Methods and systems are provided for tracking object instances stored on a plurality of network nodes which tracking enables a global determination of when an object has no references across the networked nodes and can be safely deallocated. According to one aspect of the invention each node has a local object store for tracking and optionally storing objects on the node and the local object stores collectively share the locally stored instances of the objects across the network. One or more applications e.g. a file system and/or a storage system use the local object stores for storing all persistent data of the application as objects.