A high performance haptic system should provide both stable and realistic interaction to users. In order to improve system stability, virtual couplings have been used in order to separate the haptic display from virtual environment simulations. A static virtual coupling can improve system stability but unfortunately degrades realistic performance of the system. This improved concept named adaptive virtual coupling is designed such that its parameters can be adjusted to maximize realistic performance while ensuring stability. The experimental result indicated that with adaptive virtual coupling users could feel more realistic interaction than the existing static virtual coupling method.