CLAIMS

1. A method of facilitating memory access, comprising steps of:

responsive to executing a Modify PCI Function Controls (MPFC) instruction that specifies a handle for locating an adapter, a pointer for locating one or more translation tables and a format for selecting a translation format of a plurality of available translation formats, setting a translation format, associated by way of the handle, with an adapter;

responsive to receiving a request from the adapter, obtaining at runtime an indication of the translation format to be used in providing an address usable in accessing memory, said translation format being pre-registered for the adapter, the request having an initial address to be used in providing the address usable in accessing memory; and

determining the direct memory access (DMA) address usable in accessing memory based on the obtained translation format and the initial address, the initial address generated by the adapter; and

storing or fetching adapter data at the DMA address.

2. The method of claim 1, wherein the plurality of available translation formats includes one or more of the following formats: a selected central processing unit dynamic address translation (CPU DAT) compatible format, a chosen input/output (I/O) extended address translation format which uses one or more extended address translation tables, a bypass format in which address translation is bypassed, or a no fetch format in which no address translation tables are fetched.

3. The method of claim 2, wherein the obtaining obtains an indication that the translation format is the bypass format, and wherein the determining determines that the address usable in accessing memory is the initial address, responsive to the translation format being the bypass format.

4. The method of claim 3, wherein the bypass format is selected based on the adapter being a trusted adapter.

CLAIMS

1. A method of facilitating memory access, comprising steps of:

responsive to executing a Modify PCI Function Controls (MPFC) instruction that specifies a handle for locating an adapter, a pointer for locating one or more translation tables and a format field that indicates a selected translation format of a plurality of available translation formats, setting a translation format to the selected translation format, associated by way of the handle, with an adapter;

responsive to receiving a request from the adapter, obtaining at runtime an indication of the translation format set by the MPFC instruction to be used in providing an address usable in accessing memory, said translation format being pre-registered for the adapter, the request having an initial address to be used in providing the address usable in accessing memory; and

determining the direct memory access (DMA) address usable in accessing memory based on the obtained translation format and the initial address, the initial address being generated by the adapter; and

storing or fetching adapter data at the DMA address.

2. The method of claim 1, wherein the plurality of available translation formats includes one or more of the following formats: a selected central processing unit dynamic address translation (CPU DAT) compatible format, a chosen input/output (I/O) extended address translation format which uses one or more extended address translation tables, a bypass format in which address translation is bypassed, or a no fetch format in which no address translation tables are fetched.

3. The method of claim 2, wherein the obtaining obtains an indication that the translation format is the bypass format, and wherein the determining determines that the address usable in accessing memory is the initial address, responsive to the translation format being the bypass format.

4. The method of claim 3, wherein the bypass format is selected based on the adapter being a trusted adapter.