1096-08-231 **Arthur D. Grainger*** (arthur.grainger@morgan.edu), 1221 Staint Andrews Way, Baltimore, MD 21239. *The Cardinality of* $\beta_A(S_J)$.

Let J be infinite and let $I = \mathcal{P}_f(J)$. Define $S_J = \{(i, f) \mid i \in I,\ f : \mathcal{P}(i) \to \mathcal{P}(i)\}$. For $(i, f),\ (k, g) \in S_J$, define $f * g : \mathcal{P}(i \cup k) \to \mathcal{P}(i \cup k)$ as follows. For $x \in \mathcal{P}(i \cup k)$, let $(f * g)(x) = g(x)$, if $x = \emptyset$; let $(f * g)(x) = g(x \cap k)$, if $x \cap k \neq \emptyset$; let $(f * g)(x) = f(x)$, if $x \in \mathcal{P}(i \backslash k)$ and $x \neq \emptyset$. Define $(i, f) * (k, g) = (i \cup k,\ f * g)$. $(S_J, *)$ is a semigroup. We consider $(\beta S_J, \circledast)$, the $Stone-\check{C}ech$ Compactification of the semigroup $(S_J, *)$ The collection $\{\beta_A(S_J) \mid A \in \mathcal{P}(J)\}$ is a partition of βS_J and the cardinality of $\beta_A(S_J)$ is $2^{2^{|J|}}$. (Received August 21, 2013)