This paper proposes the notion of “critical cluster” in inverter based droop controlled microgrids, thus representing the neighborhood of the distributed generation units that determines the small signal stability margin of the entire system. The clustering starts from the lowest impedance electrical connection between distributed generators, termed as “critical line”. At first, the systematic study of few similar microgrids by means of the eigenvalue analysis of their small signal models reveals the correlation between the location of their dominant low frequency modes and the individual connections between neighboring inverters. Second, the sensitivity analysis of active power droop gain with respect to network parameters confirms the previous findings and shows the dominating effect of the critical line's impedance. Simulations and small signal analysis studies assess the impact of the choice of various interconnection points when two individual droop controlled islanded microgrids are connected to form a single microgrid. At the same time, simplified models on the basis of critical clusters allow the effective approximation of the stability margin corresponding to the original systems. The results reveal that different interconnection points lead to strong variations in the performance of the coupled microgrid both in terms of transient response and small signal stability.