

Oracle Database Monitoring and beyond

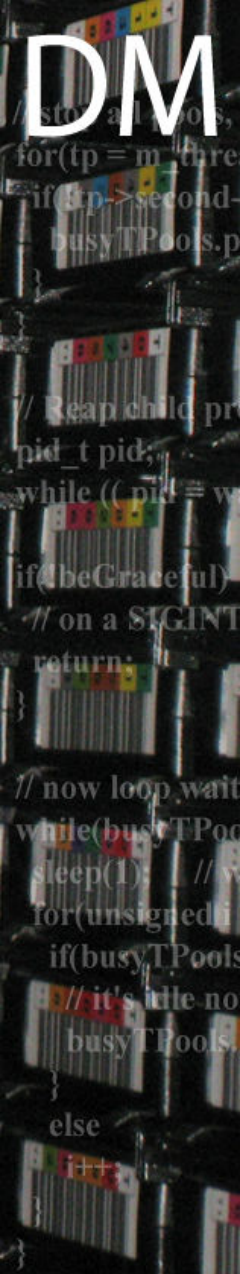


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- Commonly monitored components
- Monitoring tools
- Monitoring checklist
- Capacity planning
- Experiment reports
- OEM Q&A





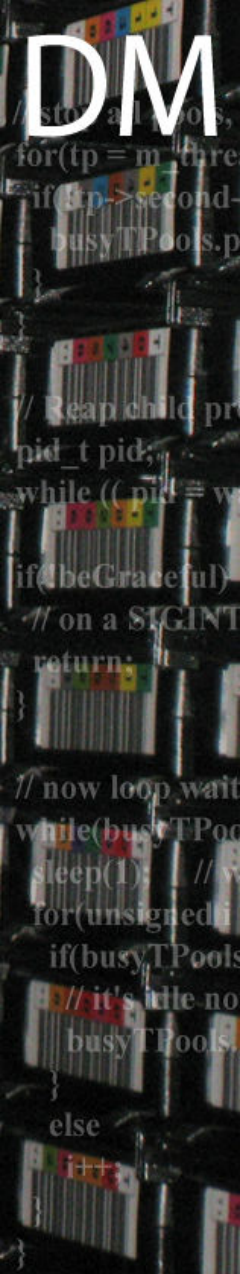
DM Monitored components

- Hardware / OS level
 - Hardware components (power supplies, ...)
 - Host (uptime, network, IRQ, load, ...)
 - OS (processes, memory, swap, IO, file systems, ...)
 - Storage (SCSI layer, connectivity, multipathing, throughput, configuration)
 - Network layer
 - ...



- Oracle Software / Services
 - Clusterware level (processes, /var/tmp/.oracle)
 - Cluster services (nodeapps)
 - VIPs
 - DB services' registration into listeners
 - Instance status
 - ASM
 - Availability
 - Offline disks
 - Diskgroups space

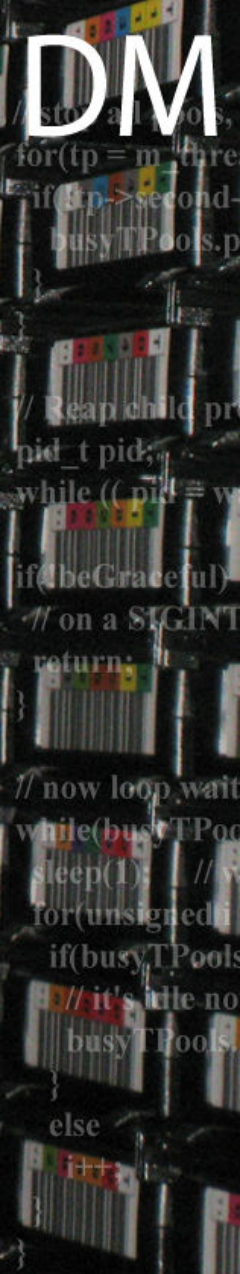




Hardware/OS monitoring tools

- CERN uses LEMON (<http://lemon.web.cern.ch/lemon/index.shtml>)
- Nagios
- OEM Grid Control
 - Over 60 metrics for host type target
 - Allows reactive and proactive host monitoring
 - Simple dashboard functionality is already there
 - Very good integration with other parts of Oracle stack
 - Limited number of historical data (31 days)
- ...





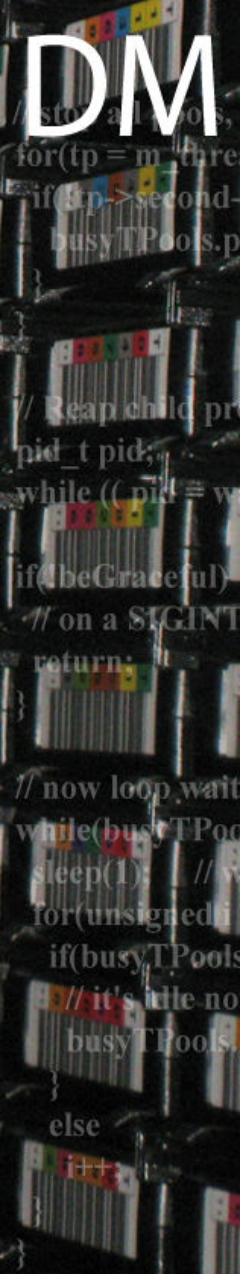
Oracle RAC and DB monitoring

- CERN uses in-house developed monitoring system (RACMon) + OEM
- ... other systems (also plugins for Nagios available)
- OEM GC
 - **Full integration** with Oracle stack
 - **Monitoring Templates** and **Notification Rules** help in administration of large setups
 - Groups allow better target management (new in 10.2.0.5 – **privilege propagating groups**)
 - Provides Oracle internal health check (needs customization to spot most DB problems)
 - Limited historical data (some not enough for capacity planning)



- Health checks are good, but try monitoring from the user's perspective
 - **External** connectivity to all services (this tests TNS, listeners, service registration)
 - Can user execute a **transaction**? (archiver check)
 - **Tablespace** and **undo** usage
 - Monitor TEMP (ORA-01652) and UNDO (ORA-30036)
 - Monitor for 'ORA-01555 Snapshot Too Old'
 - **SQL service response time** (spot blocking locks, performance issues, plan instabilities) *
 - Sessions per user (ORA-00018 and ORA-02391)
 - Active sessions
 - **Backups**
 - ...

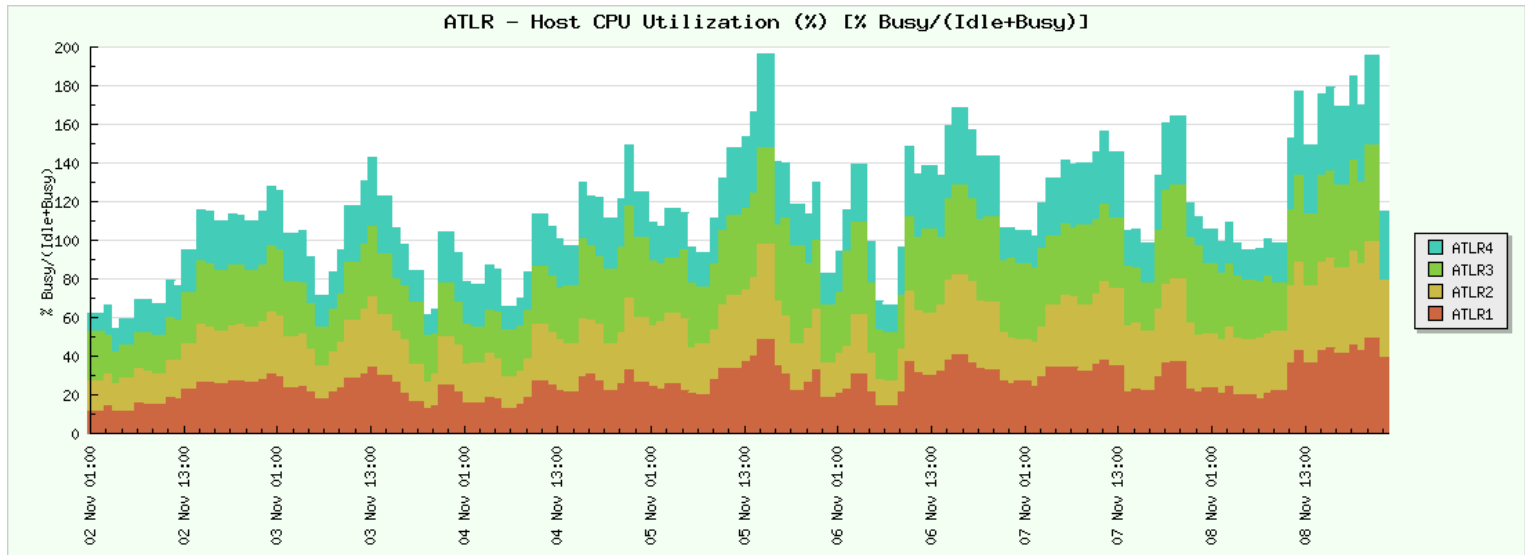
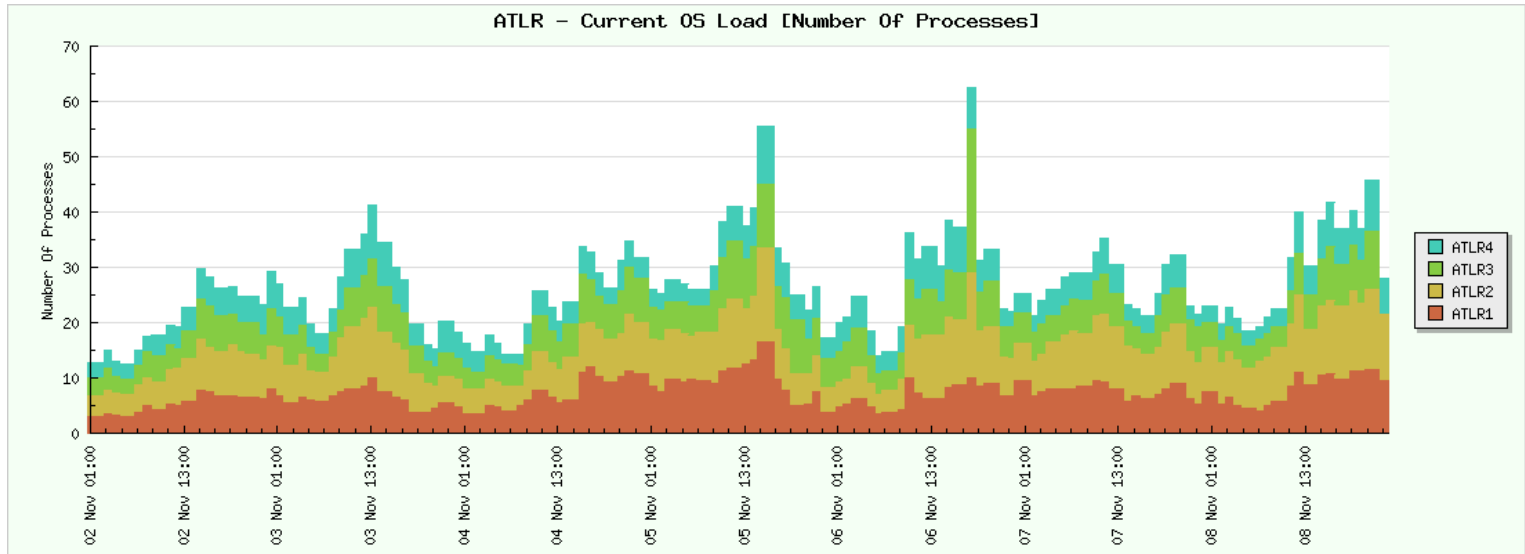
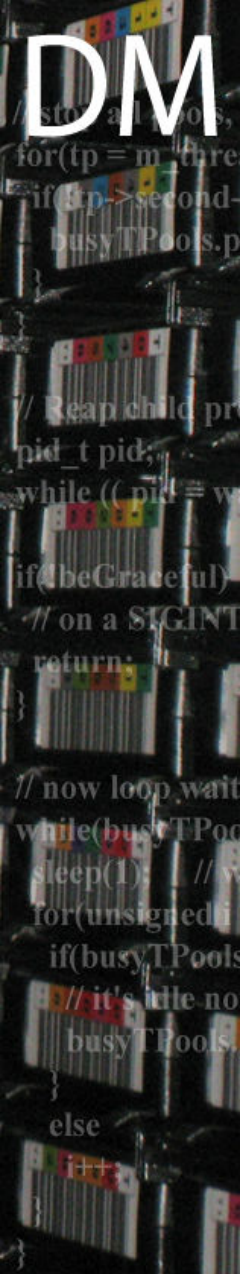


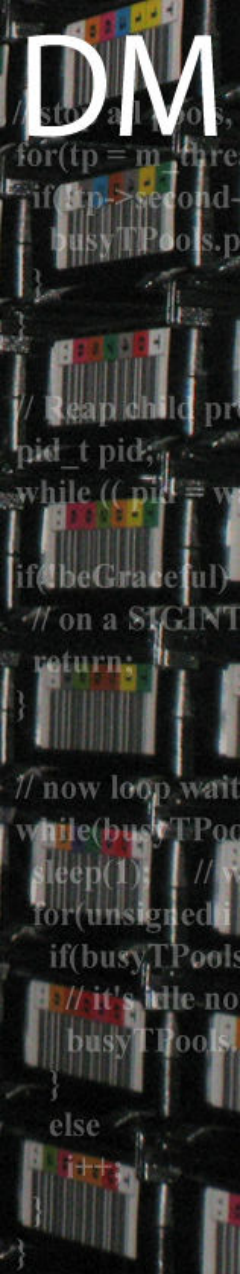


Capacity Planning

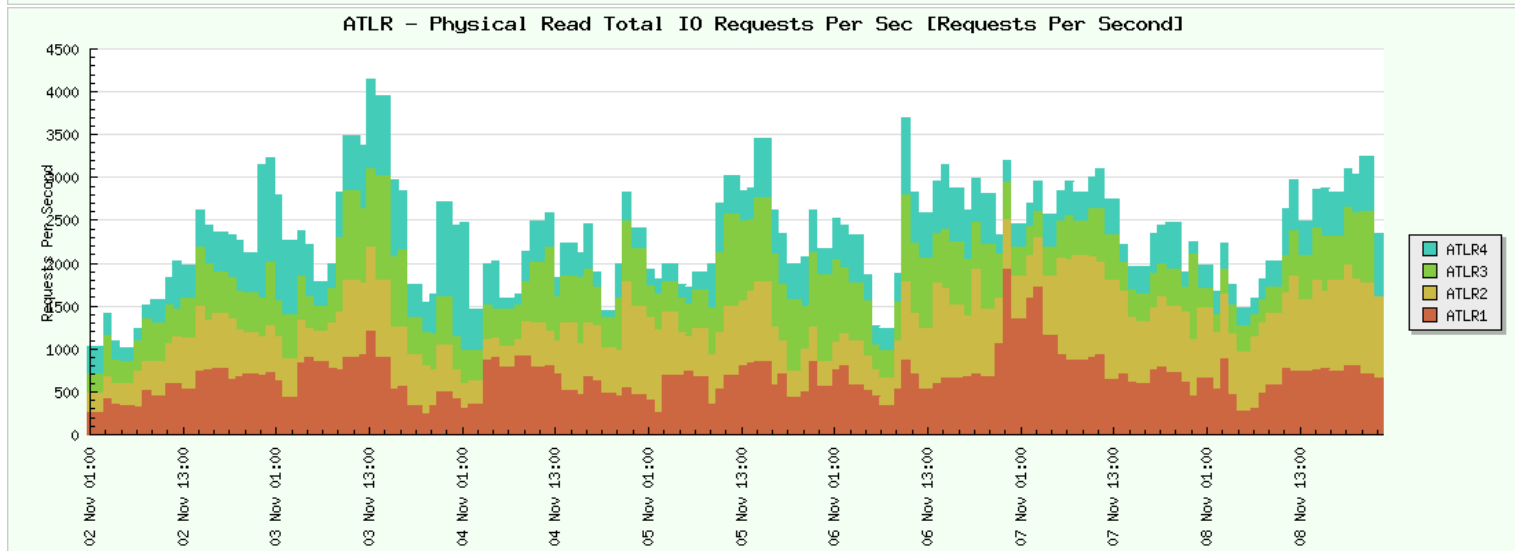
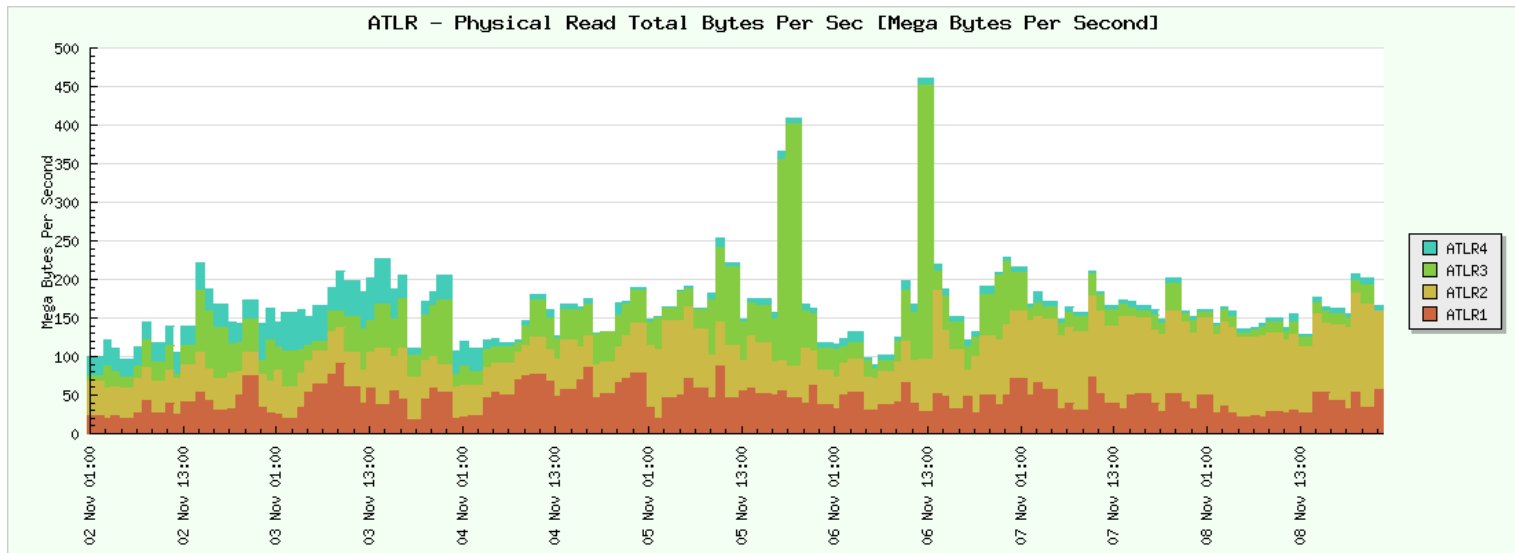
- Capacity planning requires historical data
 - Diagnostic Pack (AWR – DBA_HIST_SYSMETRIC_SUMMARY)
 - AWR stores data for too short time (can be changed)
 - Custom probing (V\$SYSMETRIC_SUMMARY)
 - Choose some important metrics:
 - CPU: OS Load, Host CPU Utilization, ...
 - IO: Physical Read Total Bytes Per Sec, Physical Read Total IO Requests Per Sec, Physical Write Total Bytes Per Sec, Physical Write Total IO Requests Per Sec, Redo Generated Per Sec, Redo Writes Per Sec
 - SQL Service Response Time
 - DB size
 - ...

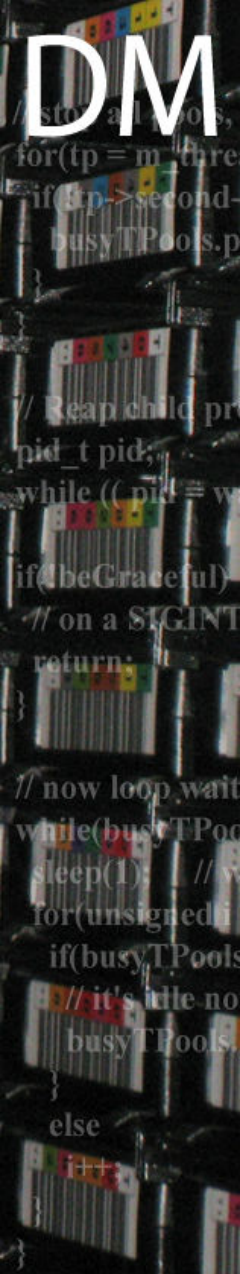




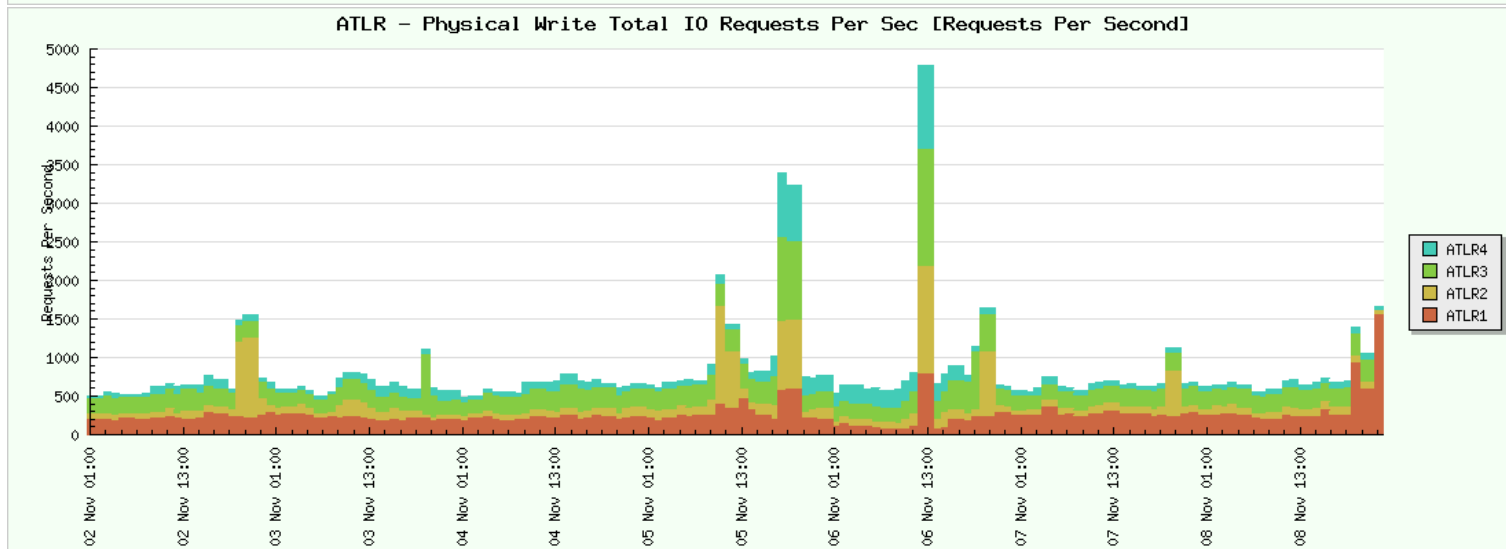
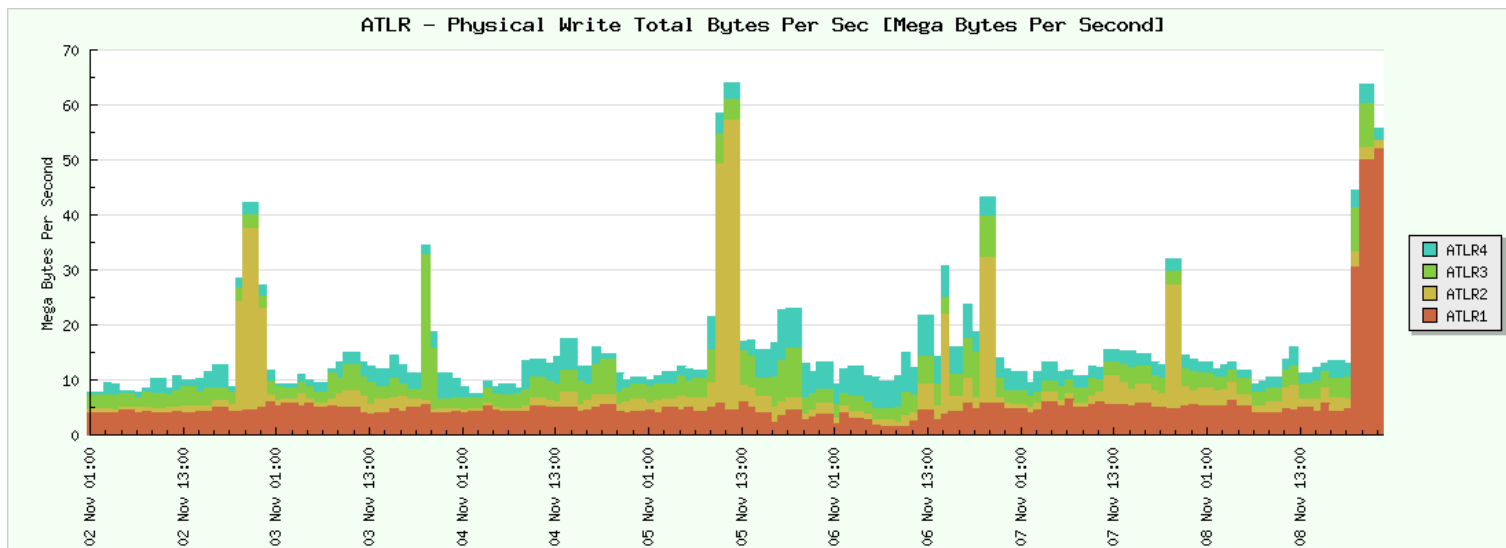


Capacity Planning





DM Capacity Planning



- Experiments reports for each experiment:
 - [ATLAS](#)
 - [COMPASS](#)
 - [CMS](#)
 - [LHCb](#)
 - [WLCG](#)
- Discussion ...



DM OEM Q&A

