A novel criterion for brittle fracture of entangled polymer liquids is presented: Crack initiation follows from rupture of primary C-C bonds, when the strain energy of an entanglement segment reaches the energy of the covalent bond. Thermal fluctuations lead to a short-time concentration of the strain energy on one C-C bond of the entanglement segment, and the chain ruptures. This limits the maximum achievable stretch of entanglement segments to a critical stretch of \( f(c) \).