1044. Software

1. "Software" specially designed or modified for the "development", "production" or "use" of equipment or "software" embargoed by 1041 or 1044;
2. "Software" specially designed or modified to support "technology" embargoed by 1045;
3. Specific "software", as follows:
   a. Operating system "software", "software" development tools and compilers specially designed for "multi-data-stream processing" equipment, in "source code";
   b. "Expert systems" or "software" for "expert system" inference engines providing both:
      1. Time dependent rules; **and**
      2. Primitives to handle the time characteristics of the rules and the facts;
   c. "Software" having characteristics or performing functions exceeding the limits in Category 5 ("Information Security");
   d. Operating systems specially designed for "real time processing" equipment which guarantees a "global interrupt latency time" of less than 20 µs;

1045. Technology

1. "Technology" according to the General Technology Note, for the "development", "production" or "use" of equipment or "software" embargoed by 1041 or 1044;
2. Other "technology", as follows:
   a. "Technology" for the "development" or "production" of equipment designed for "multi-data-stream processing" where the "CTP" exceeds 120 Mtops;
   b. Technology "required" for the "development" or "production" of magnetic hard disk drives with an "MBTR" exceeding 47 Mbit/s.

Technical Note on "Composite Theoretical Performance" ("CTP"):

Abbreviations used in this Technical Note:

"CE"	"computing element" (typically an arithmetic logical unit)
FP	floating point
XP	fixed point
t	execution time
XOR	exclusive OR
CPU	central processing unit
TP	theoretical performance (of a single "CE")
"CTP"	"composite theoretical performance" (multiple "CEs")
R	effective calculating rate
WL	word length
L	word length adjustment
*	multiply

Execution time 't' is expressed in microseconds, TP and "CTP" are expressed in millions of theoretical operations per second (Mtops) and WL is expressed in bits.

Outline of "CTP" Calculation Method

"CTP" is a measure of computational performance given in Mtops. In calculating the "CTP" of an aggregation of "CEs" the following three steps are required:

1. *Calculate the effective calculating rate R for each "CE";*
2. *Apply the word length adjustment (L) to the effective calculating rate (R), resulting in a Theoretical Performance (TP) for each "CE";*
3. *If there is more than one "CE", combine the TPs, resulting in a "CTP" for the aggregation.*

   Details for these steps are given in the following sections.

Note 1:

For aggregations of multiple "CEs" which have both shared and unshared memory subsystems, the calculation of "CTP" is completed hierarchically, in two steps: first, aggregate the groups of "CEs" sharing memory; second, calculate the "CTP" of the groups using the calculation method for multiple "CEs" not sharing memory.

Note 2:

"CEs" that are limited to input/output and peripheral functions (e.g. disk drive, communication and video display controllers) are not aggregated into the "CTP" calculation.