Introduction

When a user creates an HDF5 file, the HDF5 library requests file space to store information called metadata. Metadata is information that the library uses to describe itself and to identify its associated objects. When the user writes data to HDF5 objects, the HDF5 library requests file space to store the user’s raw data as well as the necessary metadata. However, when the user *removes* HDF5 objects from the file, the reverse happens: the library releases the corresponding file space.

The HDF5 library employs several methods when allocating file space and tracking the released free space. As the user manipulates objects in an HDF5 file, free space released at different points may cause holes of varied sizes in the file. These holes may lead to storage and performance issues. The HDF5 library provides several means for users to manage HDF5 file space to meet their specific needs.