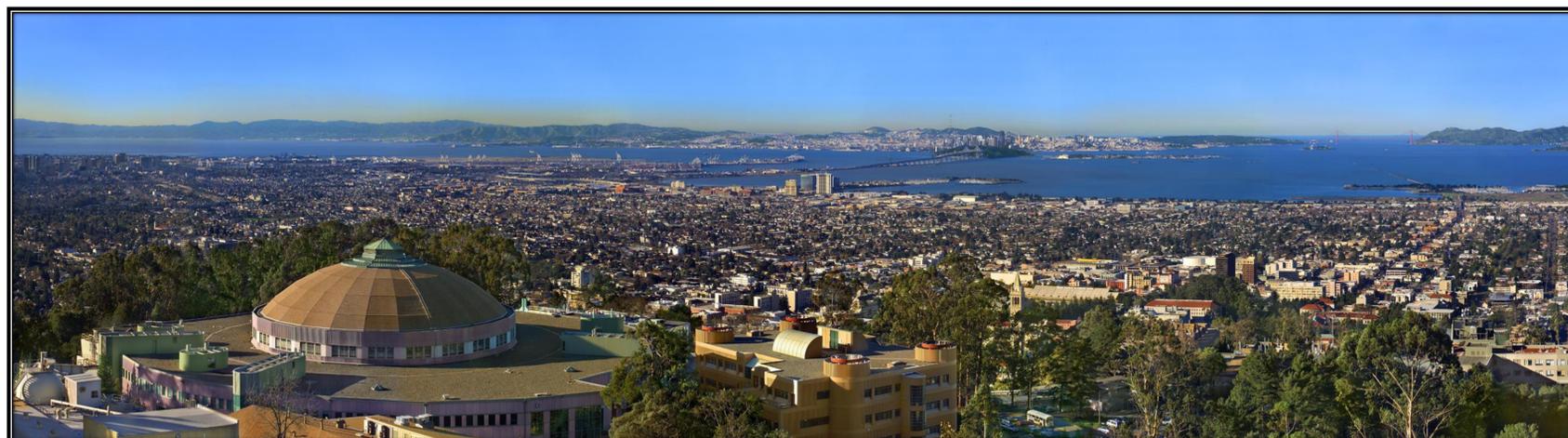
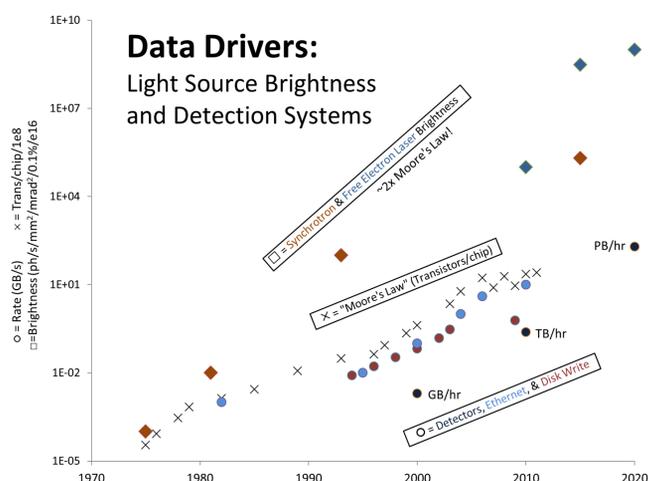




Towards an end-to-end solution for light source data



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Due to increases in light source brightness and in detector speeds, data at light sources is being generated at unprecedented rates. At the hard x-ray microtomography beamline of the Advanced Light Source (8.3.2), it is common to generate >1 TB of raw data per day.

The approach for data processing and analysis has been to copy raw data to a workstation and perform the work one data set at a time, often including significant amounts of user interaction at each stage of the process. For current data rates, this has become unfeasible for many users of the facility.

SPOT Suite is our attempt to develop an end-to-end solution for light source data. Data is suitcased at a Data Transfer Node at the beamline, and moved to NERSC for HPC storage and archiving. A prompt analysis pipeline is automatically launched to carry out data processing, including tomographic reconstruction. A web-based portal can be used to access the data, and to launch additional processing tasks on NERSC.

