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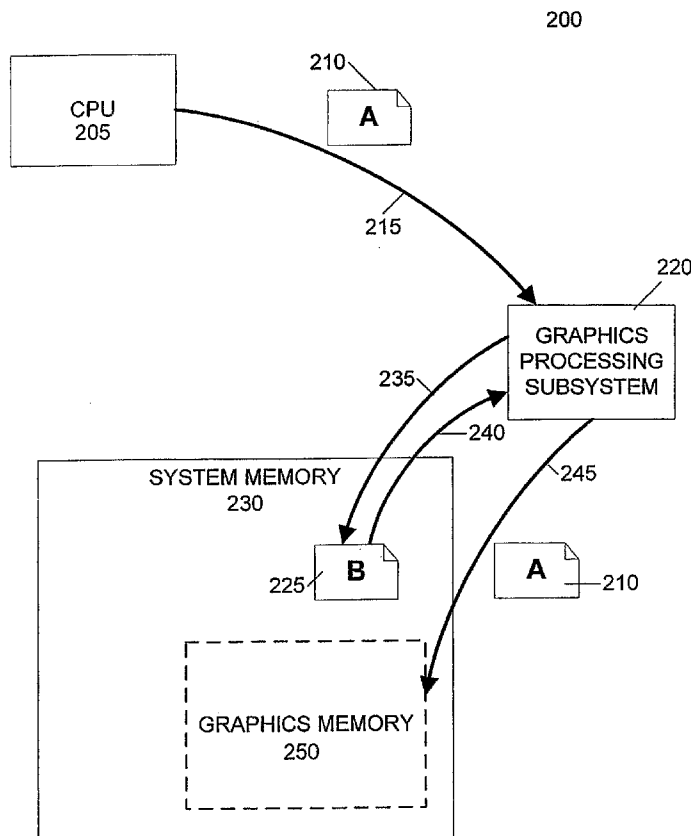
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(54) Title: GPU RENDERING TO SYSTEM MEMORY



(57) Abstract: A graphics processing subsystem uses system memory as its graphics memory for rendering and scanout of images. To prevent deadlock of the data bus, the graphics processing subsystem may use an alternate virtual channel of the data bus to access additional data from system memory needed to complete a write operation of a first data. In communicating with the system memory, a data packet including extended byte enable information allows the graphics processing subsystem to write large quantities of data with arbitrary byte masking to system memory. To leverage the high degree of two-dimensional locality of rendered image data, the graphics processing subsystem arranges image data in a tiled format in system memory. A tile translation unit converts image data virtual addresses to corresponding system memory addresses. The graphics processing subsystem reads image data from system memory and converts it into a display signal.

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