The implementation of a new Operating System for the ISR Main Computers based on the Cii-Honeywell Bull disks of 10 Megabytes

A new disk file operating system based on a modern Winchester-type disk has been implemented and the real-time kernel of the Operating System suitably adapted.

The new system will allow independence from the ageing Burrough's MS6 disks used exclusively hitherto. Since production of the latter has ceased and a repair after a possible drop-out would be expensive (ca. 13'000.-- SFr./unit) and take about 8 weeks, the new system will enable continuity of ISR operations in the case of one or several Burrough's disks failing.

Due to moving heads the access time of the Cii-disks is larger than for MS6 disks. System throughput will therefore be lower than usual. This reduction has been estimated to about 30% in average. On computer 2, this is practically not noticed at all.

At present the new system is available on Computer 2 only where it runs successfully without fault.

Therefore, should a Burrough's disk on Computer 1 drop out, one of those attached at present to computer 2, may be substituted instead.

Eventually, the new system may also be put onto the Main Computer 1. The usual ISR Control functions (set-up and monitoring) should be performable without noteworthy delay. (To be tested during the summer shutdown.)

The lay-out of information on the new disks is compatible with that used on the Burrough's MS6 disks, i.e. the structure of tracks and blocks on the Burrough's disks is mapped onto the structure of tracks and sectors on the Cii disks.
The new system required numerous auxiliary software to be implemented, such as Coldstarter (Bootstrap) and programs for safe and quick restoring of all necessary information from back-up, file preservation etc.

The new Cii disks are already used since many months as backup medium where they performed excellently.

They will be used now as well as backup medium for the current Cii-disk file storage. This is provided by dual Cii-disk drives and compatible software.

Conclusions

The new Cii-disks do not only permit safe and quick preservation and restoring of computer data (backup) but are now used as current file storage in replacement for the ageing Burrough's MS6 disks whose maintenance may be critical in the future. Using the alternative disk storage the new system may ease continuity of ISR operations.

References

L.A. Tausch, ISR Performance Report (81-4)

"The implementation of the Cii-Honeywell Bull disks as backup medium for the file storage of the main control computers of the ISR.

L.A. Tausch

cc. G. Plass and P.G. Innocenti
ISR Controls File Storage and File Backup on the Main Computer

Link to NORD computers with own file storage

ISR Main Control Computer 1

MS6 disk 1
1.92 MB

MS6 disk 2
1.92 MB

MS6 disk 3
1.92 MB

Current file storage

Interface

Unit 1
D120
Cii Honeywell Bull
10 MB

Backup file storage

Unit 0
D120
Cii Honeywell Bull
10 MB

Alternative file storage

ISR Main Control Computer 2

MS6 disk 1
1.92 MB

MS6 disk 2
1.92 MB

Former file storage

Interface

Unit 1
D120
Cii Honeywell Bull
10 MB

Backup file storage

Unit 0
D120
Cii Honeywell Bull
10 MB

Present file storage

MB = Mega bytes

Fig 1