File - Multics
AI351

INTERDEPARTMENTAL

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Subject: Selection of an IOM Interface for use with the follow-on IMP Interface

Rick Gumpertz has undertaken the design of an IMP interface for the follow-on as a project for subject 6.274. It is expected that the interface will be designed and debugged (at least in prototype or breadboard form) by the end of the current term, approximately 15 December. It has been decided to design this interface to work with Common Peripheral Channels, rather than with a PSIA. If you know of any reason why this decision cannot be successfully implemented or is highly inappropriate, please let me know as soon as possible.

Two of our requirements for the interface are: the transfer rate to and from the IMP is expected to be under 100 KB/S; and, the interface is to be full duplex, that is, we desire the capability of transmitting data in both directions (read and write) simultaneously.

The decision to use Common Peripheral Channels (note that two are required for true full-duplex operation) was based upon: discussions, rumored properties of the CPC and PSIA, attempts to read EPS documents, envisioned complexity or difficulty of implementation of the interface, etc. Some of the specific points are listed below. If any of our assumptions are incorrect, please let me know.

1. The Common Peripheral Channel provides a logically simpler interface than does the PSIA.
2. It is unlikely that we could obtain a PSIA by 1 December, as required for debugging.
3. An interface using the PSIA could never be placed in service in the current GIOC Multics system, even for test purposes.
4. There are no PSIA's available for test purposes on the Development IOM at 545 Technology Square.
5. The required Common Peripheral Channels may have already been ordered.