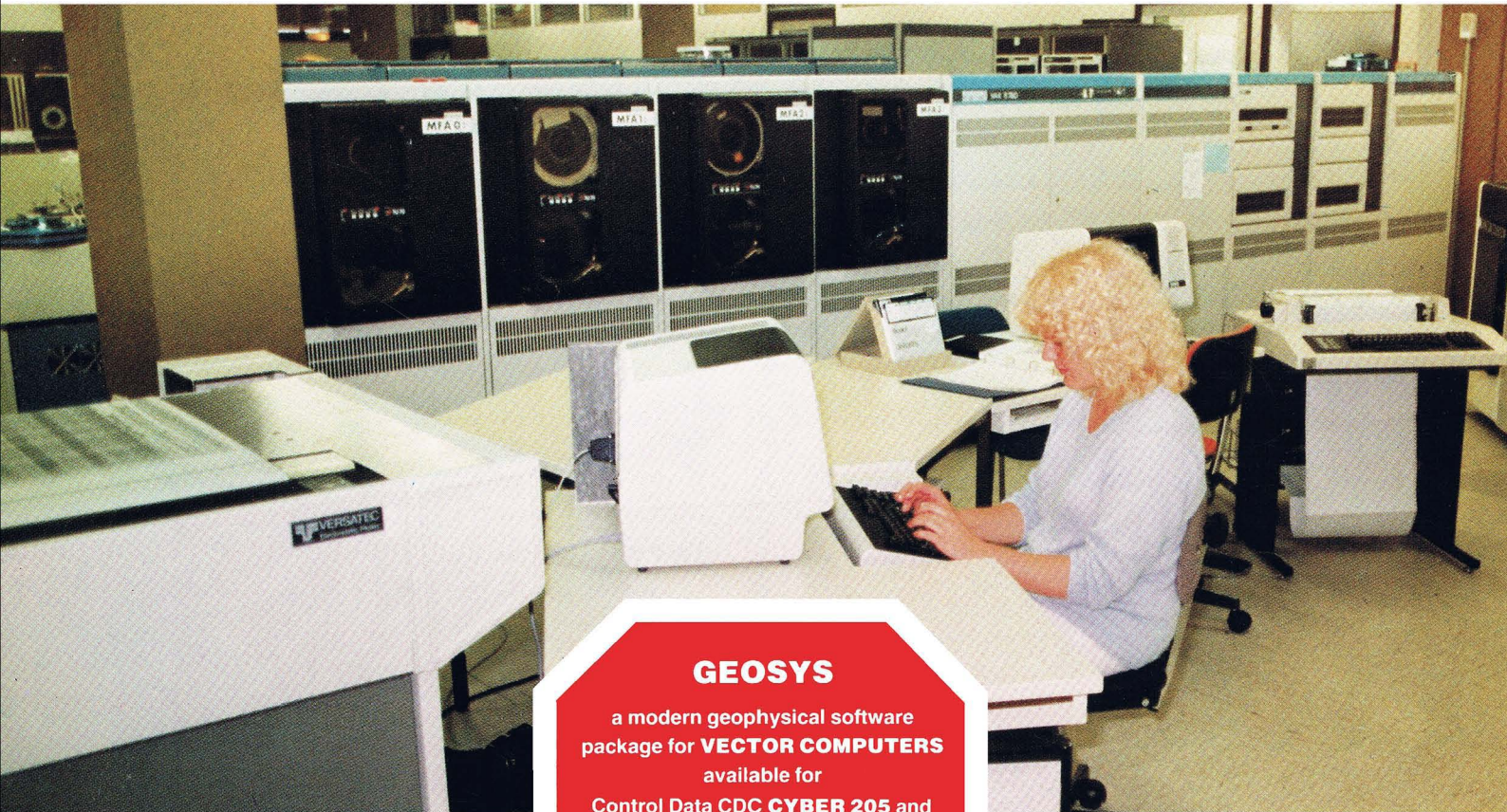


GEOSYS + DATAPLAN

Combined Software Concept for Vector Computers



GEOSYS

a modern geophysical software
package for **VECTOR COMPUTERS**
available for
Control Data CDC **CYBER 205** and
CRAY Research **CRAY** Computers



DATAPLAN

an interactive job management system
available for
VAX and **IBM** computers

GEOSYS + DATAPLAN

A combined software concept specially developed for flexible operations on modern vector computers.

GEOSYS

A modern, highly sophisticated geophysical software package developed particularly for VECTOR Computers such as **CYBER 205** and **CRAY**.

VECTOR Computers are especially equipped to handle the increasing flood of field data with regard to the future.

DATAPLAN

A highly flexible user orientated software package for application on VAX and IBM computers allowing all job management phases from creation to execution.

The strong points of **GEOSYS**

- Sophisticated software
- Eliminates separate auxiliary solutions
- High performance on Vector Computers

The strong points of **DATAPLAN**

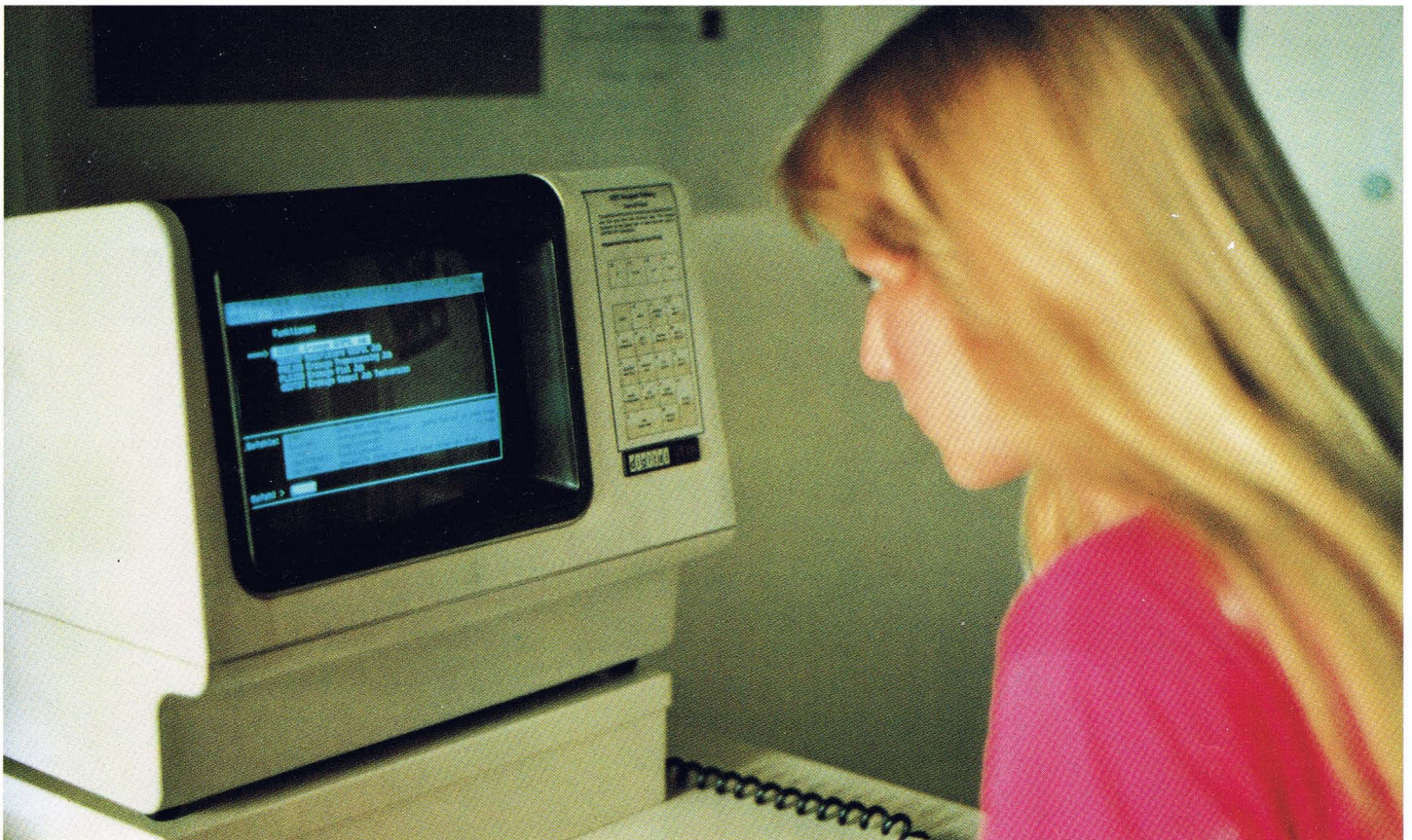
- Simplified handling facilities
- Complete organisation management
- High performance combined with
- High flexibility

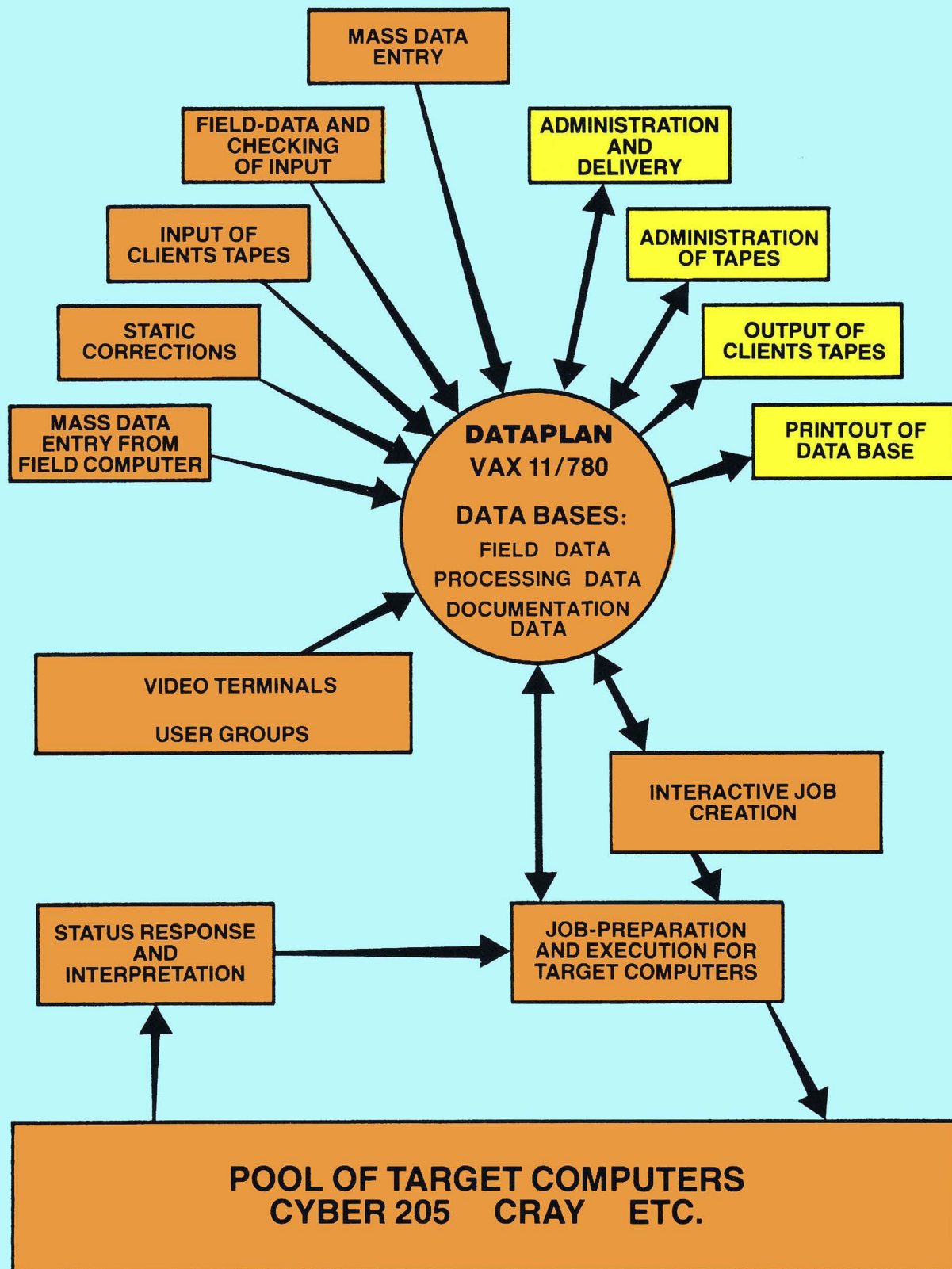
That means for the **USER**:

- More independence
- Interactive communication during all job phases
- Fewer errors

That means for our **CLIENTS**:

- Greater facilities
- Better quality
- Shorter turn-around times



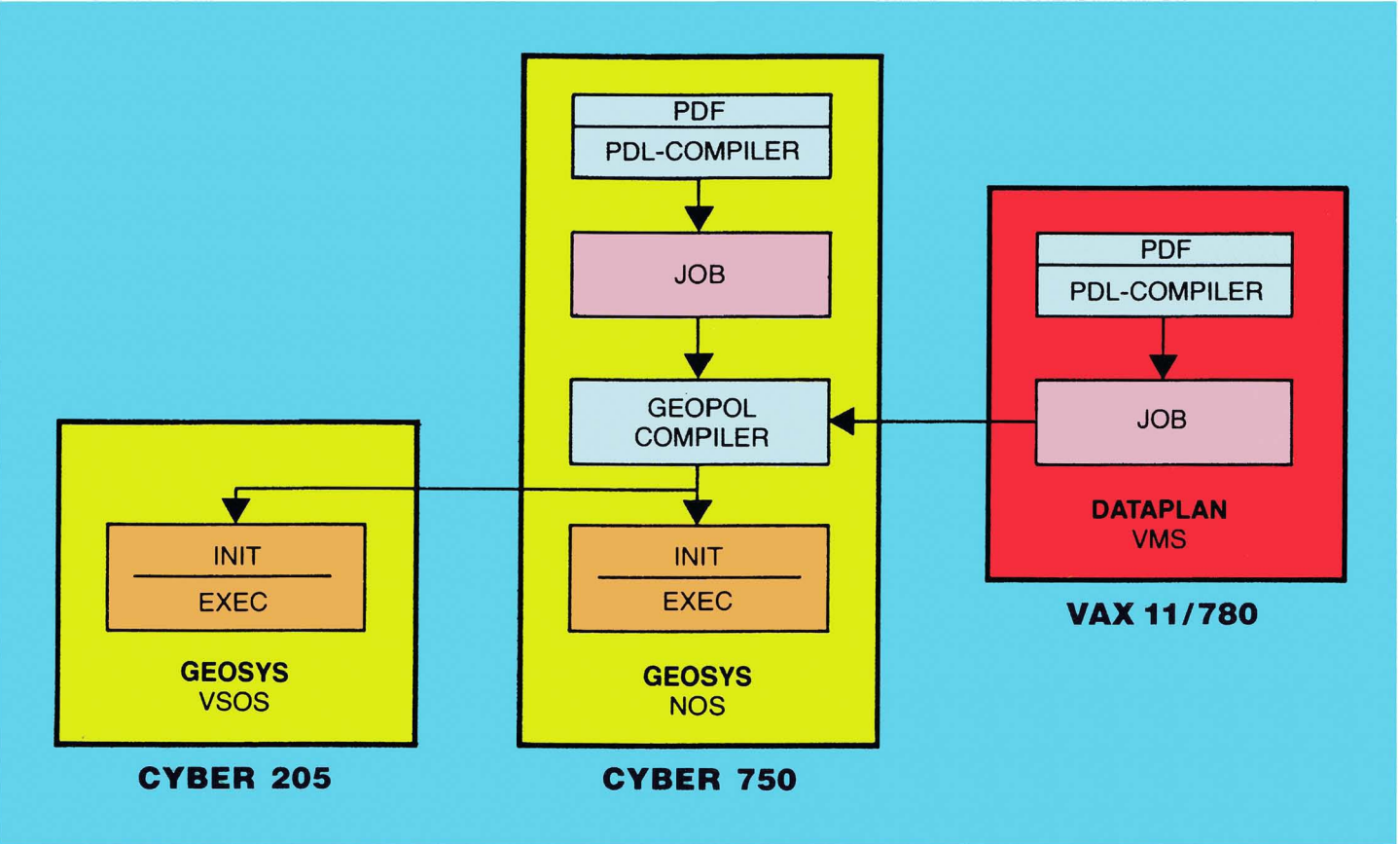


GEOSYS

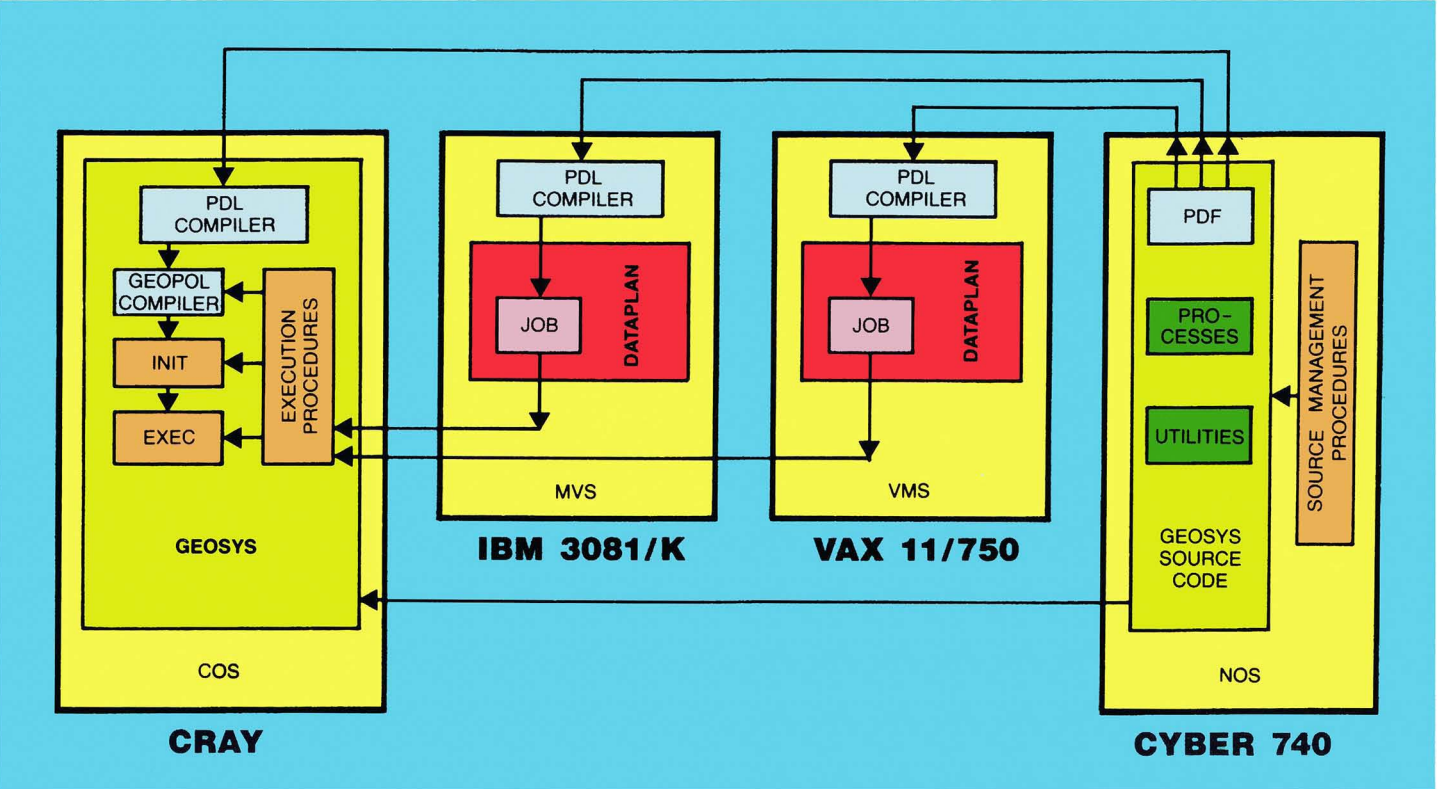
The Geophysical Software Package GEOSYS contains the seismic processing language GEOPOL and has been developed particularly for VECTOR COMPUTERS.

The following charts illustrate the operation of GEOSYS with two different VECTOR COMPUTER systems in a multiframe environment, as realized at the moment.

System for CYBER 205



System for CRAY



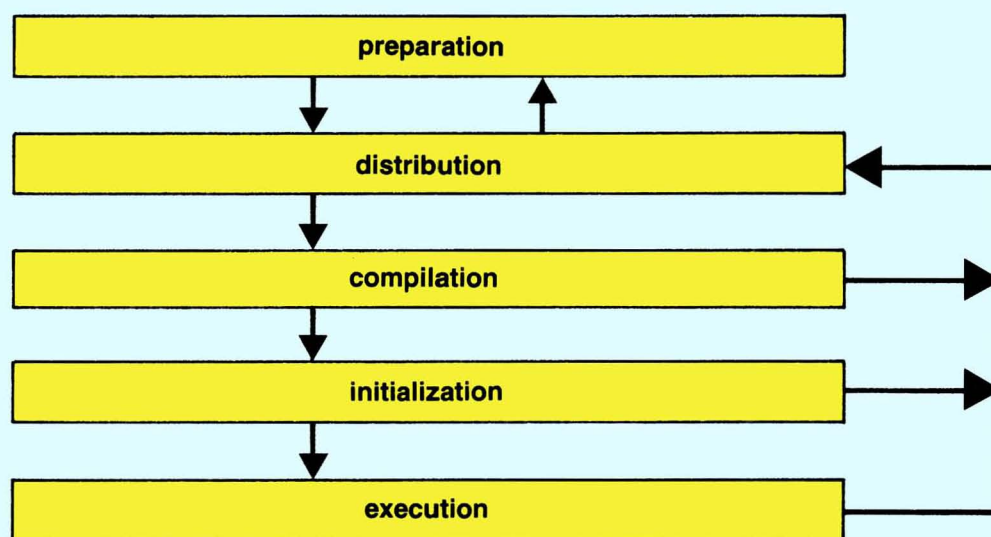
Functional Components

The job processing part of the seismic system consists of five job phases:

- Preparation
- Distribution
- Compilation
- Process Initialization
- Process Execution

Information between each jobphase is exchanged in files.

Phases of Job Processing



During the job **preparation** phase the processing sequence and all necessary processing parameters are defined. The result of this phase is a seismic jobfile formulated in GEOPOL, the seismic processing language.

During the job **distribution** phase the target computer is selected, the target computer dependent control-words, which interface the individual operating systems, are added to the seismic jobfile. The result of this phase is a batchjob ready for compilation.

During the job **compilation** phase the seismic jobfile, written in GEOPOL-source code, is converted to a structure of parameter tables and process control code.

In addition a loadable module is created, which contains a list of all processes needed during the initialization and execution phase.

During the **initialization** phase each process is executed once, to prepare its parameters for the execution phase. The seismic monitor is in charge of providing a process with its parameters from the compilation phase, and maintaining the parameters for the execution phase. The result of this phase is an execution parameter file containing all necessary parameters for the execution phase.

During the **execution** phase the seismic monitor reads the execution parameter file once. Then the monitor interprets the process control code generated during the compilation phase, i.e. the monitor will call and supervise each individual seismic process.

The seismic processes request the actual computation as well as all I/O-activities from subordinate modules.

NOTE

The components "preparation" and "distribution" are also offered with a greater comfort by DATAPLAN.

This software package is designed for application on VAX or IBM Computers allowing job management and creation in processing languages such as PRAKL/GEOPOL, GEOPLAN, SSP 11 and PLOT.

Functional Components

Mass Data Entry

Mass data entry is executed simply, fast and reliably via terminal: simply by a Formular-Management-System, fast by using masks for data input, reliably by checking position, numeric and alphabetic, of data during input.

Several separate functions are available: acquisition, checking and modification of data.

Data Base

The data base consists of three components:

Field-Data Base

Job-Data Base

Documentation - Data Base (processing history and event logging)

Instantaneous checking of the data base is guaranteed via terminal or online printer. By means of special interfaces all connected systems have access to the data base.

Interactive Job Creation

Each user can generate jobs interactively via terminal. During work at the terminal help texts are always available to give information about processes, parameters and terminal use. Each input is immediately checked for syntax and interrelations.

Job Preparation for Target Computer

DATAPLAN System jobs are prepared by "job preparation" for the intended target computer. The most important components are:

1. Input of jobs with a series of attributes e.g. for the target computer
2. Queue generation
3. Tape supply
4. Availability of specific parameters for the target system
5. Output of lists for operating preparation
6. Supply of status of job execution

Tape Administration

Tape administration, a part of DATAPLAN, collects reference data for all tapes used in the data-centre (storage registration and updating).

Documentation

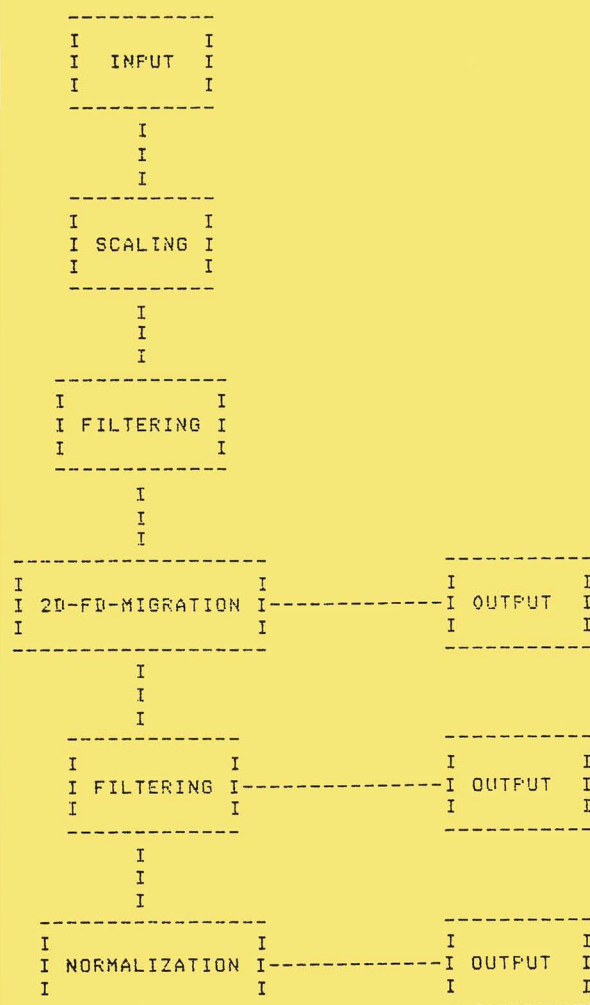
The entire sequence of a project is stored by DATAPLAN.

During job preparation all important steps are stored by event logging, e.g. completion of mass data entry or parameter availability.

During job execution on the target computer the entire processing sequence, including all field data and parameters, is stored.



FLOW-CHART



EXAMPLE

010	GENERAL	B247	1120	GEOPOL	GEOMIG	RTW	ABCD
011	C	CHARGA	CHARGB	PROJA	PROJB	CREW	PASSW
020	LINEPA	123456	163	196	120	207	
021	C	NLINE	SRCHIN	SRCHAX	RCVMIN	RCVMAX	
030		0	0	0	0		
031	C	ZEAST	ZNORTH	DEAST	DNORTH		
040	KEY	CDPX	NO	NO	NO		
041	C	KEYA	KEYB	KEYC	KEYD		
050	PROCPA	4	4000	5000			
051	C	SMPINT	LPROC	LMAX			
060		2	50	1	25		
061	C	CDXMIN	CDXMAX	CDXINC	CDXDST		
070		0	0	0	0		
071	C	CDYMIN	CDYMAX	CDYINC	CDYDST		
080	DIMENS	M					
081	C	DISTAN					
090	SEBYTX	TB200					
091	C	REELN					
100	NORTVA	500	100	3500	1000	9	4000
101	C	TREFFG	LGATEF	TREFLG	LGATEL	FACTRM	DGATED
110	FILTER	4000	0	10	15	60	24
111	C	TREF	LOPER	FREQIW	SLOPIW	FREQIP	SLOPUP
120	MIGLFD	TB240	TB240	40	4000	4	TB280 TB280
121	C	TDETAZ	DELTAZ	NOISFL	TNDISF	DIFMAX	TTRAVI VRMS
130	MGINT	40	40	1	NO	500	
131	C	NTXMIN	NTXMAX	NTXINT	OUTINT	BEGOM	
132	MGVEL	60					
133	C	VELGAT					
140	WRSEGY	TB330					
141	C	REELN					
150	FILTER	4000	0	10	15	60	24
151	C	TREF	LOPER	FREQIW	SLOPIW	FREQIP	SLOPUP
160	WRSEGY	TB370					
161	C	REELN					
170	NORMEA	4000	300	7			
171	C	TREF	LGATE	FACTRM			
180	WRSEGY	TB410					
181	C	REELN					
190	END						
200	TABLE	SEBYTX	90	TB200	0	0	1
210	REELN						
220	1001						
230	1002						
240	TABLE	MIGLFD	120	TB240	1	1	2
250	TDETAZ	DELTAZ					
260	2000	20					
270	4000	50					
280	TABLE	MIGLFD	120	TB280	1	1	3
290	CDPX	TTRAVI	VRMS				
300	4	200	1500				
310		2000	3750				
320		4500	4270				
330	TABLE	WRSEGY	140	TB330	0	0	1
340	REELN						
350	2001						
360	2002						
370	TABLE	WRSEGY	160	TB370	0	0	1
380	REELN						
390	3001						
400	3002						
410	TABLE	WRSEGY	180	TB410	0	0	1
420	REELN						
430	4001						
440	4002						
450	ENDJ						

How easy to use is DATAPLAN?

Different data can be input into the system by MASS DATA ENTRY.

With the DATA BASE you have fast access to field-, processing- and documentation data.

Interactive job creation using different types of processing language is managed by JOB. Jobs for the new system GEOSYS are created by the processing language GEOPOL.

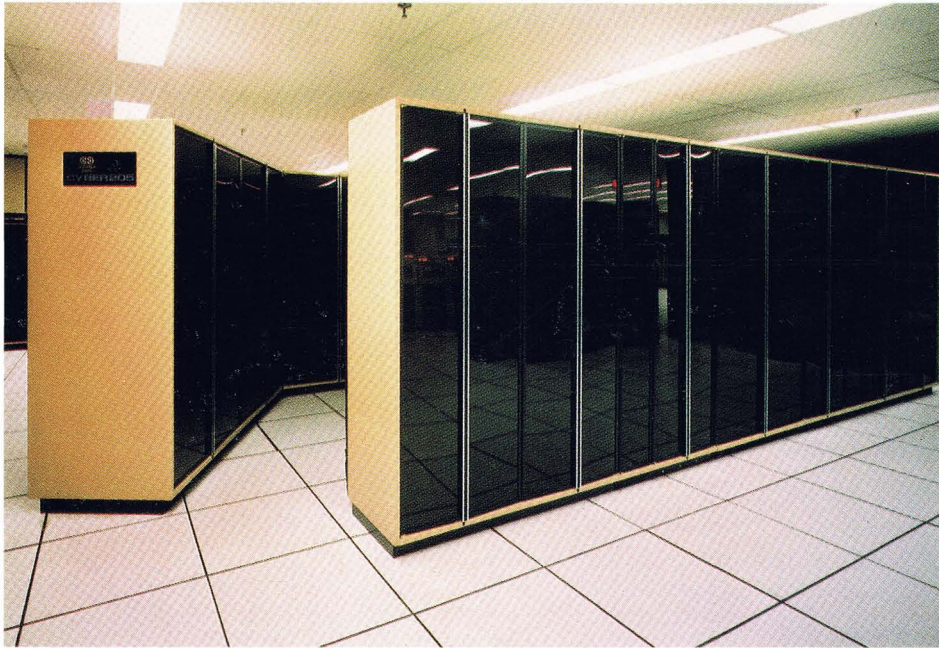
Job creation starts with the appearance of the DATAPLAN-mask on the monitor. First of all the system requests the general line parameters. After parameter input it is up to you, to create a processing sequence, e.g. a migration job as shown above. The generation of this sequence is realized by linear addition of all processes. After each process input

the system asks for the corresponding parameters. Input of these parameters is the only thing you have to do. If you are not sure, look into the help texts. At the end of the processing sequence the system asks for parameter tables and control lists required instead of fixed parameters.

Checking for syntax and interrelations and the numbering of the lines is done by the system automatically. Now your job is ready for the computer.

At this point JOB PREPARATION for the target computer starts to manage your job. The system transmits your job to the target computer and supplies all necessary information to the operator.

After job execution you get all information about the status and documentation.



GEOSYS is available from Control Data on the CYBERNET® Services Network and on CYBER 205 Systems worldwide.*

As part of Control Data Exploration and Production Service in the United States, and through our European Network, CYBERNET Services allows access to the complete GEOPLAN/GEOSYS capability. In addition, GEOSYS is available via sublicense for a customer owned or leased CYBER 205.

* Except France

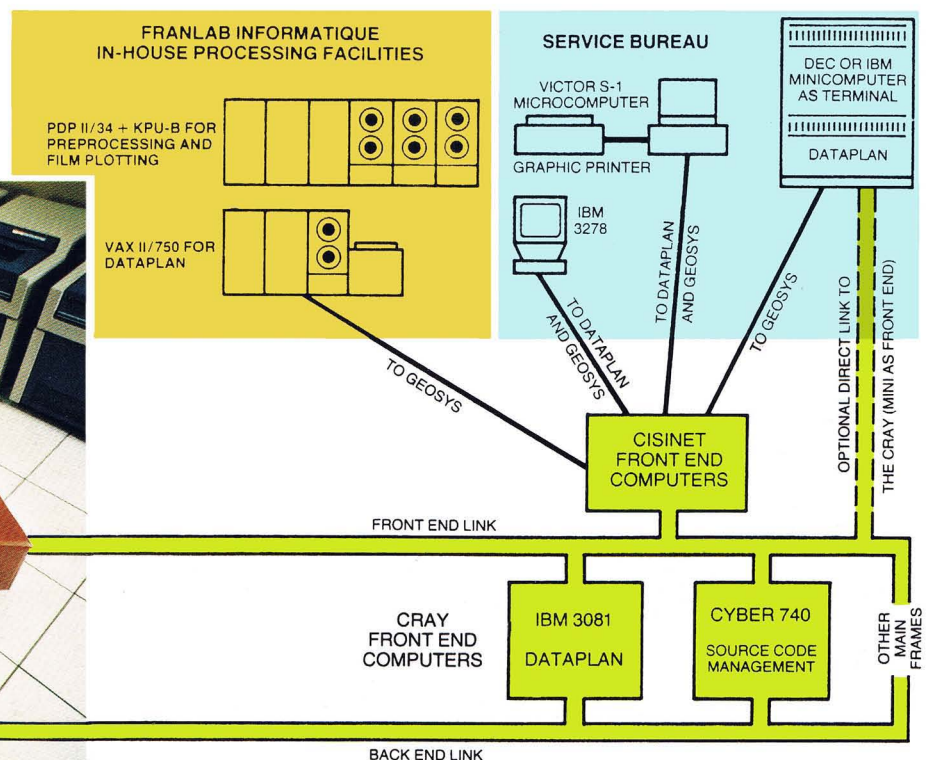
CYBERNET SERVICES



THE CRAY VERSION OF GEOSYS IS FULLY SUPPORTED BY CISI'S SUBSIDIARY



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