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D. Jacob Wildstrom* (dwildstr@erdos.math.louisville.edu), Department of Mathematics, 328 Natural Sciences Building, University of Louisville, Louisville, KY 40292. *Cost parameterization in dynamic location problems*. Preliminary report.

Real-time relocation of resources on networks have been studied with several different constraints on resource mobility and remote service. For any given graph, this online problem raises two questions: first, how much future knowledge is necessary to respond optimally, and second, absent sufficient knowledge, how inefficient is the best possible request-response strategy? We investigate the behavior of both these parameters, in particular the second, under a cost model in which the ratio between remote service cost and movement cost is parameterized. For any given graph, with respect to the parameter, we observe that the competitive ratio between an online and offline algorithm is a piecewise rational function with transitions at rational values of the cost parameter. (Received September 04, 2007)