Tychonoff space

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Related topic	NormalTopologicalSpace
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Defines	Tychonoff
Defines	completely regular
Defines	completely regular space
Defines	Tikhonov
Defines	Tychonov

A topological space X is said to be *completely regular* if whenever $C \subseteq X$ is closed and $x \in X \setminus C$ then there is a continuous function $f\colon X \to [0,1]$ with $f(x) = 0$ and $f(C) \subseteq \{1\}$.

A completely regular space that is also `http://planetmath.org/T0Space`T_0 (and therefore `http://planetmath.org/T2Space`Hausdorff) is called a *Tychonoff space*, or a $T_{3\frac{1}{2}}$ *space*.

Some authors interchange the meanings of 'completely regular' and '$T_{3\frac{1}{2}}$' compared to the above.

It can be proved that a topological space is Tychonoff if and only if it has a Hausdorff compactification.