

of $\text{T}_{\text{E}}\text{X}$ -DVI files to ECMA/ODA. The software developed by Océ contains:

1. the printer protocol
2. the symbiont
3. the conversion programs
4. the font management tools

1. The printer protocol The Low Level and the High Level Printer Protocol (LLPP and HLPP) take care of the cooperation between symbiont and the IEEE 488 device driver. The printer protocol is used for informing the host about the printer status and setting the printer in a certain status. The font downloading procedures are also implemented in the printer protocol. Other typical tasks of the printer protocol are:

- sending/receiving packets to/from the Océ 6750
- initialize the printer at start time
- converting messages to packets (two way)
- font management

2. Symbiont The standard symbiont of the VAX was not applicable to control the conversion programs and the communication between the user and the printer (two input trays, 20 output bins, setwise, sortwise or personal printing, handle messages coming from the printer etc.). Océ developed a symbiont specially for the 6750. The symbiont controls all the conversion programs and interacts with the job controller. Typical aspects of the symbiont are:

- errorhandling
- starting and controlling the HLPP and conversion programs
- communicates with the job controller
- interpretes the DCL extensions and options
- including burst/flag/trailer pages

3. Conversion programs The conversion programs re-sort under the "umbrella" of the symbiont and take care of several conversions to ECMA/ODA, the input standard of the 6750 laser printer. There are converters for:

LN03 Plus to ECMA/ODA
 Lineprinter to ECMA/ODA
 $\text{T}_{\text{E}}\text{X}$ -DVI to ECMA/ODA

4. Font management tools With an easy to use font-tool it is possible to use Metafont to generate PXL-fonts. These are transformed to the Océ format and can be downloaded to the printer.

The combination of the high quality typesetting program $\text{T}_{\text{E}}\text{X}$, the VAX/VMS computers and the

Océ 6750 laser printer is responsible for producing high quality documents.

If you wish to receive an original set of printouts or additional information, please contact:

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Query

Editor's note: When answering a query, please send a copy of your answer to the TUGboat editor as well as to the author of the query. Answers will be published in the next issue following their receipt.

Output driver for Xerox 4045 on IBM 3090

At Intevp, the Venezuela government research facility for the petroleum industry, we work with several kinds of computers. We have an IBM 3090-200, two VAX 11/780, one Data General MV4000, and 71 Sun Workstations.

We are running $\text{T}_{\text{E}}\text{X}$ on almost all these machines, but especially on the IBM, for almost three years now.

The output from the IBM 3090 is done on an IBM 3820, an IBM 4250, and several QMS 800 laser printers.

Last year we bought 50 Xerox 4045 laser printers for our needs of distributed printing. All our people are asking for a $\text{T}_{\text{E}}\text{X}$ driver for the 4045, for proofing their work. We obtained a driver for a Xerox 4045 connected to the IBM by means of a serial interface, but all our printers have a coax interface to the IBM.

We hope to find someone who has or wants to develop this driver for our environment. The use of $\text{T}_{\text{E}}\text{X}$ in our installation will increase if we can find this driver.

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