Accelerating Parallel Write via Deeply Integrating Predictive Lossy Compression with HDF5

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Key Components
- HDF5 VOL Connector
- Prediction model for lossy compressors
- Scheduling algorithms
- Other specific designs: overflow control, fine-grained compression, buffering, shared Huffman tree

Overlap compression to I/O
- Estimate the offset of write operation
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### Limitations and Future Works
- Predictions can be inaccurate; system can create uncertainty
  - Accurate prediction or more tolerant system design
  - Uncertainty analysis
- Not user friendly

### Additional Components
- Offline profiling
- User-defined error bound (eb)
- Adaptive error bound selection module
- Additional config file (e.g., H5Dwrite())
- New API