When is a quasi-uniformly continuous real-valued function on a quasi-uniform space bounded?

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It is well known that all quasi-uniformly continuous real-valued functions on a totally bounded quasi-uniform space are bounded. Note however that there exist quasi-uniform spaces with this property that are not totally bounded, that is, a quasi-uniform space with no unbounded quasi-uniformly continuous functions need not be totally bounded. In this talk, we give a necessary and sufficient condition that will allow all quasi-uniformly continuous real-valued functions on a quasi-uniform space to be bounded. We conclude the talk by giving analogous results for quasi-proximity spaces.

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