VLIW: Advantages

• Pure VLIW machines do not need complicated logic to check for dependencies
• Eliminates complicated instruction scheduling and parallel dispatch associated with superscalar approach
• Compiler is critical to performance: better compiler technology can result in improved performance on the same hardware
VLIW: Disadvantages

• Increased code size due to empty “slots”
• Increased memory bandwidth (IBM prototype has 759-bit instructions)
• Compiler is critical to performance: must do all dependency resolution
• Cache misses in one pipeline will force all pipelines to stall in a “pure” VLIW machine
• Actual hardware “shows through” – source recompile needed to run on new machine