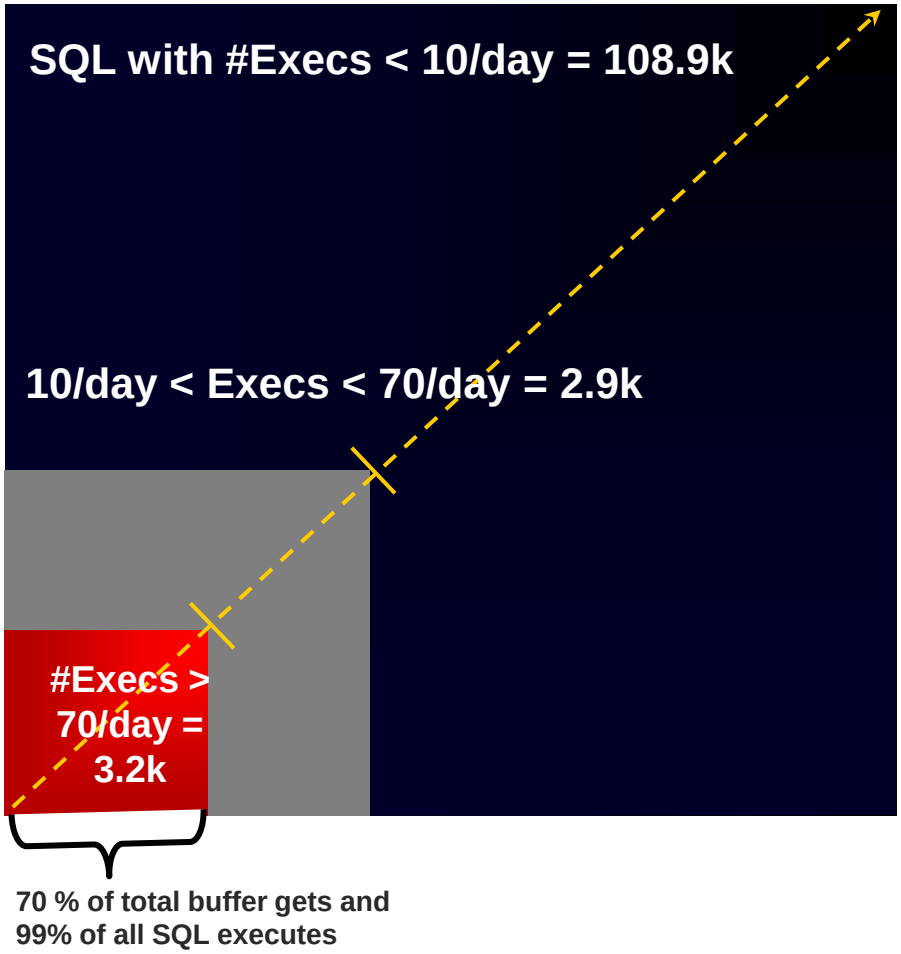
Customer Case Study
Real Application Testing Usage at DIRECTV

SPA Usage at DIRECTV

- **Background**
  - Large Siebel 7.7 call center implementation: 12.5 TB database
  - 2-Node HP Superdome server, total 224 CPUs, 25+ App Servers
  - High transaction volume, 18k concurrent users, business critical application
- **Challenges**
  - Expensive downtime: $$$/hr
  - Lengthy database/application restart:$$$/hr
  - Multiple team coordination
  - Application Upgrade and complexity: 109k SQL statements
- **SPA usage at DIRECTV**
  - Utilized to upgrade from Oracle Database 9i to 10g
  - Use it to validate all DB changes in Oracle Database 10g
    - CBO statistics refresh
    - Addition of new indexes
  - Few customizations done to handle complexity of the environment

Oracle DB 9i to 10g Upgrade: Summary

- **Focused on SQL with high executions to limit scope of work while covering majority of workload**
  - SQL with executions > 70/day constitute 99% of all SQL executions and 70% of all buffer gets
- **Only 6 out of 109k SQL statements had to be tuned post go-live on Oracle Database 10g**
  - SPA helped find the needle in the stack!
  - Regressed SQL had same execution plans as in 9i, but different in 10g due to bind peeking



Evaluate CBO Stats Refresh & Indexes on 10g: Lessons Learned and Summary

- **Most features worked as advertised**
  - Few limitations with BIND variables
    - SPA only executes one set of BIND DATA
    - More than 4k BINDS per SQL and BINDS of complex data types (CLOB,BLOB) are not captured by STS
  - *These can be handled through Database Replay, STS compare functionalities and SPA 11g R2*
- **Analysis of SQL is fast and efficient**
  - Trial of about 60k SQL completed in 6 hours
  - A change can negatively impact thousands of SQL – need to reduce to a manageable set by using custom filters
- **Huge success with SPA**
  - CBO stats refreshed on 10g with only 3 regressed SQL – all non critical
  - Addition of Indexes – improved workload performance

Evaluate CBO Stats Refresh & Indexes on 10g:
Lessons Learned and Summary

- SQL related impact to the business significantly reduced compared to 2009
- No SQL related Incidents since testing with SPA for last 6 months
- Workload SQL response time improved by 25%