2. The General Transaction of Input-Output


See also section 0.2.2.


2.1 Philosophy and Organization


Standard ITS input-output has been organized with such goals as symbolic device independence, no required buffering in the user's core image, simple unit (character, word, vidisector point, etc.) mode transfers available along with block at a time transfers which greatly reduce overhead by reducing the number of system calls. Each procedure has associated with it 20 input-output channels (but see section 2.6). Each of these channels stores information for a transfer in one direction and mode between the program and a file on a device with which the channel was associated by the execution of a .OPEN [Sec 2.2]. Items are then transmitted over the channel by the execution of .IOT's [Sec 2.3]. This association may be terminated by a .CLOSE [Sec 2.7.1] or another .OPEN on the same channel.

Most data transfers directly to or from symbolic ITS devices [App C] are effected to or from buffers in system memory. In the case of major file devices (DSK and UTn) these buffers are dynamically allocated from free memory by ITS [Sec 4.3]. The additional overhead required to transmit data between a user's core image and the system's buffer as compared with a system having direct