Dominating a graph using both nodes and edges

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The problems of dominating a graph with the smallest number of nodes (a gamma-set) as well as the smallest number of edges (paired-domination) have been well studied.

Here we consider the possibility of having both $K_1$ 's as well as $K_2$ 's available and finding the minimum number in total required to dominate a graph. If there are several such smallest sets we wish one with the fewest $K_2$ 's. Preliminary results based on an undergraduate research project will be described.