovery utilities
 - on screen help functions

- Advanced text editing functions
 - semi – graphics : lines, bar charts, tables, etc.
 - side by side columns (independent and linked)
 - glossary (standard paragraphs and phrases)
 - proportional spacing
 - password protection of workspaces with 5 levels of access
 - screen sorting of files
 - revision indicators
 - programmable function keys (available from release 3.2 and on)
- Document processing
 - repagination : floating footnotes, headers and footers, section numbering
 - automatic section numbering
 - automatic table of contents creation
 - search and replace...inc.multiple strings
 - listing (merging letters and variables)
 - scientific mode (note also the ability to create a scientific region for easy editing and revision of scientific equations)
- Financial calculations
 - calculator functions : add (vertical and horizontal), subtract, multiply and divide and percentages
 - learn mode for repetitive calculations

Additional software already installed but purchased separately from the basic operating system :

- SP 321 – Change use of language :
 - lets the operator select the language of use...English, French or German. Available for each screen.
- SP 404 – Extended document processing :
 - floating footnotes
 - automatic numbering of pages
 - automatic creation of index of key words
- SP 405 – Data base Management
 - records with fixed or variable zones
 - sorting (with 7 criteria simultaneously)
 - extraction (with 32 criteria simultaneously)
 - report...presentation of results in any desired format
- SP 406 – 2 – Programming language (UPRO)
 - programming of commands with access to all the software
 - execution in foreground or background
 - definition of sub – programmes
 - error detection step by step
 - "IF" statements
 - conditions "less than / less or equal to"/, etc.
- SP 504 – Asynchronous communications
- SP 601 – Spelling verification : English or American
 - 64,000 word main dictionary
 - user dictionary of 3,000 words
 - fast and interactive

Communications

A line to INDEX, used to access WYLBUR, is installed. The start-up time is long, but subsequent reconnections faster. The connection is used for capturing some texts typed on PCs and uploaded to WYLBUR.

A connection to ADP is seen as highly desirable.

Financial Aspects

Non – recurring costs : HARDWARE:

Installed equipment per 18.06.1986					
Prod.	Ser.No.	Purch.Price SFR	Maint/Mth	Install.Date	
1 MULTIPLUS Modell 22 – C (256IM/128DM) mit 2 FD	605811	27000	304	02/12/83	
1 106A	541844	11000	50	02/12/83	
1 106B	540817	11000	99	02/12/83	
1 106B	540821	11000	99	02/12/83	
1 106B	540772	11000	99	02/12/83	
1 106B	540807	11000	99	02/12/83	
1 106B	540831	11000	99	02/12/83	
1 106B	540820	11000	99	02/12/83	
1 106B	541331	11000	99	02/12/83	
1 LMD 16MB	666616	22000	229	02/12/83	
Kommunikationseinrichtung 64K		5000	62	02/12/83	
1 M45	46026	6000	110	02/12/83	
1 M45	46794	6000	110	02/12/83	
1 TT	564984	17000	165	02/12/83	
1 Einzelblatteinzug		2300	26	02/12/83	
1 Einzelblatteinzug		2300	26	02/12/83	
Total Hardware		175600	1775		
– 20 % discount		– 35120			
Total Hardware netto		140480			
1 Doppelblatteinzug 30"		2500	26	28/02/84	
1 M45	52678	5400	110	13/03/84	
1 Einzelblatteinzug		2500	26	13/03/84	
Total Hardware		7900			
1 Ausbau auf 192K DM		4000	26	30/05/84	
1 LMD 50MB	10916	20000	61	24/01/85	
Ruecknahme LMD 16MB	66616				
1 Ausbau auf 256K DM		3000	26	21/03/85	
Overall Totals for HARDWARE		177880	2050		

Non – recurring costs : SOFTWARE:

Installed equipment per 18.06.1986		
Product	Purchase Price SFR	Installation Date
A1 Standardtextverarbeitung		02/12/83
A2 Erweiterte Textverarbeitung		02/12/83
A3 Dokumentverarbeitung		02/12/83
A4 Dokumentverarbeitung Techn – Wissenssch.		02/12/83
B1 Rechnen, Woerterbuch		02/12/83

B2 ErweiterteDokumentverarbeitung		02/12/83
C1 Dateiverwaltung		02/12/83
C3 Anwenderprogrammierung		02/12/83
	8500	
B3b Asynchrone Kommunikation	0	12/12/84
D1 Dokumentmodus	600	21/03/85
D3 Bildschirmsort	600	21/03/85
D4 Spelling	600	21/03/85
	3200	
Overall Totals for Software	11700	

Non – recurring costs : TRANSPORT AND INSTALLATION COSTS:

Installed equipment per 18.06.1986

Approx. 1.5 % of total system cost

Annual costs:

Maintenance (1986) SFr 24600. –

ADDITIONAL FEATURES

At the time of the upgrade to 4.0 software and the 7370 CPU, AES would install the SEM font, which would provide the users with some additional characters which they require. The following description will mean more to the experienced AES users.

- GENERAL ENHANCEMENTS:
 - flip screen
 - swap screen
 - background screen printing
 - simplified opening of zones
 - copy text in the same zone
 - programmable function keys
 - enhanced document mode
 - electronic calendar
 - spread sheet
 - list look up
 - manager mode
- PRINTER ENHANCEMENTS :
 - laser...typeface fonts
 - suppress header/footer
 - print last memorized
 - print underlined revisions
 - print edited pages only
 - format settings in echo
 - block print and offset
- EDITING FUNCTIONS :
 - set/write date
 - convert to upper/lower case
 - overwrite duplicate
 - clear text graphics

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- advanced line drawing : fast draw, join – repeat/duplicate – undo insert/delete/move – character entry – fill
 - CALENDAR :
 - 24 hour support
 - flexible time intervals
 - minor editing
 - automatic update (& undo)
 - faster date/summary select
 - personal global comments
 - global calendar
 - PROGRAMMABLE KEYS :
 - automatic PF key execution
 - keystroke capture
 - file name capture
 - update PF keys
 - delete source files
 - rename output files
 - DOCUMENT PREPARATION :
 - enhanced keep/save
 - enhanced assemble/get
 - advanced document mode II
 - preset parameters
 - advanced page breaks
 - suspend
 - build function : page end handling, paragraphs/texts, variables with prompts, automatic variables
 - LIST LOOK UP :
 - new user interface
 - record update, delete, add
 - field/line duplicate
 - UTILITIES :
 - XP diagnostics
 - daily backups/automatic rainbow
 - repackaged customer utilities
 - modified customer backup
 - LANGUAGE PRODUCTS :
 - fast on – line dictionaries : English, French, German
 - verifier
 - usage alert
 - synonyms
 - integrated functionality
 - word, step or page operation
 - individual user dictionaries

Communications

See the DD AES Audit for information of the communications possibilities that could be installed.

USER COMMUNITY: USAGE, LIKES AND DISLIKES.

In general the users are very happy with the AES system. Main points are:

- very easy to use and “user friendly”.
- a good improvement over a typewriter.
- greek letters and mathematical symbols visible on the screen.
- very pleasant screen (felt to be much superior to the Wang screen).
- printing on large size paper (for some conference proceedings) is possible on the daisy-wheel printers.

Usage

The normal usage of the AES system is:

- Typing, and printing reports. (300 per year, average 15 – 20 pages each, very little reuse of text).
- Arithmetic calculations combined with typing: school fees.
- Handling of simple local data bases (fichiers): names, addresses, phone numbers etc.
- Terminal emulator connection to IBM (Wylbur) for capturing text – rarely used.

Things that could be improved

- The character set offered is far too small for scientific reports. There is a requirement for
 - Script letters
 - Gothic letters
 - Arbitrary overstrikes, adapted to the character being overstruck (e.g. hat over consonants).
 - More mathematical symbolsAES COMMENT : AES is proposing to install the SEM font which will provide a few additional scientific characters.

- Larger storage for documents.

AES COMMENT : The new CPU includes an 85 MB Winchester drive built into the CPU. A second 85 MB drive can be added if necessary.

- Disk backup (to floppy disks) does not work well (slow and aggravating). The upgrade offer includes streamer tape backup.

AES COMMENT : The new CPU includes a magnetic tape drive unit for back – up.

- Graphical possibilities are currently fairly primitive. The new system offers some improvement, but not enough. True graphics is required.

AES COMMENT : AES demonstrated at Swissdata in Bale, the connection of a PC to the 7300. The PC, running CAD software, was used to prepare drawings and other graphical data. The 7300 was used to prepare the textual portions in dual to columns for example. The text and graphics were merged on print – out on the new AES L5 laser printer. See the attached example of the result.

Requirements

- reuse of texts or “throw away” texts: almost exclusively throw away.
- document size (min, max, average number of pages): average 15 – 20
- requirement for
 - National use characters (e.g. accents for French): yes for French, German, Spanish, Italian.
 - Special symbols for $\gamma\rho\epsilon\epsilon\kappa$ and mathematics: yes very much
 - Complex mathematical formulae: yes very much
 - “typewriter” or “typographic” quality text: “typewriter” quality is seen to be sufficient now
 - (automatically generated) table of contents: would be nice
 - index: would be nice
 - footnotes: needed. AES currently offers a very clumsy way of handling these.
 - graphics merged with the text: would be nice, but is not seen as a strong requirement.

AES fulfills the requirements in the following way:

- National use text: The 7300 software is available in many different languages. If Scandinavian characters are required, then the option is available to use a Scandinavian program disk.
- Greek and math symbols: SEM font will provide more but not all the characters needed.
- Typographic quality text: See results from AES L5 laser.
- Table of contents: Already installed.
- Index: Already installed.
- Graphics: Connection of a PC with CAD software permits fusion of text and graphics using the laser printer.

EXPANSION PLANS

There is a proposal to upgrade the current system to the AES 7378 XP system and upgrade the software to version 4.0. The new system can also only support 8 screens and TH wish to recuperate two existing screens. Plans include use of these in the library, in the TH secretariat and for “TH self service”.