



# I/O Traces, Tools and Analysis

SNIA IOTTA Technical Work Group



## SNIA IOTTA TWG

- Formed in 2003 to address the issue of researchers using **old** traces
- Establish a place to pool traces and tools for sharing across industry and academia
  - World-wide Trace Repository



## Goals

- World-wide Trace Repository
- Recommend format for I/O traces
- Recommend semantics for I/O traces at various levels
- Tools for traces in the recommended format
  - Collecting, reading, replaying, analysis...



## Where we are today

- SNIA Technology Center providing resources for trace repository
  - Starting with a few terabytes for storage, with possibility for growing to hundreds
  - Depending on load, downloads will be available from a site hosted by the SNIA Tech Center, or DVDs will be mailed



## Where we are today

- Traces we have
  - HP block, NFS, system levels (1990-2005)
  - DFS system level (1991)
  - Sprite (1990)
  - Harvard NFS (2000)
  - Berkeley Auspex NFS (1993)

**Any we're missing???**



## Where we are today

- Trace format
  - HP DataSeries (compressed format)
  - Open source tools for reading/writing
- Trace semantics
  - Initial ideas on block and system level traces



## What we want to do

- Start acquiring more traces
- Recommend format/semantics for traces and convert existing traces
- Find/develop tools for collecting traces in recommended format for different I/O levels and platforms
  - Probably through sourceforge



## What we want to do

- Investigate trace sanitization methods necessary to acquire more traces from industry
- Recommend standards for traces through standards organizations





## What you can do to help

- Tell us what you would like to see, what kind of information you need for your experiments
- Contribute traces, encourage others to contribute
- Critique and contribute to recommending formats, semantics, collection tools
- Contribute/develop tools for traces
- **Participate** in IOTTA TWG
  - All it takes is a call every other week!  
(Thursdays 1pm PST)