



OSL Storage Cluster for SolarisTM

PostgreSQL im OSL Storage Cluster



PostgreSQL Features

- verfügbar für UNIX, Linux, Windows
- foreign keys, joins, views, triggers und stored procedures
- **ACID** compliant Transactions (Atomicity, Consistency, Isolation, Durability)
- Unterstützung einer Vielzahl von SQL92/SQL99/SQL03 Datentypen, sowie BLOBs (binary large object) für Bilder, Sound, Video
- native Programmierschnittstellen (C/C++, Java, Perl, Python, ODBC ...)



PostgreSQL Enterprise Features

- **Tablespaces** (data location)
- **MVCC** (Multiversion Concurrency Control, gültige Daten für alle Nutzer)
- **Backups** (checkpoints, online/hot backups)
- **Write ahead logging** (WAL – Point in time recovery (PITR))
- **sehr gut skalierbar hinsichtlich DB Größe und Benutzer**



PostgreSQL Limits

Maximum Database Size	Unlimited
Maximum Table Size	32 TB
Maximum Row Size	1.6 TB
Maximum Field Size	1 GB
Maximum Rows per Table	Unlimited
Maximum Columns per Table	250 - 1600 (depending on column types)
Maximum Indexes per Table	Unlimited



Wer ist PostgreSQL ?

Core Team 7 Mitglieder

- Josh Berkus SUN Microsystems, San Francisco
- Peter Eisentraut SUN Microsystems, Helsinki
- Tom Lane RedHat, Pittsburgh



Wer nutzt PostgreSQL ?

- Cisco, Skype, T-Mobile
- Apple Computer Inc., Fujitsu, SUN, RedHat
- Greenpeace, Washington Post
- Universitäten von Oslo bis Sydney



PostgreSQL Support

- PostgreSQL Community mailing lists, IRC
- SUN Microsystems Standard/Premium Service Plan
- Credativ GmbH www.credativ.de

http://www.postgresql.org/support/professional_support_europe



Vergleich Oracle – PostgreSQL

OS: Oracle User



OS: PostgreSQL User





EAS konformes PostgreSQL FS Layout

(Encapsulated Application Setup)

FS	Inhalt	Mnt. Point	Größe
PGuser	User Environment	/pg/OSL	10M
PGbin	PostgreSQL Binärpaket	/pg/OSL/bin	50M
PGdata	PostgreSQL Cluster (DBs)	/pg/OSL/data	> 2G
PGetc	PostgreSQL Konfig. Dateien	/pg/OSL/etc	10M

OSL Anwendungstemplates

\$ appadmin -IT

202 – PostgreSQL 8.2 (single instance)

...

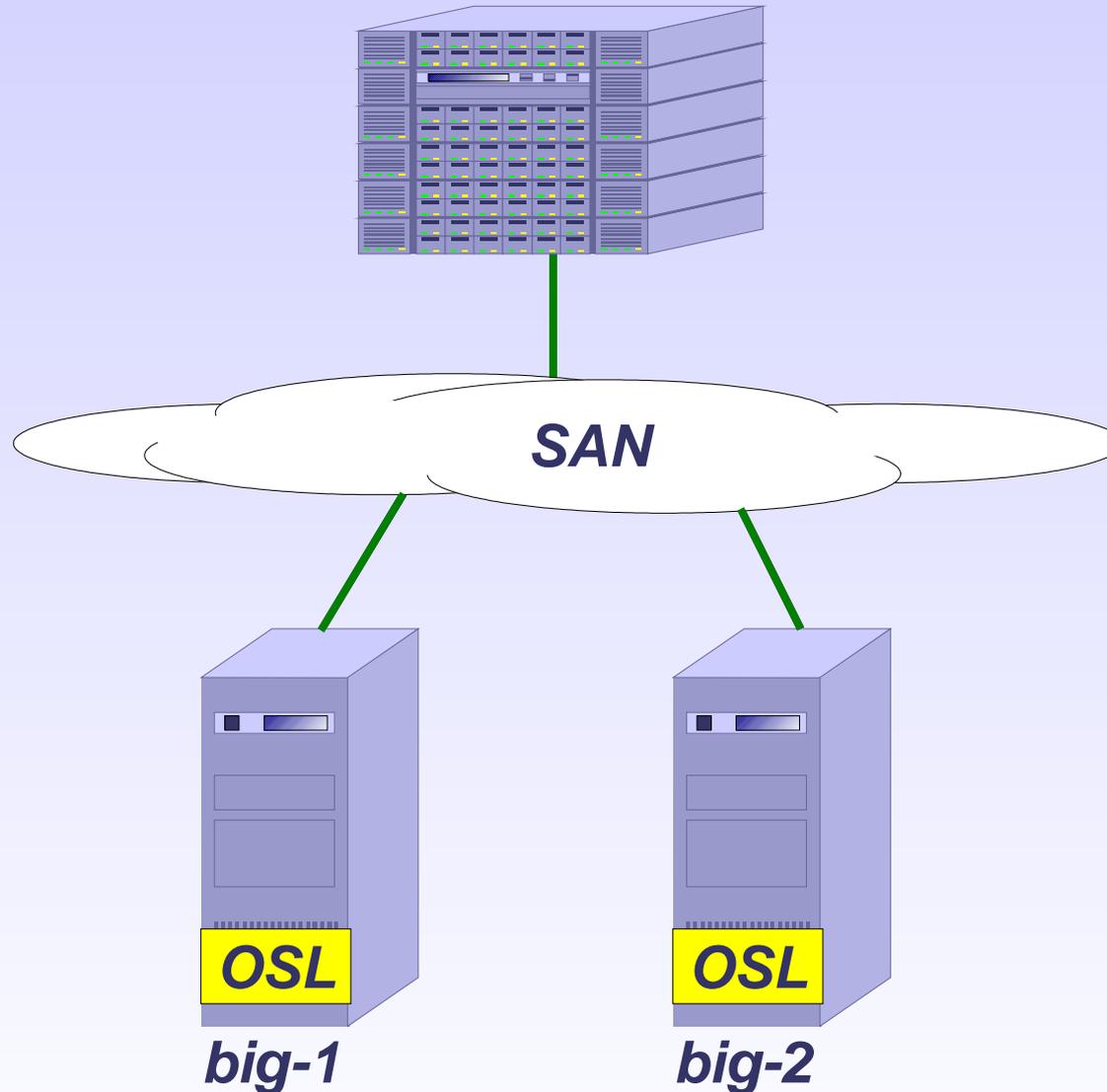
Anwendung anlegen

\$ appadmin -p 120 -c osl -T 202

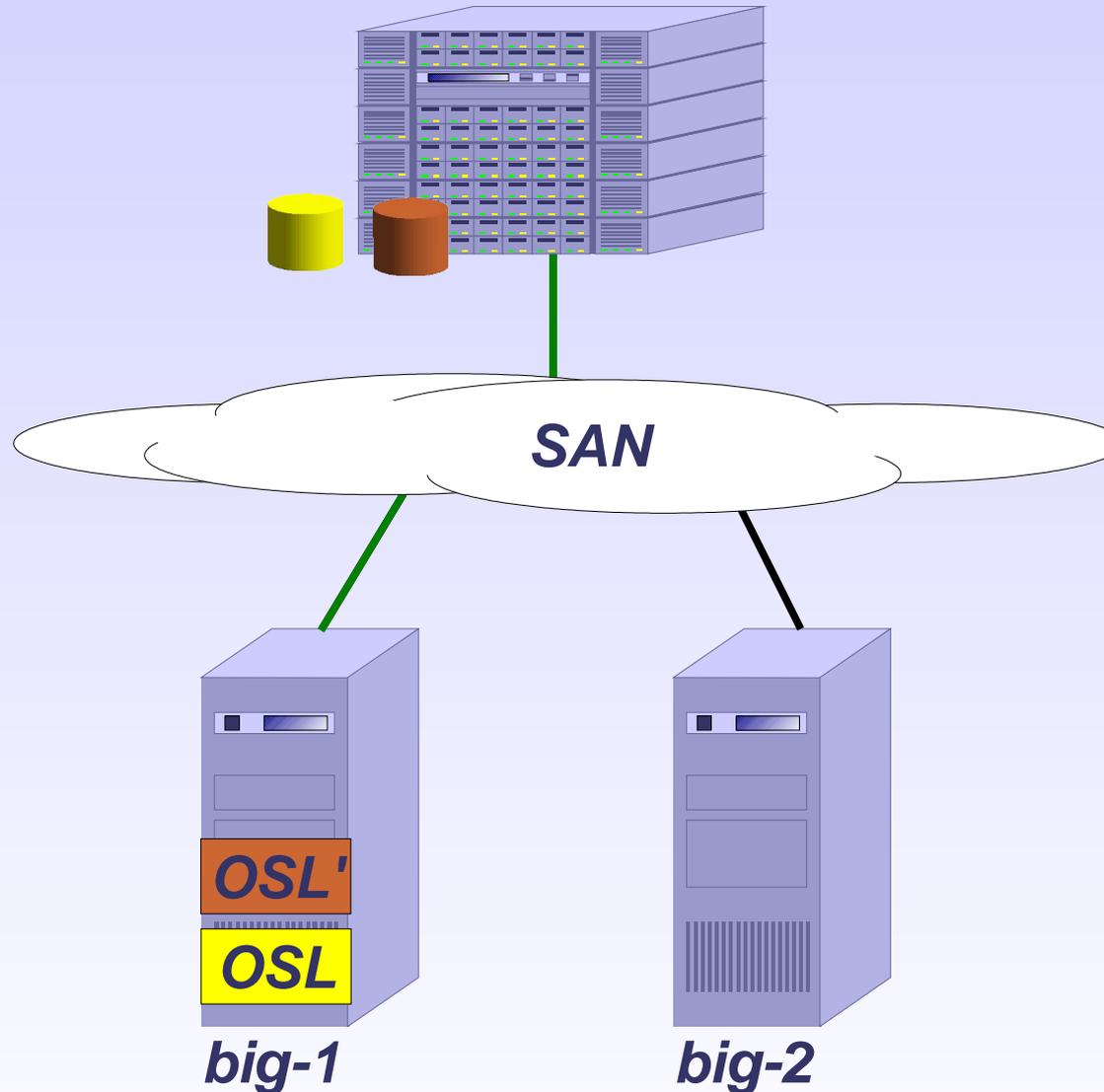
**Hochverfügbarkeit +
Backup Lösungen
für
PostgreSQL**



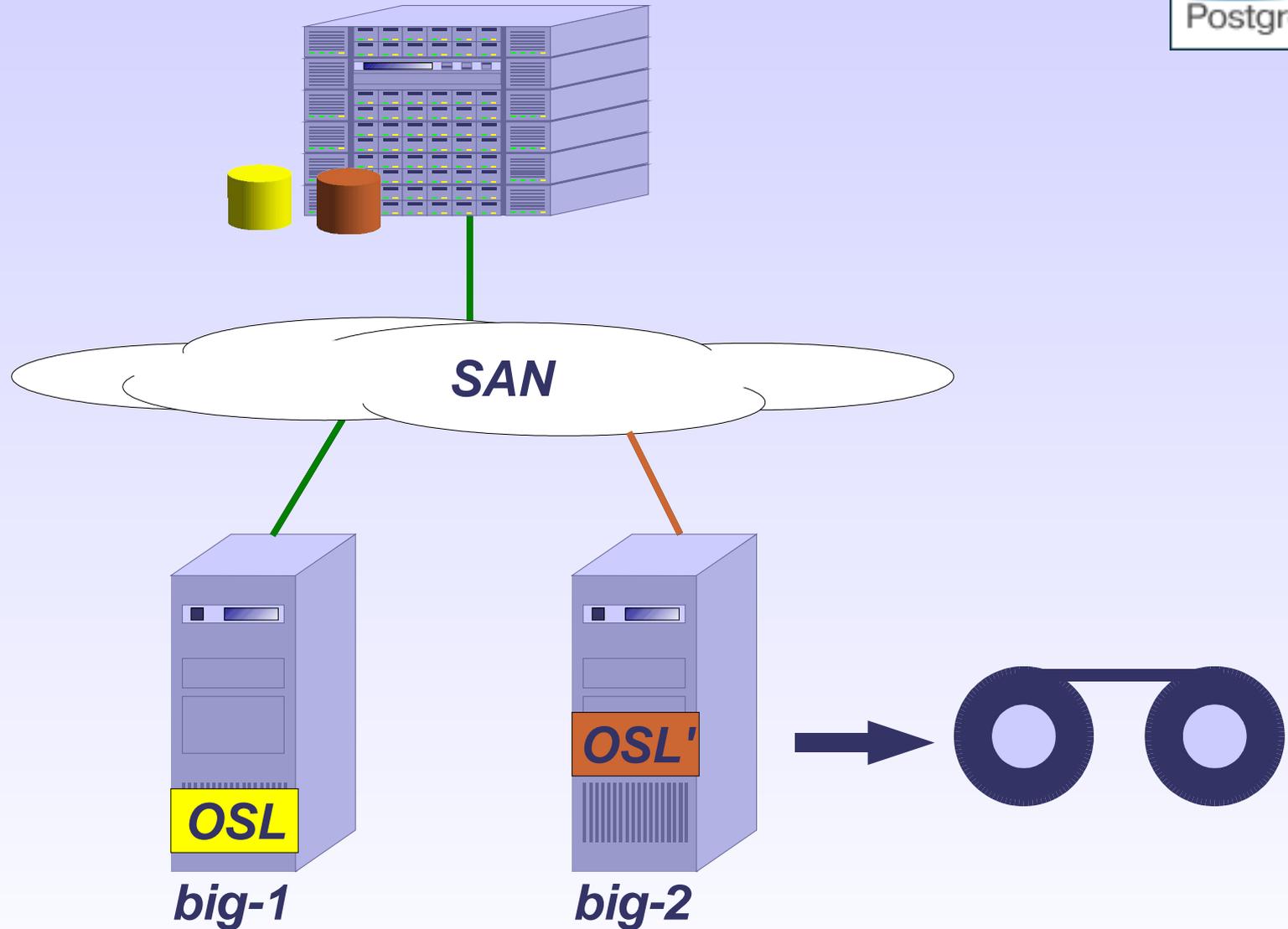
PostgreSQL Hochverfügbarkeit



PostgreSQL Backup

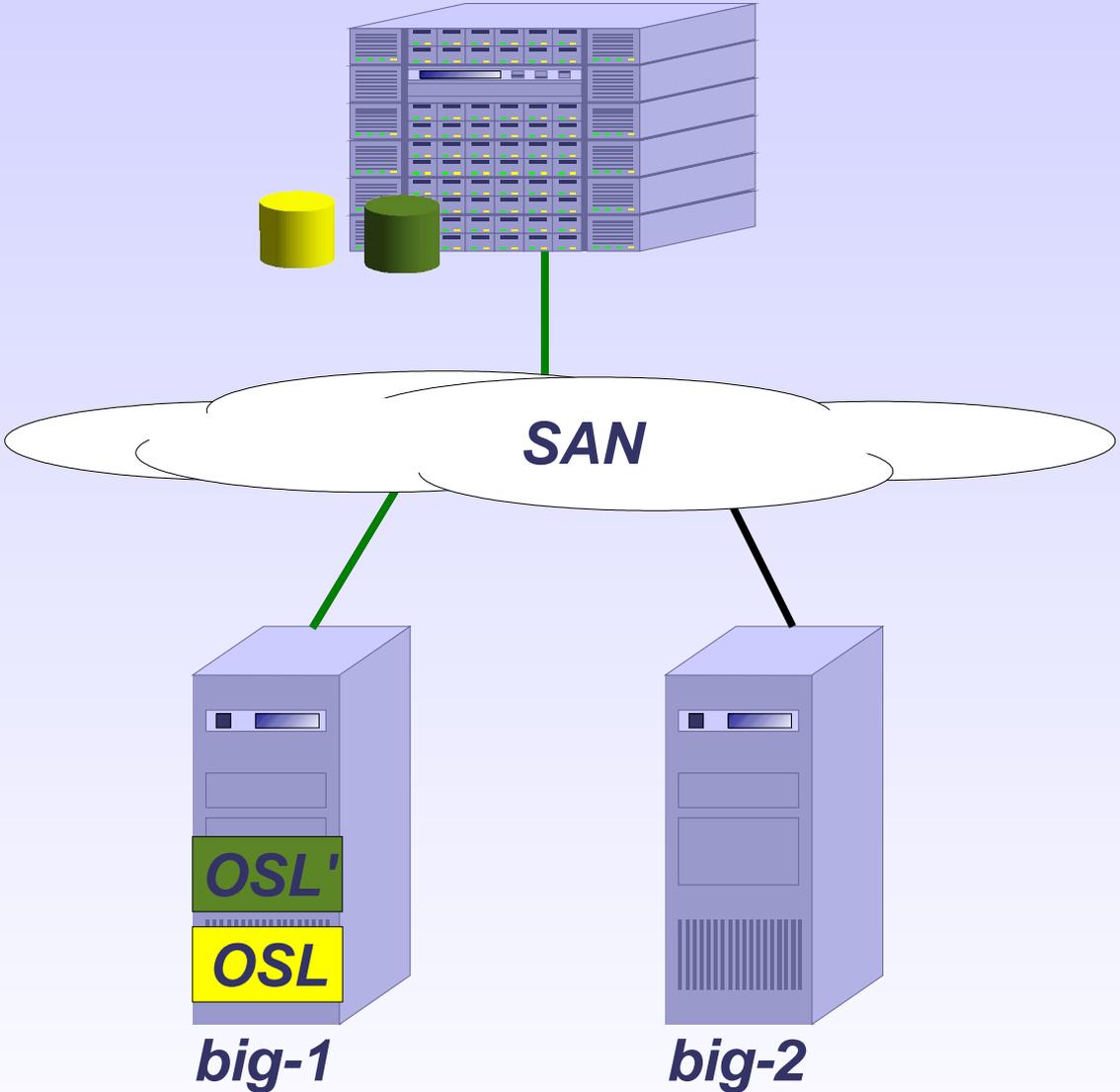


PostgreSQL Backup



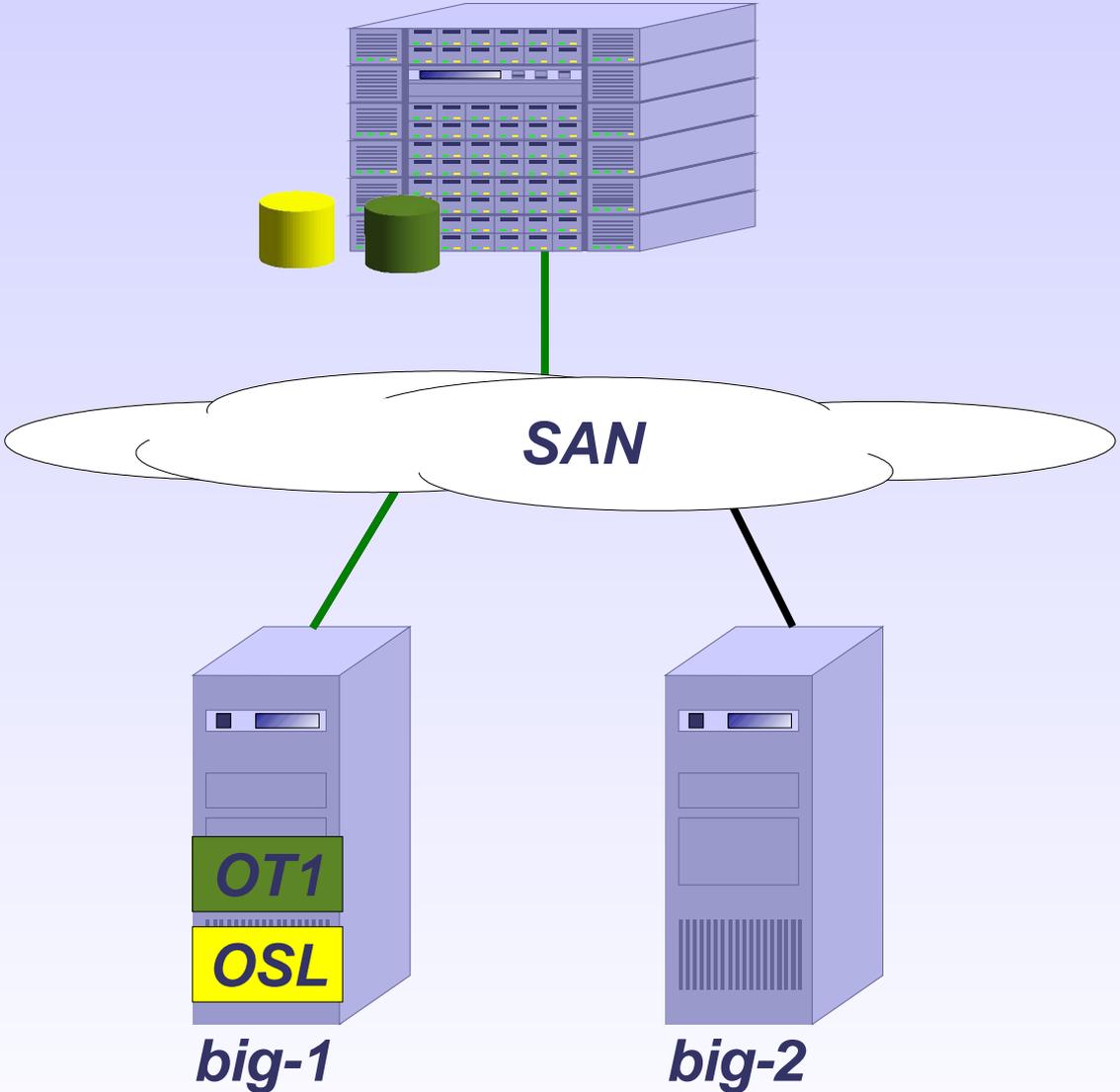


PostgreSQL Systemkopie (Clone)





PostgreSQL Systemkopie (Modifik.)





PostgreSQL Systemkopie (Clone)

1. Datenkopie erstellen - clone

```

xterm
----- Clone Application - initial -----
Source App: osl      Target App: ot1      Tgt Prio: __  Sync wait: [ ]

  AV Source      AV Target Sel Mountpoint      Mnt. opts
-----
  OSUser@0      OT1user@0  Y  /pg/OT1      ufs 6 yes rw
  OSdata@0      OT1data@0  Y  /pg/OT1/data  ufs 6 yes rw
  OSetc@0       OT1etc@0   Y  /pg/OT1/etc   ufs 6 yes rw
  OSbin@0       OT1bin@0   Y  /pg/OT1/bin   ufs 6 yes rw
  .
  .

  Vif Source      Vif Target
-----
  >pgbdhost:postgresql:0xffffffff80  pgbdhost:ot1db:0xffffffff80

Virtual interfaces belonging to selected Application
F1 Help  F4 AV Re  F5 Mount  F7 Creat  F8 Close
  
```

PostgreSQL Systemkopie (Modifik.)

2. Modifikation der Datenkopie

```

xterm
----- Modify Application -----
Base type: 202 - PostgreSQL 8.2 (single instance)
Source App: ot1      Modify: initial New SID: OT1 PGPort: 6222
-----
AV          Inc Mountpoint          Mnt. opts
-----
OT1user@0  Y /pg/OT1                        ufs 6 yes rw
OT1data@0  Y /pg/OT1/data                  ufs 6 yes rw
OT1etc@0   Y /pg/OT1/etc                   ufs 6 yes rw
OT1bin@0   Y /pg/OT1/bin                   ufs 6 yes rw
-----
Vif Source          Vif Target
-----
pgbdhost:postgresql:0xffffffff80  pgbdhost:ot1db:0xffffffff80
-----
Application Volumes belonging to selected Application
F1 Help  F5 Mount  F7 Creat  F8 Close

```



PostgreSQL und OSL Storage Cluster

**Hochverfügbarkeit +
Backup Lösung +
Systemkopien
für PostgreSQL**



Vielen Dank für Ihre Aufmerksamkeit