The interaction potential \( W \) between nanoparticles coated with ligands containing ionizable end-groups are shown to influence the charge regulation of the functional end-groups as their separation \( D \) decreases. This induces an asymmetric distribution of charged end-groups, and confers a preferred directionality in nanoparticle-nanoparticle interactions to avoid an increase in counterion confinement (condensation) in the region between nanoparticles. The fraction \( f \) of ionized groups depends on ionic strength, pH value, \( D \), ligand length and grafting density.