A thorough investigation of the Bethe-Salpeter equation in Minkowski space for a two-fermion bound system, within a novel approach based on the Nakanishi integral representation of the Bethe-Salpeter amplitude, has lead to single out the light-cone singularities plaguing the analytic treatment. In turn, this has allowed to extend also to this case a care full quantitative studies of both binding energies and light-cone valence distributions. Our recent results will be illustrated together with a comparison with the existing calculations carried out in both Euclidean and Minkowski spaces.