

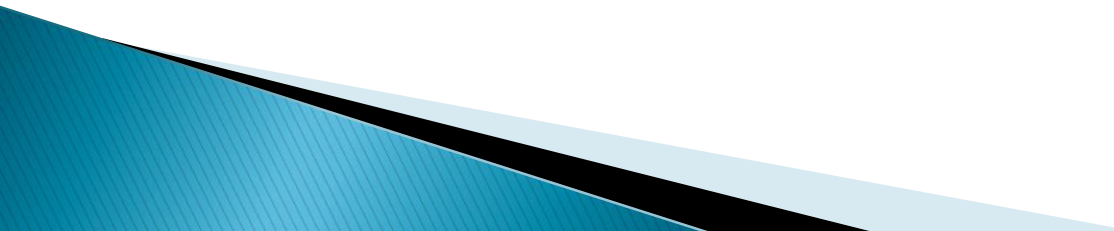
Oracle GoldenGate Basics

Getting started...

Amardeep Sidhu




who am I ?

- ▶ Oracle/Exadata DBA with over 10 years of experience
 - ▶ Working with Oracle ACS
 - ▶ twitter.com/amardeep_sidhu
 - ▶ <http://amardeepsidhu.com/blog>
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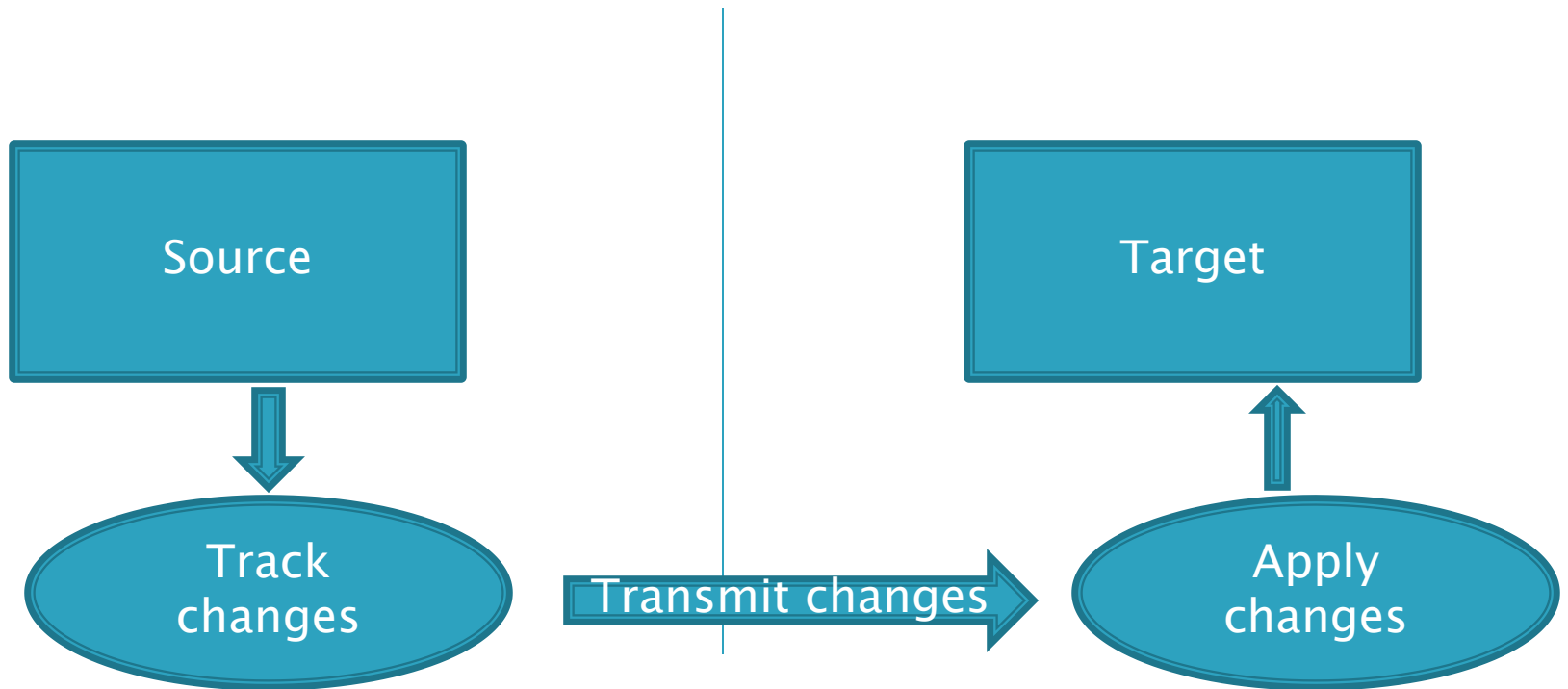
Disclaimer !

I don't know “everything” 😊

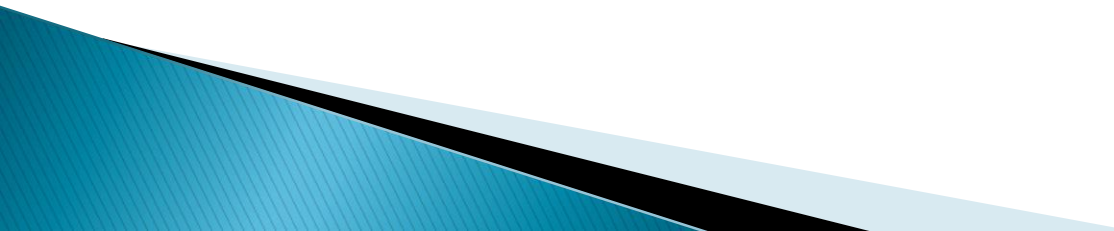
What it is ?

- ▶ A replication software supporting heterogeneous environments
 - ▶ Runs outside the Database
 - ▶ Tracks only committed transactions
 - ▶ Scans redo logs/archives for committed transactions
 - ▶ Writes changes to files called trail files
 - ▶ Trail files are transferred to the target database
 - ▶ Stores configuration in plain text files
- 

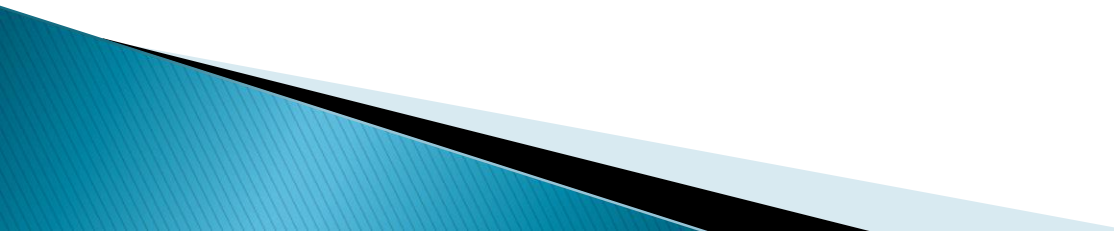
How does it happen ?



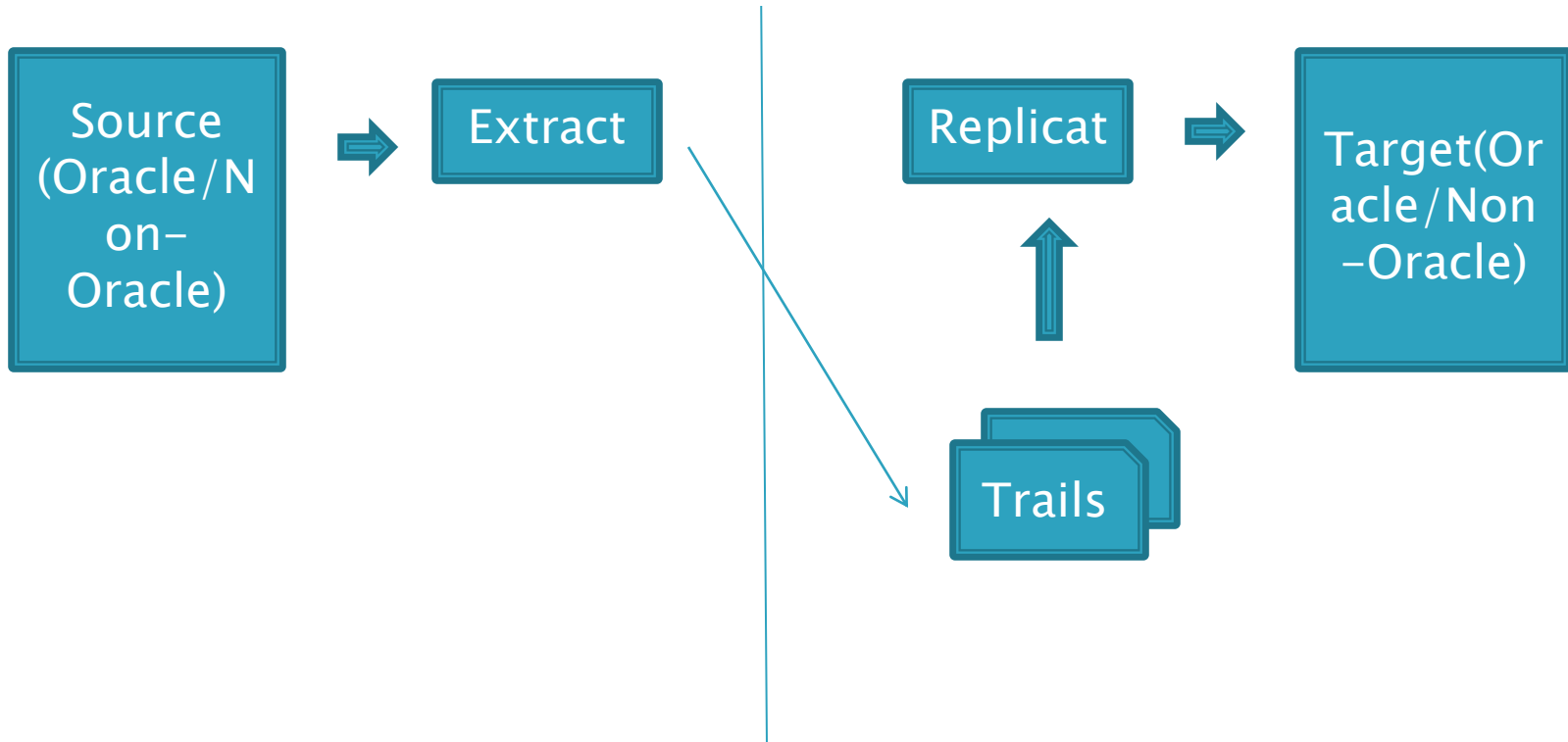
What runs on the Source ?

- ▶ Manager – Required to start other processes
 - ▶ Extract – scans redo logs (or the equivalent on non-Oracle databases)
 - ▶ Data Pump* (if configured) – transmits trail files to the target
- 

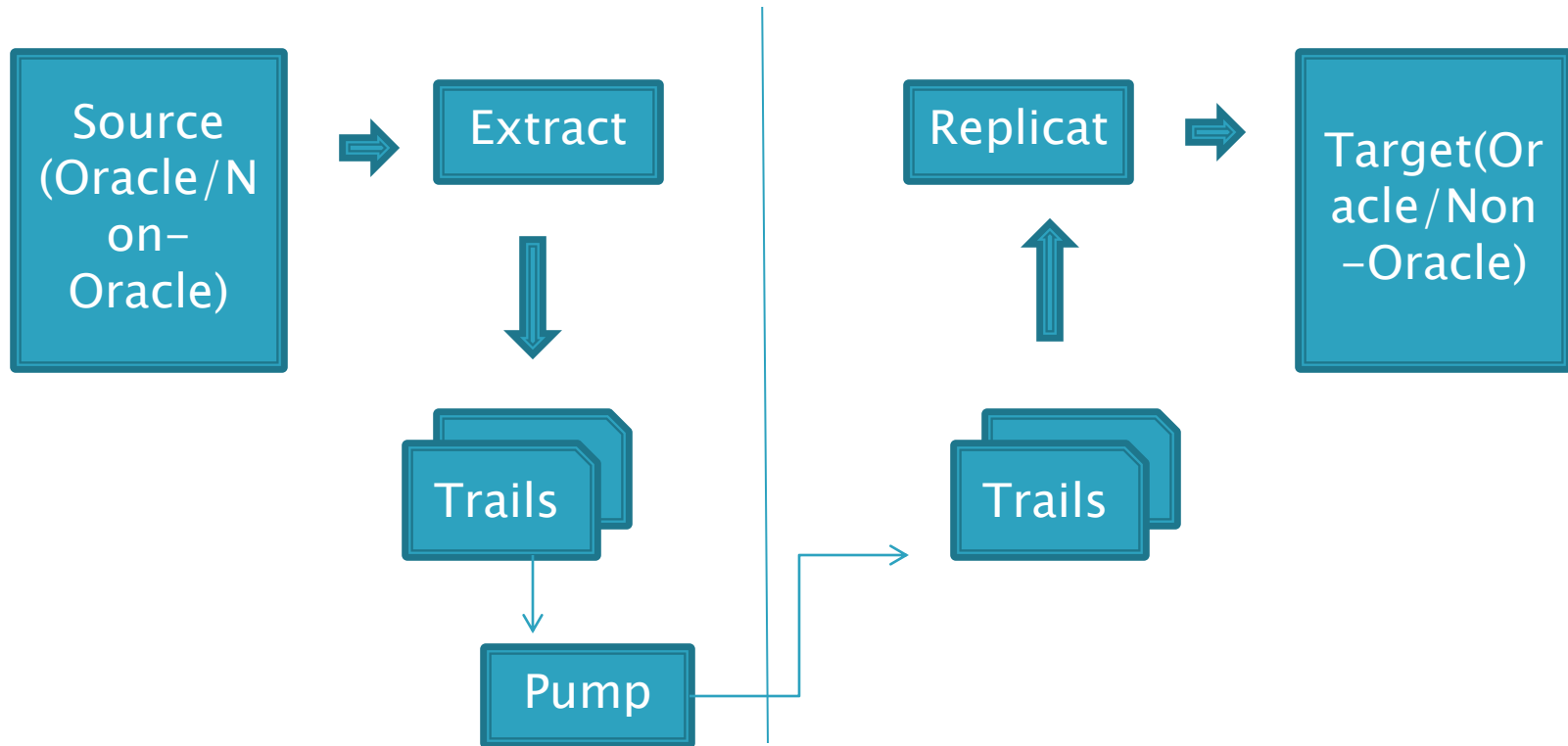
What runs on the target ?

- ▶ Manager – Required to start other processes
 - ▶ Collector – Collects the trail files
 - ▶ Replicat – Applies the changes
- 

How does it look like ?



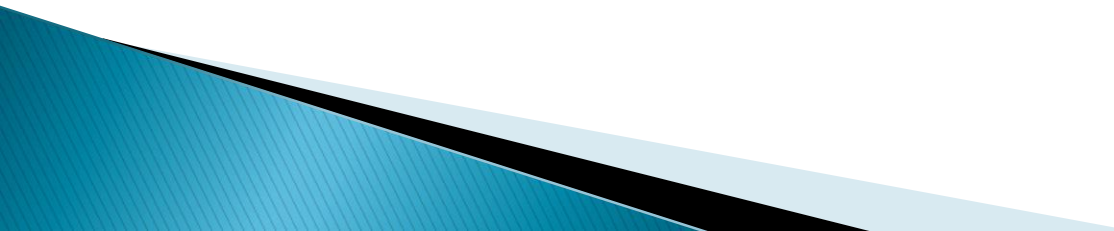
How does it look like...contd



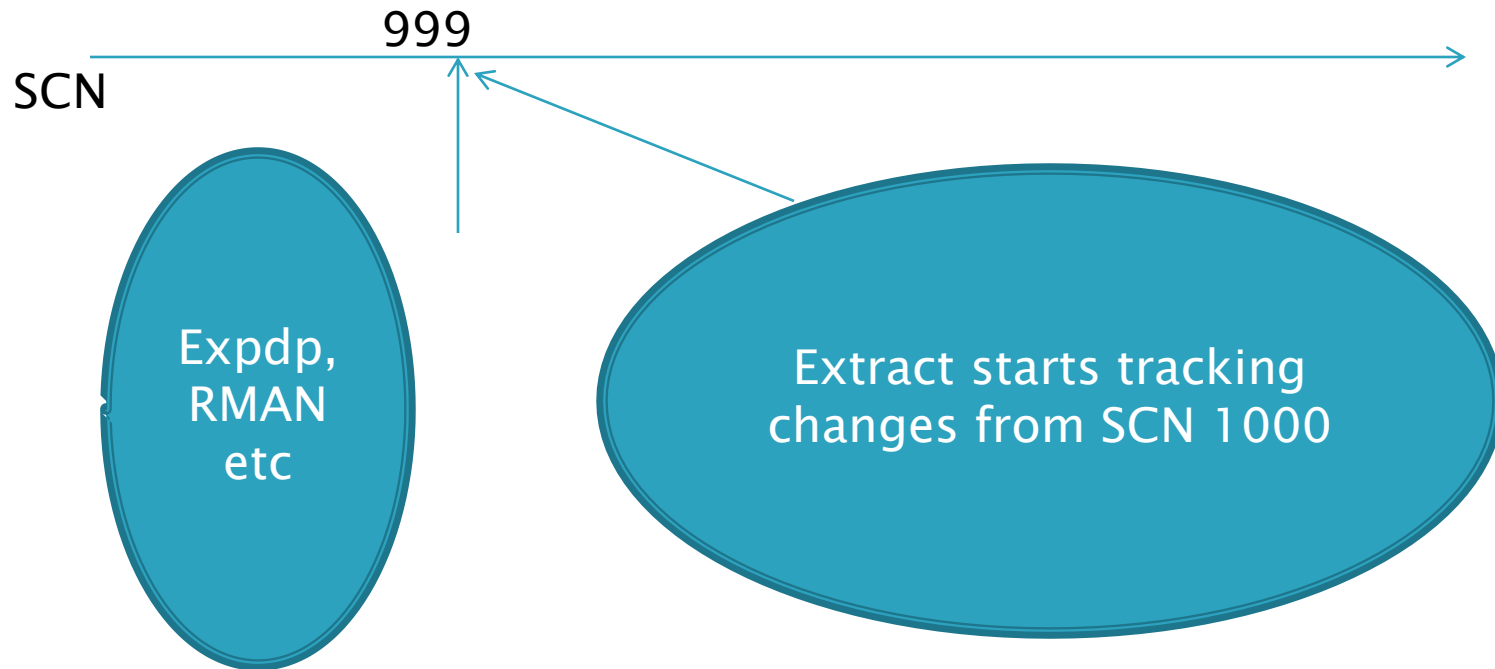
Installation

- ▶ Simple unzip till 11g
 - Create an OS user
 - Create Database user
 - Unzip the dir
 - Run create dirs (creates directories required by GG)
 - Add supplemental logging
- ▶ Has ./runInstaller starting from 12c
 - Will do some of the above things automatically

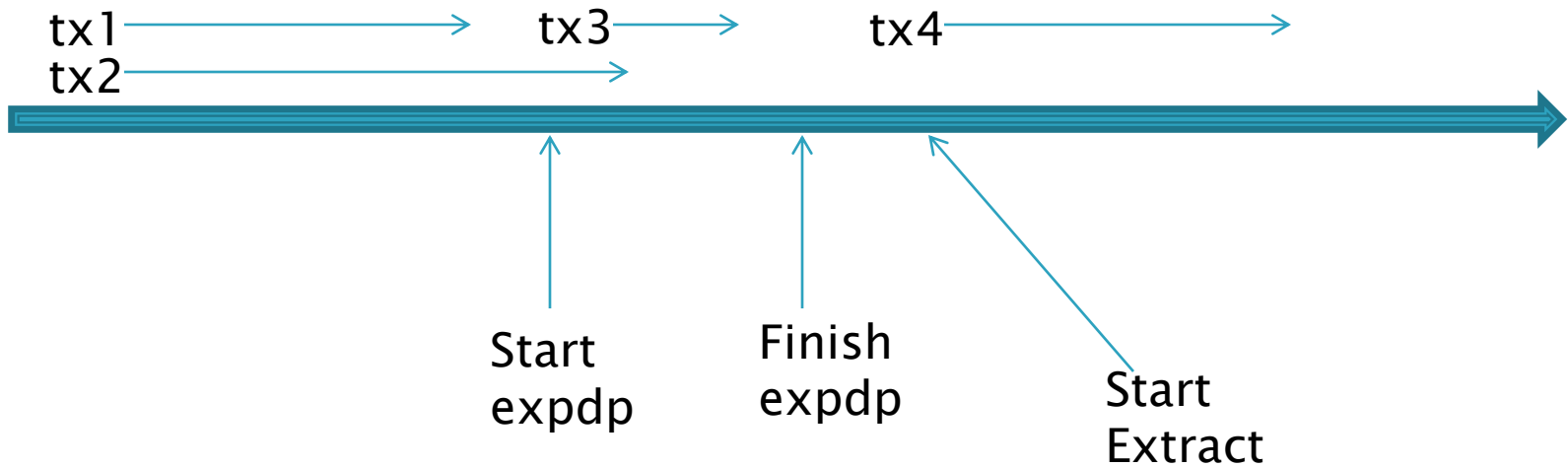
How do we do it ?

- ▶ Copy data one time - Called initial load
 - ▶ Configure Extract to start tracking the changes after that
 - ▶ Configure Data Pump to transmit trails to the target
 - ▶ Configure Replicat to apply the change to target.
- 

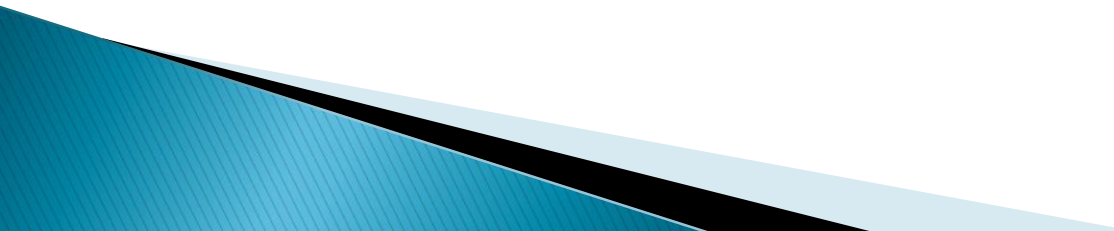
Initial load



Initial load contd...



Initial load methods

- ▶ GoldenGate method
 - ▶ Expdp/impdp
 - ▶ RMAN
 - ▶ Oracle Data Guard (Opened instance)
- 

Configuring Manager

- ▶ Requires minimum configuration

```
GGSCI 2> EDIT PARAMS MGR
```

```
PORT 7809
```

```
USERID ggs_owner, PASSWORD ggs_passwd
```

```
GGSCI 4> start manager
```

```
GGSCI 4> info manager
```

```
Manager is running (IP port localhost.7809).
```

Configuring Extract

- ▶ Create Extract parameter file
- ▶ Register the Extract
- ▶ Add the trail
- ▶ Start the Extract

```
EXTRACT SCOTT01
```

```
USERID ggs_owner, PASSWORD ggs_passwd
```

```
EXTTRAIL dirdat/scott
```

```
TABLE SCOTT.*
```

```
add extract scott01, tranlog, begin now
```

```
add extrail /dirdat/scott, extract scott01, megabytes 50
```


Configuring Data Pump

- ▶ Why it is needed ?
- ▶ Create the Data Pump parameter file
- ▶ Register the Data Pump
- ▶ Add the remote* trail
- ▶ Start the Data Pump

```
EXTRACT DPSCOTT01
```

```
PASSTHRU
```

```
RMTHOST ggserver2, MGRPORT 7809
```

```
RMTRAIL dirdat/scott
```

```
TABLE HR.*
```

```
add extract DPSCOTT01, EXTRACTSOURCE dirdat/scott
```

Configuring Replicat

- ▶ Create the Replicat parameter file
- ▶ Register the Replicat
- ▶ Start the Replicat

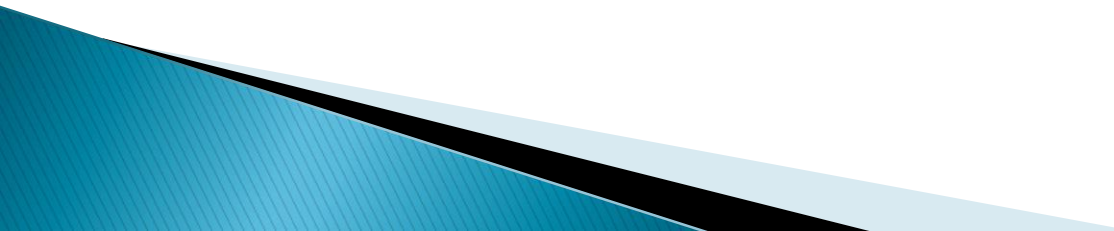
```
REPLICAT RPSCOTT01
```

```
USERID ggs_owner, PASSWORD ggs_passwd
```

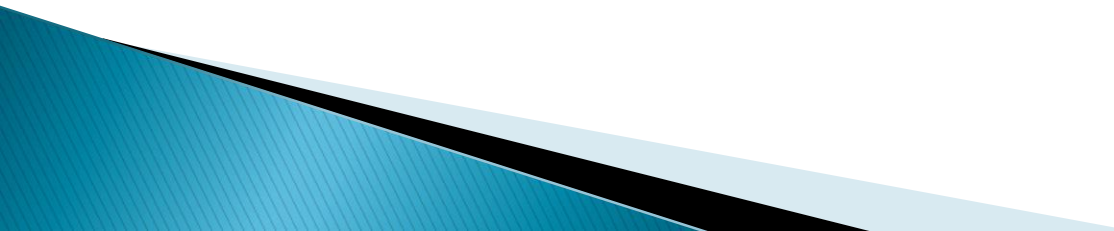
```
MAP SCOTT.*, TARGET SCOTT.*
```

```
add replicat RPTSCOTT01, exttrail dirdat/scott
```

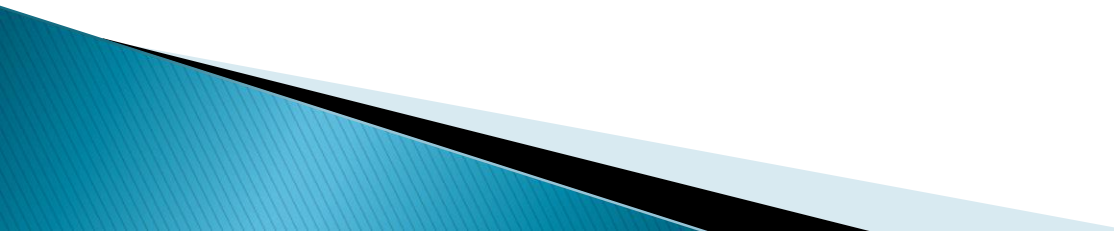
Some tips

- ▶ Make sure that initial load is proper
 - ▶ Use SCN based methods
 - ▶ Don't ignore the errors and try to move ahead using parameters like HANDLECOLLISIONS
 - ▶ Create demo configurations and Test
 - ▶ Use Discard files (for rejected records)
 - ▶ Use some kind of monitoring mechanism
 - ▶ Don't create a new process for every new table
- 

Use cases

- ▶ Offloading reporting queries
 - ▶ Upgrades
 - ▶ Migrations
 - ▶ Active-Active environments
 - ▶ Standby copy
- 

Common performance issues – Extract/Data Pump

- ▶ Slow IO subsystem for redo
 - ▶ Slow IO subsystem for trails
 - ▶ Too many Extract groups
 - ▶ Slow network
 - ▶ Slow IO subsystem for remote trails
- 

Common performance issues – Replicat

- ▶ Query related issues
- ▶ Database level performance issues

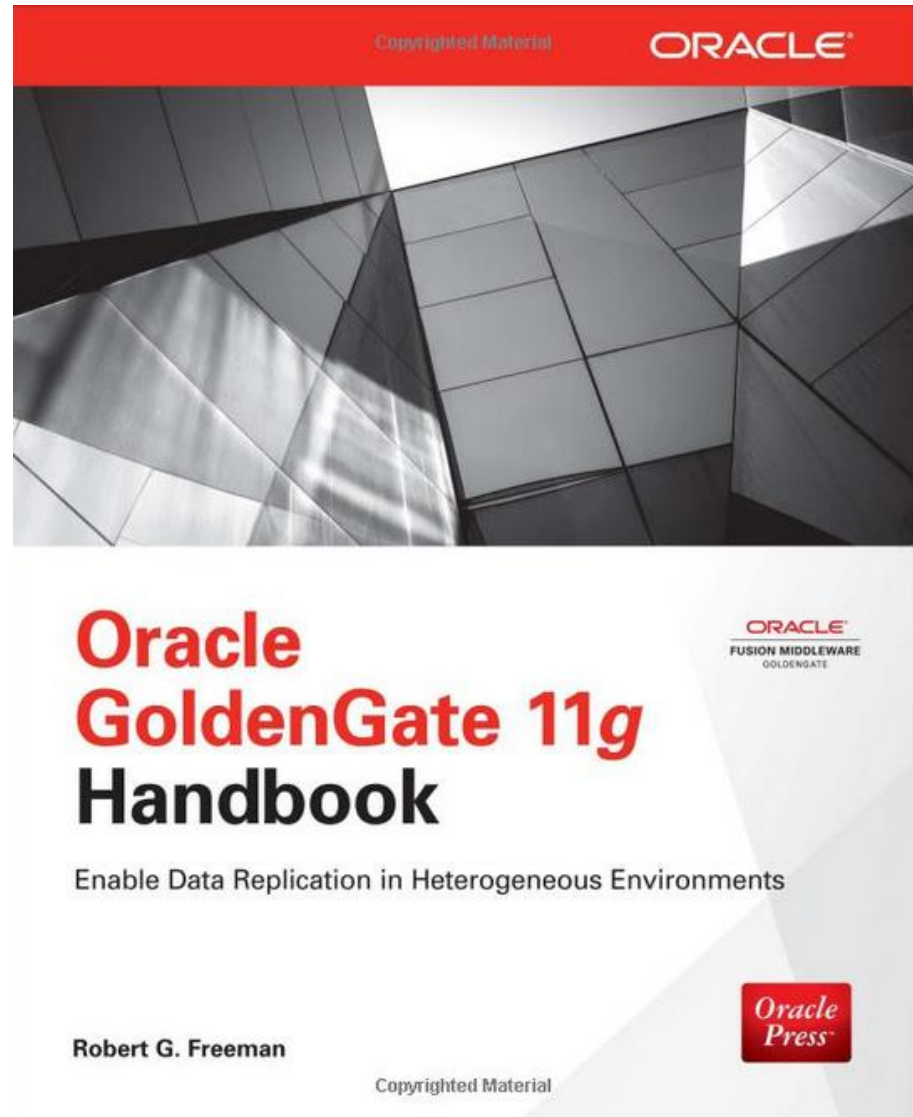
Monitoring ?

- ▶ Oracle GoldenGate Director
 - Complete administration using GUI based interface
- ▶ Oracle GoldenGate Monitor
 - Can monitor and send notifications
- ▶ Oracle GoldenGate Veridata
 - Comparison (Homogenous and Heterogonous)

Monitoring...contd

- ▶ Oracle GoldenGate Director
 - Complete administration using GUI based interface
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 - Comparison (Homogenous and Heterogonous)

What to read next ?



What to read next...contd

- ▶ Administrator's guide, Reference guide, Troubleshooting and tuning guide from Official documentation :
http://docs.oracle.com/cd/E35209_01/index.htm
- ▶ <http://gavinsoorma.com/oracle-goldengate-veridata-web/> – Good introduction
- ▶ Oracle GoldenGate 11g Implementer's guide – Packt publishing

Certification ?

- ▶ Oracle GoldenGate 11g Certified Implementation Exam Essentials – 1Z0-481

Thank you !



Q & A ?

