Let $G$ be a subset of the dual of a real Banach space $X$ and $F \subset G$. Then $F$ is a James boundary of $G$ if each $w^*$-continuous linear functional on $X$ attains its supremum over $G$ on an element of the set $F$. We ask whether a norm bounded subset of $X$ which is countably compact for the topology generated by $F$ is necessary sequentially compact for the topology generated by $G$. The main content of our work is a positive solution to this problem. As a corollary we obtain James characterization of weakly compact subsets of a real Banach space. Due to the Eberlein-Šmuljan theorem a positive solution to the so called boundary problem is shown as a special case of the affirmative answer to the question raised above. The question is further discussed for a case of Banach spaces defined over the complex field. In this case we cannot use the old definition of the James boundary but by a "natural" way it is possible to redefine the term James boundary and then we are able to answer our question positively again.