

Table of Contents

Introduction.....	4	Integrating DRBD with PostgreSQL.....	44
PostgreSQL Data Architecture.....	6	Adding the pg_standby Stop File.....	46
Understanding PostgreSQL I/O.....	7	Rebooting The Cluster.....	48
WAL Changes.....	8	Exercises.....	49
Vacuums & PostgreSQL Transactions.....	9	Automating Failovers with Heartbeat v2.....	50
PostgreSQL Point-In-Time Recovery (PITR).....	11	About Heartbeat.....	51
WAL Files.....	13	Installing & Configuring Heartbeat Components.....	54
Recap.....	14	Configuring ha.cf.....	57
Config Options.....	15	Setting up Authorization Keys.....	62
PostgreSQL Warm Standby.....	19	Configuring the Cluster Information Base (CIB).....	63
About Warm Standby.....	20	Managing the Cluster.....	64
Using pg_standby.....	22	Disabling Services.....	65
Warm Standby Caveats.....	26	Resource Constraints.....	66
Example archive_command Script.....	27	Setting Resource Co-Location Rules.....	67
SSH Key Based Authentication.....	29	Exercises.....	69
Exercises.....	30	Setting Resource Ordering Constraints.....	70
Synchronous Warm Standby.....	31	Exercises.....	71
Understanding Distributed Replicated Block Devices (DRBD).....	32	Configuring Location Constraints.....	72
PostgreSQL and DRBD.....	33	Exercises.....	74
Installing DRBD.....	35	Setting Resource Stickiness.....	75
Configuring DRBD.....	36	Adding Cluster Resources.....	77
Initializing DRBD.....	41	Creating Filesystem Resources.....	78
Choosing the Primary.....	43	Exercises.....	81



Configuring the DRBD Resource.....	82	UCARP vs Heartbeat/OpenAIS.....	128
Exercises.....	85	Exercises.....	129
Adding an IP Address Resource.....	88	PgPool Master/Slave Mode.....	130
Exercises.....	90	About PgPool Master/Slave Mode.....	131
Adding a PostgreSQL Resource.....	91	Installing & Configuring PgPool.....	132
The OCF PostgreSQL Resource Agent.....	92	Starting and Stopping pgpool.....	135
Creating the Switchover Script.....	94	Exercises.....	137
Adding the Script RA.....	95	Replication with Slony-I.....	138
Modifying archive.sh.....	98	About Slony-I.....	139
Exercises.....	100	Slony Architecture.....	141
Resetting After a Failure.....	101	Installing Slony.....	144
Monitoring & Monitoring the Cluster.....	102	Configuring Slony.....	146
Exercises.....	105	Creating the .pgpass File.....	150
STONITH Devices.....	106	Executing the Scripts.....	151
Common Address Redundancy Protocol.....	108	Dealing With Errors.....	152
About Common Address Redundancy Protocol (CARP).....	109	Starting Replication.....	153
CARP and Linux.....	110	Exercises.....	155
Understanding UCARP.....	111	Slony-I Failovers.....	156
Setting up UCARP.....	113	Implementing Slony-I Failovers.....	157
Using a UCARP Config File.....	116	Slony-I Controlled Switchovers.....	158
Adding the Startup Script.....	119	Exercises.....	159
Creating Event Scripts.....	123	Questions?.....	160
Starting Up UCARP.....	126	Where to Get Help.....	161
Exercises.....	127		