

To: MTR Distribution

From: Multics General Development Subgroup,
Gary Dixon, Recorder

Date: February 9, 1976

Subject: Subgroup Status for January

I. SUBGROUP MEETING OF JANUARY 22, 1976

A meeting of the Multics General Development Subgroup was held on January 22, 1976. Attendees were: Dennis Capps, Gary Dixon, Txom McGary, Janice Phillipps, Roger Roach, and Frank Smith. The following information about tasks undertaken by the subgroup was presented at the meeting.

A. Consistent System and Janus

1. Txom and Gary are no longer maintaining the Janus bug list. This task turned out to be too difficult for someone with limited Janus experience. They are now fixing bugs in Janus programs. As both are experienced programmers, their work in this area has been much more productive than any of their previous efforts to support the Consistent System. In addition to their bug fixing, they still answer questions about Janus which are received over the Janus/Consistent-System Bug Phone (Telephone no: 253-3195).
2. The above-mentioned change in assignments for Txom and Gary makes it difficult for them to gain a broad experience with the Janus and Consistent Systems. Gaining such experience was one of the goals of their work, so that PDO would have the option of assuming maintenance responsibility for part or all of these systems, should this be desirable in the future. Both PDO and the Overlap Project understand that this future option is being removed by the change in work assignments.

B. New Area Package

Gary discussed problems which can arise in using the new area package, and techniques which can be used to find such bugs. The symptom of such problems is a bad_area_format condition. See Gary if you need further information.

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C. PL/I Compiler Problems

Gary found a problem in the code generated by PL/I which probably cannot be fixed. In a procedure (call it procedure X), a PL/I statement such as:

```
number = convert(number, char_string);
```

or

```
call proc(char_string || char_string);
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will cause the stack frame of procedure X to be extended to hold a temporary value (the converted number which is assigned to the target variable of the assignment statement, or the dummy argument which is passed to the called procedure). If a conversion error occurs in the first statement and the conversion on unit performs a nonlocal goto back to X, or if the called procedure executes a nonlocal transfer back to X, then the storage for the temporary value is not released. The storage remains in X's stack frame until a similar operation which gets and releases temporary space completes successfully, at which time both allocations of temporary space are released. If the conversion operation or dummy argument in the procedure call occur in a loop, then the user's stack can overflow as a result of the unreleased space. Due to difficulties in detecting this situation, this problem will probably not be fixed.

D. Runoff

1. Dennis and Tim have a version of runoff running on OS/370. The version currently resides in the MIT Command library, and accepts both .runoff and .text files as input. Carol Pettijohn is setting up a CLIST to facilitate use of runoff by IPC personnel.
2. Dennis and Tim were unable to reduce the runoff object code to fit in a 128K TSO region. As a result, Tim will modify the OS version to operate in a batch job under MVT. This work should be complete during the third week of February.
3. Tim is writing an OTN/MTN describing how the OS version of runoff will handle the runoff file name given in a .if control line. Both relative names and fully-qualified names must be handled, as well as numbered and unnumbered datasets. In the batch environment, ODNAMES must be handled.
4. Dennis will begin enhancing the performance of Multics runoff on February 1st, 1976. The present Multics PL/I runoff is 10-15% slower than the BCPL version. Dennis hopes to make it just as fast or faster for most runoff files.

E. System Administration

1. Frank has submitted several bug fixes for the new_proj command.
2. Frank has also repaired the clobbered accounting database, which erroneously contained charges for several million extra print lines.
3. Frank modified the estimate_bill command to set the bit count on the .eb_data segment so that the new list command would correctly report its length.

F. Mini-Computers

1. DOS/VS Rev 9 has not arrived yet, so work on that revision has not begun yet.
2. The CAMAC hardware still does not work, so work on CAMAC software is suspended.
3. Hardware connections from Decwriter LA36 terminals to Sloan's PRIME 300 do not work properly. Frank is investigating the proper connection procedure to use. He thinks there may be a pin incompatibility.
4. Frank is studying the feasibility of using the PRIME 300 as an RJE station to the OS/370 MVT system. It would do this while providing time sharing services to the Sloan users. It could replace the REMCOM card reader/printer which is currently used at Sloan. Frank's preliminary study indicates that a faster card reader/printer and more main memory would be needed for the PRIME to handle RJE properly.
5. On a PDP-11/10 computer running RT-11 in the Biology Section of the Department of Nutrition and Food Sciences, Frank installed a BASIC driver program for a Tektronix 4015 graphics terminal. The program provides elementary graphic functions to the user.

G. Tape Support

1. Janice has revised the MTB for tape_in/tape_out, according to the suggestions given at the Design Review. She submitted the MTB along with her MCR calling for installation of tape_in/tape_out. Coding of tape_in/out is currently underway.
2. Janice has almost finished her section of the MTB on tape_ioi_. Ross has designed the error handling strategy for tape_ioi_, and is currently writing this design as his section of the tape_ioi_ MTB. Bill Silver's part of the MTB is also underway.
3. Janice shipped OS/370 support for the spooler to GM for their use.
4. Ross has finished about 60 pages of the tape_ansi_/tape_ibm_PLM, and has submitted them for review by the PLM editor. He estimates that the PLM will be complete by mid-February.

5. Ross has written the code for the copy_file command and is currently typing this code in. He expects the program to be complete by the end of January.

H. Autocall

The Honeywell HSLA board has finally arrived from Phoenix, but no documentation was provided, and no cable between board and telephone facility came with it. Jay expects these problems to be solved within the next few days, and will then begin full scale testing of the autocall code.

J. CPA/PDO Move

Roger announced that CPA will move out of PDOs new quarters by February 19. The quarters will be painted during the week of February 23, and staff will move in during the week of February 28.

II. SUBGROUP MEETING OF FEBRUARY 5, 1976

A meeting of the Multics General Development Subgroup was held on February 5, 1976. Attendees were: Gary Dixon, Janice Phillipps, Roger Roach, and Frank Smith.

Txom McGary did not attend the meeting. Txom asked subgroup members for permission to stop attending MGDS meetings. His Consistent System and Janus work can be reported by Gary Dixon, so he would prefer spending the meeting time working on his various tasks. The subgroup agreed to this request.

The following information about tasks undertaken by the subgroup was presented at the meeting.

A. Autocall

Roger reported that the HSLA is now sending digits to the Bell Automatic Call Unit (ACU), but the ACU is not responding. [Subsequently, the telephone company found an ACU option which was wired incorrectly; correcting this allowed the ACU to respond correctly.] Jay Goldman hopes to have testing complete by February 13, and to have the code installed by the end of February.

Dave Jordan is preparing an MTB describing the Answering Service modifications for Autocall. He will also document the dial facility in this MTB. (His code is integrated with the dial code and the dial code has never been documented.) No PLM documentation effort has been planned for this code.

B. Tape Support

1. Ross Klinger has finished the copy_file (cpf) command, and will submit it for installation soon.
2. Ross has completed about 70 pages of the tape_ansi_/tape_ibm_ PLM, and now expects to complete this work by the end of February
3. Janice is coding tape_in/tape_out.
4. Review by Ross and Bill Silver of Jan's part of the tape_loi_ MTB is one half complete. Her work highlighted the need for several changes to the tape_loi_ interfaces. She hopes that the entire tape_loi_ MTB can be published soon.

C. Consistent System and Janus

1. Txom continues to find and fix bugs in Janus. He is also involved in checkout of the newest version of Janus, in which the size of the Master Janus database was reduced from 200 pages to about 40.
2. Gary continues his work on the Janus retrieve (values from storage) programs. His checkout should be completed this week or next.
3. Ed McCabe of the Overlap Project plans to have Txom and Gary get a broad exposure to Janus internals by having Txom and Gary work their way through the Janus system fixing bugs and testing; Txom is starting from the command environment side of the system, and Gary from the storage side; they will meet in the semantic analysis modules of the command translator.

D. System Accounting

Frank reports that the January bills ran without any problems, so we seem to have debugged the accounting system for the time being.

E. Mini-Computers

Frank reports that DOS/VM Rev. 9 for the PRIME came without the Bisynch support. He has started work integrating our mods into the system. He hopes that, when the Bisynch support code arrives, it will not conflict with our mods.

E. IICS

Frank reports that a user of TICS (Teaching Interactive Computer System) called about getting several TICS bugs fixed. Frank is investigating the severity of these bugs. PDD has assumed some sort of maintenance responsibility for TICS, although the amount of support we can provide is unclear at this time.

G. Runoff

1. Roger reports that Dennis Capps and Tim Dempsey are trying to reduce the size of the runoff/OS load module by eliminating certain numeric conversions which invoke a large (~15K bytes) library conversion routine; eliminating the use of RDMS loa_ (~12K bytes) by using PL/I string concatenation instead.
2. Dennis is writing an input canonicalization routine to standardize the text formats which runoff/OS must deal with. This canonicalization is handled automatically on Multics when a file is entered, but no such service is available under TSO. Question: should canonicalization be incorporated into the TSO editor (or into TCAM)?
3. Tim is working on the batch compatibility routines for runoff/OS. He must write routines to parse input arguments and to replace dynamic dataset allocation, neither of which are available in the batch environment. He was hoping to use Dennis Linnell's modified version of the MVS/TMP to handle argument parsing, but Linnell left MIT without documenting his code.

Dennis expects to complete his work on runoff/OS by February 13. Tim expects to complete his work by February 27, and to have runoff/OS submitted for installation one week later. An OTN/MTN describing the changes made to runoff for OS should be submitted for publication by February 9.

III. NEW PROJECTS BEING CONSIDERED

The MGDS is considering two new projects in the Multics System Accounting area. The first is a program to subtract inactive users from the PNT, storing records for these users in a secondary file for one year or so before actual deletion. Inactive users are those not registered in the PDT's of any project. Frank Smith is evaluating this project and will make recommendations at our next meeting. This is a problem IPC has asked us to solve.

The second new project is a program to clean up the ACL on project administrator control databases; only people currently listed as project administrators should appear on these ACLs.

There are currently about 100 entries on each ACL. Frank Smith will be writing this program sometime.

IV. MEETING CHANGES

The MGDS has decided to hold its meetings at 11:00 AM, instead of at 10:30. Meetings are currently being held in the War Room (39-440).