A METHOD AND SYSTEM FOR OPTIMALLY ISSUING DEPENDENT INSTRUCTIONS BASED ON SPECULATIVE L2 CACHE HIT IN A DATA PROCESSING SYSTEM

ABSTRACT

A method for optimally issuing instructions that are related to a first instruction in a data processing system (100) including a primary (118) and secondary (116) cache is disclosed. The method and system (100) comprises speculatively indicating a hit of the first instruction in a secondary cache (116) and releasing the dependent instructions. The method and system (100) includes determining if the first instruction is within the secondary cache (116). The method and system (100) further includes providing data related to the first instruction from the secondary cache (116) to the primary cache (118) when the instruction is within the secondary cache (116). A method and system in accordance with the present invention causes instructions that create dependencies (such as a load instruction) to signal an issue queue (144) (which is responsible for issuing instructions with resolved conflicts) in advance, that the instructions will complete in a predetermined number of cycles.

Fig 3