Critique for paper “Multiplex: Unifying Conventional and Speculative Thread-Level Parallelism on a Chip Multiprocessor” presented by Mr Ashok.

Pros:
1. The approach tries to alleviate individual problems caused by the current methods of thread level parallelism.
2. Along with TLP, data communication and coherency issues are also addressed.
3. Due to adaptive nature, even uniprocessor applications may perform well, by selecting implicit threads during runtime.
4. The authors displayed the results using available compilers and current benchmarks (in 2001), which shows that this method suits well for applications whose source is freely available to be recompiled for required target architecture, without modification.
5. The proposed system looks quite good candidate for scalability for larger number of processor cores.

Cons:
1. The method relies on totally new compiler architecture for best results due to explicit and implicit TLP combined, thus it involves total recompile of existing applications.
2. The memory overheads in caches, and even capacity problems may not be completely eliminated when there are larger segments with un-analyzable code.
3. This approach will be a problem for non-opensource applications, as they cannot be recompiled.
4. Implicit mode relies on speculative execution, which is not good considering the power consumption overhead it presents, and this combined with an out of order execution core and increased chip utilisation due to TLP, can impose limitations on system designs.