The equivalence of the net & open-filter process and the open C*-filter process of compactification.

The Open C*-filter Process: For each $f$ in $C^*(X)$, there exists a real number $r(f)$ such that for any finite subset $H$ of $C^*(X)$, the finite intersection $T(H,t)$ of the inverse images of open interval centered at $r(f)$ with radius $t$ of $f$ for $f$ in $H$ is non-empty. The collection of all finite intersection $T(H,t)$ for any finite subset $H$ of $C^*(X)$ and any positive real number $t$ is called an open C*-filter base. An open filter $P$ containing some open C*-filter base is called an open C*-filter. Let $X_0$ be the collection of all open nhood filters $N_x$ at $x$ for all $x$ in $X$, where $N_x$ and $N_y$ are different if $x$ and $y$ are different in $X$. Let $Y$ be the collection of all open C*-filters that do not converge in $X$, and $Z$ the union of $X_0$ and $Y$. For each non-empty open set $U$, let $S(U)$ be the collection of all open C*-filters $P$ in $Z$ such that $U$ is in $P$. Equip $Z$ with the topology induced by the collection of all $S(U)$ for all non-empty open sets $U$ in $X$. Let $h$ be the function from $X$ to $Z$ mapping $x$ to $N_x$ for all $x$ in $X$. Then $(Z, h)$ is a compactification of $X$. The Net & Open-filter Process: See AMS ABSTRACTS p.136 (993-54-25), V.25, No.1, Issue 135. Conclusion: The net & open-filter Process and the open C*-filter process of compactification of an arbitrary topological space $X$ are equivalent. (Received September 27, 2005)