Gilead Sciences Usage of Database In-Memory

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About Ajay Poondla

- 15+ years of experience working in Data & Analytics space.
- Worked in different roles which include building a roadmap for platforms, Enterprise Architecture, implementing solutions, streamlining processes for different clients.
- Currently manage DevOps team supporting Data & Analytics platforms at Gilead.
OBIA Architecture at Gilead Sciences

Client Tier

Informatica Client

DAC Client

Informatica & DAC Server

Informatica Server

GCWPROD

Database replication service (netapp snap)

End user

OBIEE Servers ..

Server Tier

Source Systems

Informatica Repository

OLTP

ERPPROD

Database Tier

Datawarehouse for OBIEE System

GCWPROD

1

GCWPROD

OLAP

2

DRM

Hyperion
Our Business Challenge

• Report/Analytics requirements change frequently: new filters, brand new reports, new data sources, ad-hoc queries, 3rd party data etc.
• Slow queries are huge productivity drain through the org
• Pain flows downhill: End user->Biz analyst->Developer->DBA->Storage/Networking
  – 20-30% DBA time spent in this loop
• Cycle repeats especially around M/Q/Y close

Slow queries are huge productivity drains
Gilead Sciences
Supporting Real Time Analytics in Finance Organization

Our Use Case

• Sustain M/Q/Y end key critical objectives & SLAs

• **1 Hour SLAs** - Hourly data refresh against multiple subject areas

• 100 % Uptime to avoid interruption during M/Q/Y End financial close periods

• Stake holders run **adHoc query/report demands & regular dashboards**

• **Consistent performance** for end users across all the Geo’s

20+% time spent in service requests and incident resolution for analytics platform
Solution: Database In-Memory

- 1TB of data, ~250-300GB of In-Memory usage
- Dell 48-core server w/ 500GB (no Exadata)
- Data fully loaded to in-memory
- Dropped all indexes, constraints
- 1000+ end users/analysts running 6000 reports on system

- Resolved high pain-point for financials system
- 50%-2000% gains (2x-6x typical)
- In-Memory reason for move to 12c
Our Workflow

- Drop indexes, constraints
- Load all data into memory
- Confirm data is loaded into memory
- Integrate with DAC post ETL job
- After every ETL we run the job which does the snap of data and loads the data into memory on the reporting database
- The end to end process takes about 15 minutes