

Study Questions

“User-level Interprocess Communication for Shared Memory Multiprocessors”

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1. Describe the costs associated with (traditional) kernel-level ipc. Which of these costs can the URPC mechanism reduce?
2. Under what circumstances will a client “loan” or “donate” an allocated processor to a server in URPC?
3. What problem with the 2 level thread scheduling model does URPC solve? In other words, how does URPC significantly optimize thread scheduling in the 2 level model? (I think this is one of the main contributions of the paper – pwh)
4. LRPC (a precursor to URPC) actually migrates a client thread to the server to complete a cross-address space call. What are the arguments for and against this technique?
5. Is the URPC mechanism “less safe” than kernel-level ipc? In other words, is it easier for a malicious program to subvert a URPC-based program?