

FEATURES ADDED TO UTS BY RELEASE

UTS A00 - Released February 1971

- ⊙ First release of Batch and Time-Sharing System.
- ⊙ Compatible on-line and batch programs, all services to both.
- ⊙ Symbionts for both batch and on-line.
- ⊙ Single file management system integrated.
- ⊙ Terminal job entry.
- ⊙ Shared processors for both on-line and batch; BASIC, FORTRAN, METASYMBOL, EDIT, DELTA, LOAD, LINK, PCL, TEL, CCI.
- ⊙ Performance monitor for data gathering, display, system tuning.

UTS A01 - Released August 1971

- ⊙ Swapping on 7232 and mixed 7232/7212 systems.
- ⊙ COC: Multiple 7611, IBM 2741 support, full duplex paper tape.
- ⊙ HGP reconstruct option for recovery.
- ⊙ Associate/disassociate debugger CALs for ANALZ/DELTA.
- ⊙ Display users keyin.
- ⊙ MONFIX, ALTMON for creation and selection of new monitors at boot time.
- ⊙ BATCH feature improvements: full in !JOB and !LIMIT, binary
- ⊙ LOADER: DELTA symbol tables, overlaid.
- ⊙ PCL: TABs, hex strings, EDIT line numbers, compressed I/O, copy file attributes, copy free tape to double file mark.
- ⊙ SYMCOM: global symbol table building.
- ⊙ 88 SDRs: 81 difficulty, 7 improvement.

UTS A02 - Released October 1971

- ⊙ Maintenance release only - 42 SDRs.

UTS A03 - Released December 1971

- o ~ 74 SIDRs.
- o Improved scheduling algorithm; inactive line timeout, banner for on-line printer output, improved memory usage.

UTS B00 - Released February 1972

- o Features from F01 BTM and DBM.
- o Multi-level indices for keyed files.
- o Sigma 9 support (128K memory maximum).
- o CONTROL, UTSPM, SUMMARY processors for performance monitoring.
- o PCL: R/W accounts, range on COPYALL, REVIEW command, extended file attributes listed.
- o Private disk packs for batch and on-line users.
- o ALLOCAT, non-resident granule allocator.
- o CAL overhead reduced from ~6.5ms to < 3ms.
- o Data attributes for files, fast "TESTFILE" open.
- o New resources in SUPER: RAD and DISK space, tape drives, default expiration date, extended accounting.
- o Accounting: Extended accounting info, disks for installation accounting routines, more data recorded in log, and on job trailer sheet.
- o DRSP, dynamic shared processor replacement capability.
- o COC: type-ahead, half duplex paper tape, transparent I/O mode.
- o SIDRs 105: 54 difficulty, 51 improvement.

UTS B01 - Released April 1972

- o Removal of two page limit on DCBs.
- o 43 SIDRs: 38 difficulty, 5 improvement.

UTS C00 - Released June 1972

- o Remote Batch processing, 7670 (DCT 2000) RBBAT, Work Station definitions.
- o True consecutive files.
- o Device pooling.
- o TEL command abbreviations.
- o 48 SIDRs: 23 difficulty, 25 improvement.
- o MAP processor for loader.

UTS C01 - Released September 1972

- o ANS Tape Labels (DBM ^{equivalent} equipment).
- o Generalized Command Processor interface.
- o EASY, the GE MARK II terminal interface.
- o Faster file open and close.
- o Private pack incompatibility.
- o 123 SIDRs
- o Shared FLAG
- o APL

UTS D00 - Released January 1973

- o Sigma 9 memories larger than 128K.
- o Disk pack swapping.
- o Exit control.
- o Support for 1600 bpi tape and 7260 disks.
- o Extended monitor overlaying.
- o File Management: full granule directories, write-ahead (I/O procees in parallel with user program), no wait I/O honored.
- o Fast file save/restore.
- o 181 SIDRs
- o XDELTA patch space management and symbol definition to avoid absolute patching.
- o DCB validity checks.
- o Installation accounting routine hooks.

FEATURES ADDED TO CP-V BY RELEASE

CP-V A00 - Released August 1973

- o Remote Processing - HASP Multileaving, slave to BM HASP system, stream I/O.
- o Clean format for high speed communication terminals.
- o Symbionts - form alignment and scheduling, multiple copies, Non Control Input (NCTL) files.
- o String and field replacement for BATCH job submission.
- o Generalization of batch resource management.
- o Isolation of system faults to single user - abort with system dump.
- o Completion of I/O Enqueued during system recovery.
- o Fail safe I/O ordering for file directory insertion.

CP-V B00 - Released April 1974

- o Real Time services.
- o IBM 2780 terminal support.
- o Xerox 1200 printer support.
- o Maximum user program size extended to 92K.
- o Disk seek optimization - queue sorted by disk address.
- o Read ahead for sequential file access.
- o Enqueue/Dequeue for coordinating shared use of random files.
- o FREPORT - the file 75 error diagnostic ghost.
- o Run time partitioning of failed devices.
- o Improved single user abort - faster, more cases.
- o Fail save file I/O - order writes to eliminate dangling pointers.
- o Faster ALLOCAT.
- o Faster file management. Associative I/O reduction, AIR, caches directories and CFUs for I/O-less file reads and opens.
- o Monitor size reduced: 60% smaller CFUs, STEP and AIDR/M overlays.

CP-V C00 - Released November 1974

- o Transaction Processing - TIC, TPC, TPG, TPQ.
- o 560 support including 3214 RAD and new tapes.
- o Boot time reconfiguration and device partitioning.
- o Real Time part II. (FIX)
- o File Management: Link fixing ghost, execute only files, shared update for keyed files, redundant directories.
- o Unmapped monitor overlay; MREF mode for easier moves to overlay.
- o Memory and granule cleaning.
- o ELLA, Error Log Lister and Analysis.
- o On-line diagnostic system from diagnostic program.
- o Selective release of shared processor memory based on use frequency.
- o Symbionts: RERUN option, granule count attribute for scheduling, job origin are partition attribute, RBDEV and RBINFO commands.
- o SHOW processor displays on-line users assignments, privileges, resource use, logon data.
- o RMA: ALLOCAT data checksummed, better power-fail-safe.
- o Restricted processor lists for users:
- o Improved operator interface for backup/fill; new commands for FSAVE/FRES.
- o On-line GENMD.
- o 402 SIDRs: 344 difficulty, 58 improvement.

CP-V C01 - Released May 1975

- o Documentation in system source files; EXTRACT program.
- o VOLINIT during CP-V operation.
- o IBM 3270 support
- o FSAVE/RES for private packs
- o One way translated passwords for LOGON.
- o Faster recovery and crash analysis.
- o Batch job queue on cold boot from system residence.
- o New Edit commands.
- o 400 SIDRs.