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# VMS systems – new T4 viewer

A new open source T4 viewer,  
by Paul Dolan of Feasible IT

Connect Germany 2021 online conference

Colin Butcher CEng FBCS CITP

# Motivation

- Looking at cluster-wide performance
- Six-way shadow sets with “rotating members” for backup and data copy purposes
- Testing system behaviour with simulated inter-site link distances
- Needed a way to easily compare different test runs
- Needed a way to see effects of shadow copy in an eight node cluster
- Needed a way to understand IO behaviour in a high write rate database environment

# Features

- Open many T4 data files simultaneously
- Open all types of T4 data files at the same time (eg: storage IO behaviour: COMP + FCM + HBMM + WBMM, etc.)
- Look at composite data (eg: shadow devices and shadowset member devices)
- Handle changing shadowset memberships
- Look at multiple days
- Look at several “time windows”
- Save “recipes” for ease of use

# Examples: Shadow sets description

Shadow Set Mount Summary

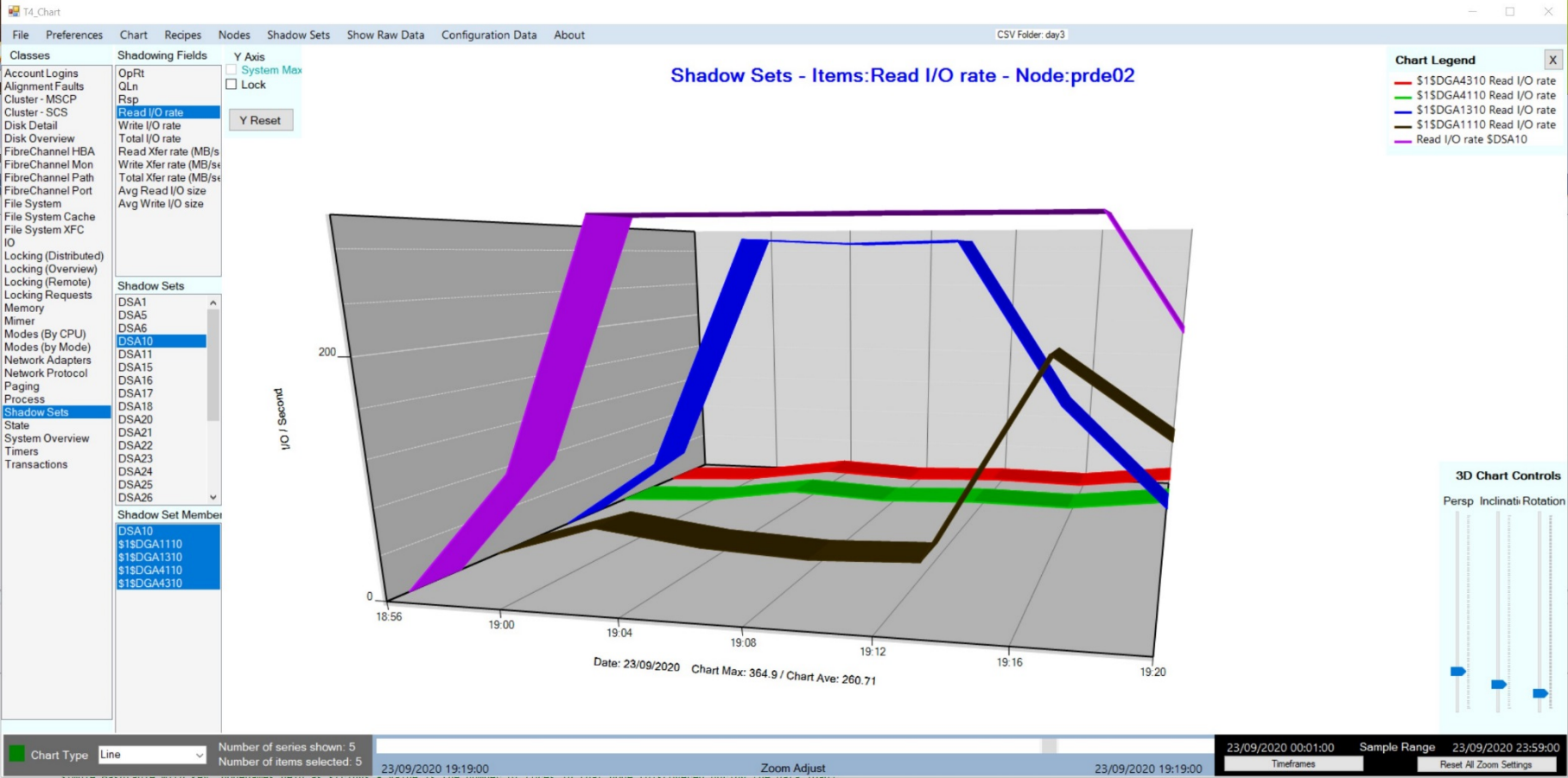
Shadow Definitions : MatchLast2

	prdc03	prdc01	prdc04	prdc02
DSA1	\$1SDGA4301: Local \$1SDGA4101: Local \$1SDGA1301: Local \$1SDGA1101: Local	\$1SDGA4301: Local \$1SDGA4101: Local \$1SDGA1301: Local \$1SDGA1101: Local	\$1SDGA4301: Local \$1SDGA4101: Local \$1SDGA1301: Local \$1SDGA1101: Local	\$1SDGA4301: Local \$1SDGA4101: Local \$1SDGA1301: Local \$1SDGA1101: Local
DSA5	DSA5 Never Mounted	\$1SDGA4305: Local \$1SDGA4105: Local \$1SDGA1305: Local \$1SDGA1105: Local	DSA5 Never Mounted	\$1SDGA4305: Local \$1SDGA4105: Local \$1SDGA1305: Local \$1SDGA1105: Local
DSA6	\$1SDGA4306: Local \$1SDGA4106: Local \$1SDGA1306: Local \$1SDGA1106: Local	DSA6 Never Mounted	\$1SDGA4306: Local \$1SDGA4106: Local \$1SDGA1306: Local \$1SDGA1106: Local	DSA6 Never Mounted
DSA10	\$1SDGA4310: Local \$1SDGA4110: Local \$1SDGA1310: Local \$1SDGA1110: Local	\$1SDGA4310: Local \$1SDGA4110: Local \$1SDGA1310: Local \$1SDGA1110: Local	\$1SDGA4310: Local \$1SDGA4110: Local \$1SDGA1310: Local \$1SDGA1110: Local	\$1SDGA4310: Local \$1SDGA4110: Local \$1SDGA1310: Local \$1SDGA1110: Local
DSA11	\$1SDGA4311: Local \$1SDGA4111: Local \$1SDGA1311: Local \$1SDGA1111: Local	\$1SDGA4311: Local \$1SDGA4111: Local \$1SDGA1311: Local \$1SDGA1111: Local	\$1SDGA4311: Local \$1SDGA4111: Local \$1SDGA1311: Local \$1SDGA1111: Local	\$1SDGA4311: Local \$1SDGA4111: Local \$1SDGA1311: Local \$1SDGA1111: Local
DSA15	\$1SDGA4315: Local \$1SDGA4115: Local \$1SDGA1315: Local \$1SDGA1115: Local	\$1SDGA4315: Local \$1SDGA4115: Local \$1SDGA1315: Local \$1SDGA1115: Local	\$1SDGA4315: Local \$1SDGA4115: Local \$1SDGA1315: Local \$1SDGA1115: Local	\$1SDGA4315: Local \$1SDGA4115: Local \$1SDGA1315: Local \$1SDGA1115: Local
DSA16	\$1SDGA4316: Local \$1SDGA4116: Local \$1SDGA1316: Local \$1SDGA1116: Local	\$1SDGA4316: Local \$1SDGA4116: Local \$1SDGA1316: Local \$1SDGA1116: Local	\$1SDGA4316: Local \$1SDGA4116: Local \$1SDGA1316: Local \$1SDGA1116: Local	\$1SDGA4316: Local \$1SDGA4116: Local \$1SDGA1316: Local \$1SDGA1116: Local
DSA17	\$1SDGA4317: Local \$1SDGA4117: Local \$1SDGA1317: Local \$1SDGA1117: Local	\$1SDGA4317: Local \$1SDGA4117: Local \$1SDGA1317: Local \$1SDGA1117: Local	\$1SDGA4317: Local \$1SDGA4117: Local \$1SDGA1317: Local \$1SDGA1117: Local	\$1SDGA4317: Local \$1SDGA4117: Local \$1SDGA1317: Local \$1SDGA1117: Local
DSA18	\$1SDGA4318: Local \$1SDGA4118: Local \$1SDGA1318: Local \$1SDGA1118: Local	\$1SDGA4318: Local \$1SDGA4118: Local \$1SDGA1318: Local \$1SDGA1118: Local	\$1SDGA4318: Local \$1SDGA4118: Local \$1SDGA1318: Local \$1SDGA1118: Local	\$1SDGA4318: Local \$1SDGA4118: Local \$1SDGA1318: Local \$1SDGA1118: Local

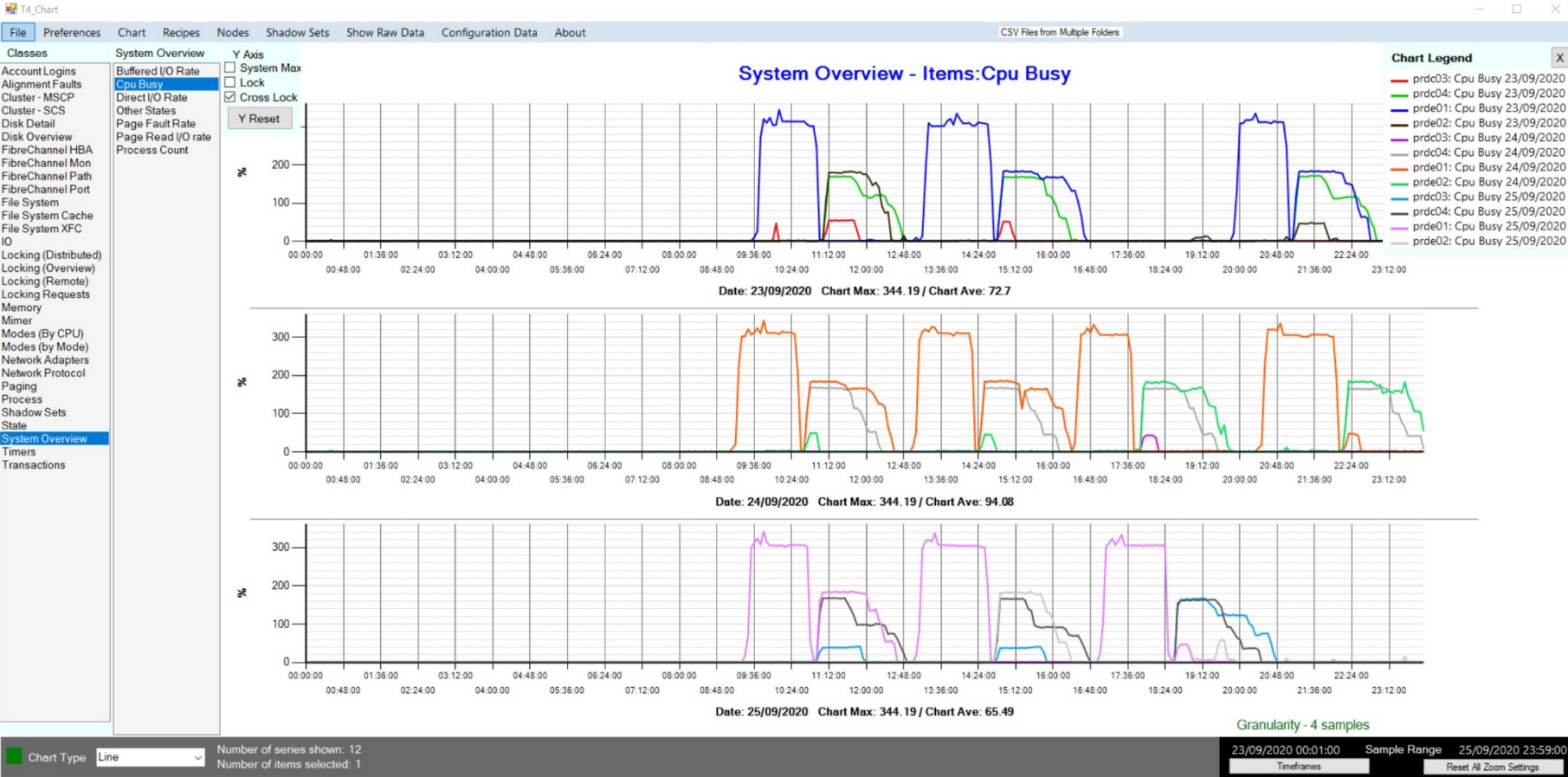
Return



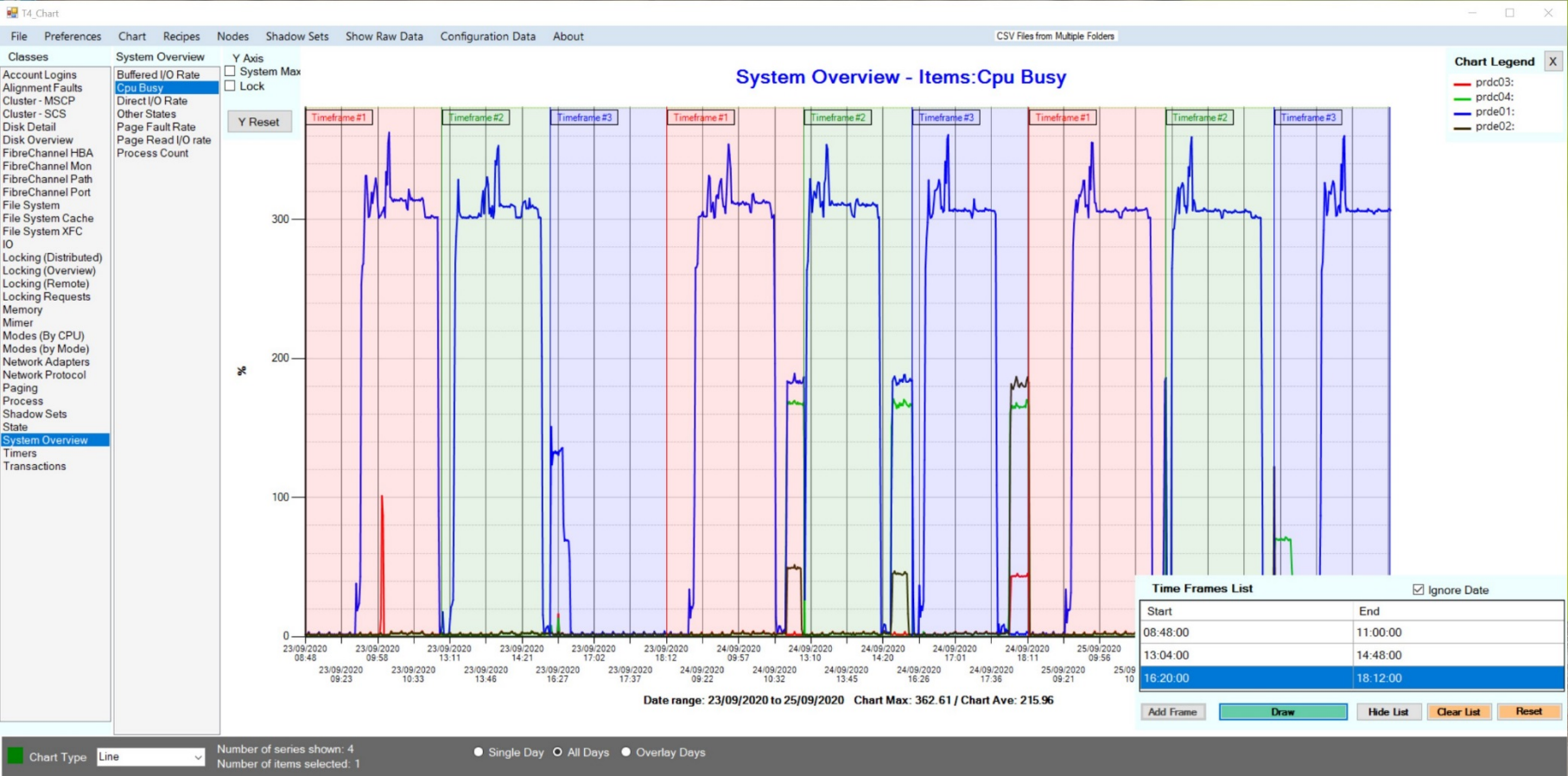
# Examples: Shadow sets aggregated data



# Examples: Multiple days



# Examples: Multiple sample periods



# In development

- Some sites use shadowset members for backup and data copy purposes, so membership changes over time
- Mini-copy and mini-merge operations across the cluster can impact performance
- T4 collector for shadow set memberships:
  - Extension to T4\$COLLECT.COM
  - Capture shadow set memberships, member read costs, MSCP host name etc. every sample interval
  - Provides a “control file” to direct shadow set membership processing in the viewer



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# The current release (V1.5-2)

- Runs on Windows 10 64bit
- Large data sets need a fast PC (SSD, several cores, plenty of memory)
- Download executable image and documentation from:

[www.t4viewer.vmsresource.org.uk](http://www.t4viewer.vmsresource.org.uk)

- Let us know how it goes

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