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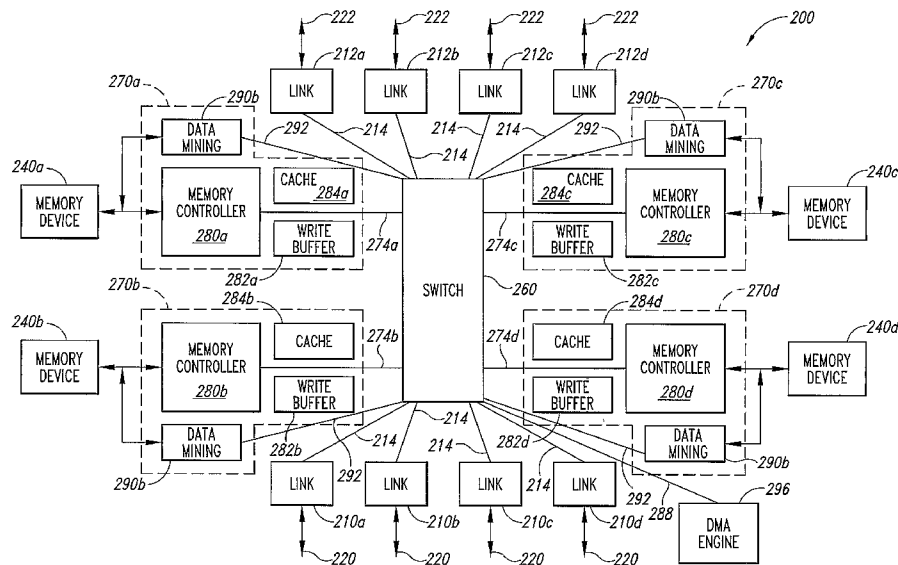
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(54) Title: MEMORY MODULE AND METHOD HAVING ON-BOARD DATA SEARCH CAPABILITIES AND PROCESSOR-BASED SYSTEM USING SUCH MEMORY MODULES



(57) Abstract: A memory module includes several memory devices coupled to a memory hub. The memory hub includes several link interfaces coupled to respective processors, several memory interfaces coupled to respective memory devices, and a cross-bar switch coupling any of the link interfaces to any of the memory interfaces. Each memory interface includes a memory controller, a write buffer, a read cache, and a data mining module. The data mining module includes a search data memory that is coupled to the link interface to receive and store at least one item of search data. A comparator receives both the read data from the memory device and the search data. The comparator then compares the read data to the respective item of search data and provides a hit indication in the event of a match.

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