EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

MEETING ON ARCHIVE SYSTEM

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Abstract

Minutes of a meeting on Nov 19th,1986.

Present: J.Cuperus, G.Daems, P.Martucci, L.Merard, P.Heymans,C.H.Sicard

Purpose: Discuss the restrictions of current archive system and possible solutions

Geneva, Switzerland

1 Current archive system (L.Merard)

For more detail, see PS/CO/Note 83-20.

Archives were planned for storing the machine Set-point, allowing to pass from a working state to another working state, and to prepare beforehand a new operation.

Archives are called in the Starting-up tree, at level 4 , where a Wset made up for these archives is available, together with an associated Nodal file containing the archived parameters, together with global info (Title,comments, PLS User composition).

Archives can be PPM or not, the total number of archives is 16 in the PPM case or 8 in the non-PPM case.

What parameters are stored in the archive depend on a Data-base which describes, for each Eq-Module, several types of equipments. For each type of equipment, one can specify what properties to archive, and in what format (integer,real,binary..).

2 Problems with current system

2.1 Working-set dependence

If a working-set is modified, there is no automatic influence on the corresponding archives.
 The current procedure is that the information on the change is manually transmitted to L.Merard, who calls a special 'Update' program which reformats the archive file (of course filling with zeros for new equipments).

2.2 No adaptation to change in Data-base

If new Eq-modules are added,or some properties are added to the archives, the Data-base must be updated. The effect of this change is that the old archives are not usable any more, except for the adding of new Eq-Module types.

2.3 No access from other programs

The archives are files of Nodal arrays in a special form, which cannot be analysed by other programs (such as Setup?)

2.4 Difficulty of maintenance

The original authors are gone, and the whole system is rather complex to understand, using many special Nodal features. One recent example is that a tentative to copy an archive from a given PLS-user to another user which has different composition may load some power supplies with CCV=0 (on PSB).
 Although the use of such feature was not originally allowed, it is difficult to ascertain if the problem originates in the archive program itself or not.

3 Operational use (G.Daems)

This archive system is used mainly for Ejections (J.Boillot), which are non-PPM. Booster start using it, and also RF-PS.
 P.Martucci points out that they would be useful to store a machine state at end of run (before final MDs), and restore before Setup at next restart.

4 Proposed solution (J.Cuperus)

 See appendix for details.

In summary, and with the warning that this is only a short pre-study, the proposal is as follows:

 -Incorporate the archive Data-base in the central (off-line) one, in relation with the Setup info.

 -Keep current on-line Sintran (Nodal-array) files, but put them
 on *Trees* computer (6Mbytes), expanding them to contain
 the Wset-related info (Fec,EM,Eq,Setupno,Index-in-valarr)
 to improve the Wset- and Database independence.

 -Keep Nodal as the working language, and if speed problem,
 concentrate more the remote-calls.

5 Conclusion

 The future Oracle Data-base will incorporate the Archive D-Base; however, this cannot be expected very soon (6 months) and thus the associated work on archives cannot go faster.

 An estimate on the amount of work needed to apply these ideas must be done (L.Merard, C.H.Sicard), and in particular find out if part of the current programs can be kept.

 In the short term, J.Cuperus will provide a routine to read the date of a Wset's last update. This will be used by L.Merard to issue a warning if one tries to Init with an archive older than the Wset.

 The relation with the Setup (and other similar operational problems) has to be analysed,in order to find if the archives, as they work today, together with Setup, fill the operational needs for all the machine state changes. P.Martucci will work on this and distribute a paper precising his ideas.

 Distribution: List 4a

ARCHIVES   main issues

1 - Use of data-base facilities

2 - Storage of archives in SINTRAN files
or in AD-HOC data-base in single file ?

3 - PPLUS or MODAL (speed versus flexibility)

4 - New archive structure for more
flexibility

5 - Reconcile speed ⟷ flexibility by
optimisation of programs and remote
calls (array calls).

DATA · BASE

EQM-DATA data per equipment

FC	EM	EQ	OBNAME	....	SETUPNO
PS	POW	109	PI.QFM45		90

SETUP data for setup and archive structure

EM	SETUPNO	Data for setup	PROP	M	.....	PROP	M
POW	90	— — — -	CCV	1		CCSACT	3

PROPDESCR description of property attributes

PROP	M	TYPE	VAL	TEXT	------	VAL	TEXT
CCSACT	3	INT	0	OFF		3	ON

WSLIST + WS readout routines for WS description

→ add SETUPNO to WSLIST structure

ARCHIVE STRUCTURE

- general description & comments as in old structure

FC . ARR [M]   M = nr of equ. in WSET

EM . ARR [M]

EQ . ARR [M]

SU . ARR [M]   setup case

IX . ARR [M]   index in value array

VA . ARR [K]   value array

<u>List 4a)</u> *EXM MINUTES DISTRIBUTION*

G. Baribaud, G.P. Benincasa, P. Bobbio, J. Boillot, P. Burla,
R. Cailliau, L. Casalegno, G. Cuisinier, J. Cupérus, G. Daems,
A. Daneels, C. Dehavay, F. Di Maio, A. Gagnaire, F. Giudici,
W. Heinze, P. Heymans, D. Kemp, B. Kuiper, M. Lelaizant, J. Lewis,
E. Malandain, P. Martucci, L. Mérard, N. de Metz-Noblat,
F. Perriollat, J. Philippe, J.P. Potier, U. Raich, J. Redard,
W. Remmer, P. Schenkels, G. Shering, C.H. Sicard, E. Sigaud,
P. Skarek, A. van der Schueren, G. Waters = 37