

TO: Distribution

FROM: R. A. Freiburghouse

DATE: October 4, 1973

SUBJECT: Language Development Unit Task Reports for September 1973

PL/I An extensively revised optimizer was checked out and installed in the experimental library. This optimizer corrects all known errors in the old optimizer, does a more complete job of common subexpression removal, and reduces the size of the tree.

The commonly used math routines were coded as operators in the operator segment and will be used by PL/I, Fortran, and BASIC. No compiler yet calls them.

Fortran The entire month was spent recoding the run-time I/O routines. The objective of this work is to reduce the number of calls, as well as extend the I/O support to include: direct access I/O, free format I/O, name-list I/O, and to write variable length records using the new Multics I/O system.

BASIC No work done this month. Wolman coded the math routines as operators.

APL One round of editing was done on the user's manual and the maintenance documentation. Both have been returned to Max Smith for review.

IO System The new switch mechanism was coded and tested. Write-arounds were partially coded, and a replacement for file\_ was coded. The replacement for file\_ supports both stream and sequential record I/O.

Signal Rewrite The listener was revised to remove the wall and eliminate the delayed automatic release. The ready message was revised to include the listener level and stack frame number when invoked recursively.

A revised linker that no longer signals conditions to support "trap at first reference" or "trap before link" was debugged.

Fast Belmont spent the month reviewing the PL/I standard. No  
Fortran work was done on Fortran.

Problems The EIS hardware bugs are seriously delaying progress on  
PL/I and Fortran because the newest compiler cannot  
be tested as the experimental compiler. Before release  
we must have time for a full bootstrap and several weeks  
of checkout as the experimental compiler.

Updating of the PL/I language definition is several  
weeks behind schedule due to time spent on other projects.

Plans Continue according to schedule.

PROJECT PL/I

MTR

None

TASK DESCRIPTION	PERSONNEL	START	FINISH	WEEKS	COMPLETION STATUS
Implement decimal arithmetic via EIS	R. Barnes	9/1/73	10/15/73	4	
Implement type 6 links for a\$b	R. Barnes	10/15/73	10/22/73		
Implement support and no-quick-blocks options	R. Barnes	10/15/73	10/22/73		
Implement bool as an operator and allow expression as 3rd argument	R. Barnes	10/23/73	10/29/73		
Implement snap and system options and give proper diagnostic for use of non-condition.	R. Barnes	10/23/73	10/29/73		
fully implement all remaining cases of scaled binary and complex arith.	R. Barnes	10/30/73	11/12/73		
fix major bugs	R. Barnes G. Chang	11/1/73	12/15/73		
implement revised stream scanning rule and revised line-splitting rule	P. Belmont	10/1/73	10/15/73		
fully implement pictured data in stream I/O, and picture formats	G. Chang	10/15/73	11/1/73		
Implement pageno pseudo variable	G. Chang	11/1/73	11/5/73		
Revise "validate" to supply correct standard defaults	R. Freiburghouse	10/15/73	10/30/73		
Revise "attribute parse" to eliminate "connected" and require base reference for "defined"	G. Chang	10/1/73	10/5/73		
Supply a default zero scale factor when result of selected bifs is fixed-point	G. Chang	10/6/73	10/15/73		





PROJECT Multics Fortran

MTR None

TASK DESCRIPTION PERSONNEL START FINISH MEM CHANGES-STATUS

Modify run-time I/O to use new I/O system and support direct, and name-list I/O

D. Levin

9/1/73 9/1/73

4

10/22/73

Don't adjust address of double word data in common, make it packed

D. Levin

10/1/73 10/5/73

Allow identifiers as labels in selected contexts

D. Levin

10/22/73 10/29/73

test I/O with new I/O system

D. Levin

10/30/73 11/5/73

generate operators for math functions

D. Levin

11/6/73 11/22/73



GROUP Language Unit

DATE 9-28-73

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PROJECT BASIC

MTR None

TASK DESCRIPTION PERSONNEL START FINISH WITH CHANGE STATUS

Implement subroutines

B. Wolman

10/1/73 10/15/73

Implement math functions as operators

B. Wolman

10/15/73 10/30/73

Debug

B. Wolman

11/1/73 11/15/73

Write user documentation

B. Wolman

11/15/73 2/15/74

