Locally accessible information: How much can the parties gain by cooperating? Piotr Badziąg¹, Michał Horodecki², Aditi Sen(De)², and Ujjwal Sen² ¹ Department of Mathematics and Physics, Mälardalens Högskola, S-721 23 Västerås, Sweden,

abstract We investigate measurements of bipartite ensembles restricted to local operations and classical communication and find a universal Holevo-like upper bound on the locally accessible information. We analyze our bound and exhibit a class of states which saturate it. Finally, we link the bound to the problem of quantification of the nonlocality of the operations necessary to extract locally unaccessible information.