

more cost effective solution can be found by using dedicated mini-computers. A feasibility study performed on the Import Licensing System determined that savings estimated at \$1,000,000 a year could result from converting that system to run on a minicomputer purchased by the Department. The recommendation of this feasibility study is now being considered by Treasury Board.

Many users are also demanding better access to corporate systems such as PMIS and FMS. There is also a general realization that there may be potential benefits to the integration of computer telecommunications and office automation technologies which could result in a single work station providing capabilities for all three technologies. This concept has been employed to some extent in the GRID and Mitel Kontakt systems and has been strongly promoted both in the trade and the popular press.

A summary of the computer hardware and software utilized by each group of applications is shown in Figures 2 and 3.

#### 4.7.4 GENERAL REQUIREMENTS

Given the increasing cost of software as the major component of computer systems, the availability of the most appropriate software should be the main criterion in the choice of hardware.

Technology adopted for the Department should provide appropriate levels of security as follows:

- Layers of security implemented allowing segmented access to material;
- to ensure both a high degree of control and an appropriate level of security the storage of classified or sensitive material should be on the host machine only. There should be no capability for it to be stored at an individual work station.
- access to data should be on a strict "need to know" basis.
- all equipment that accesses, stores or transports classified data must be secure.

Work stations used by management should have multi-functional capability to allow managers universal access to all applications and information that he/she has the right to access. The major limitation in this regard will be the extent to which this can be made possible given the security requirements of the Department.

All work stations should be selected from an approved hardware selection list to minimize the proliferation of incompatible equipment and systems.

Operating systems, used on any computer system within the Department, should be compatible to the extent possible given the availability of local support and the unique processing requirements at specific Posts.

Data base systems should be standardized to CODASYL specifications to increase the possibilities for data sharing and to minimize maintenance and support costs.

Telecommunications networks should support a variety of protocols: asynchronous, synchronous, and packet, and provide access to external data bases available commercially or elsewhere within the Federal Government. The telecommunications network should provide all the levels of security consistent with the requirements of the host and work station computer systems. The telecommunications network for the Department should interconnect Posts and HQ for the transmission of both fully secure and administrative data. Accomplishment of this goal would, however, require additional resources.