

PostgreSQL 象行中国2019 - 杭州



企业级 PostgreSQL 运行平台构建

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企业级数据库需要什么配套



- 99.999% HA 可用性，系统持续了运行
- 查询性能横向扩展，版本升级在线进行
- 千年 DBA 老梗：删库 -> 跑路

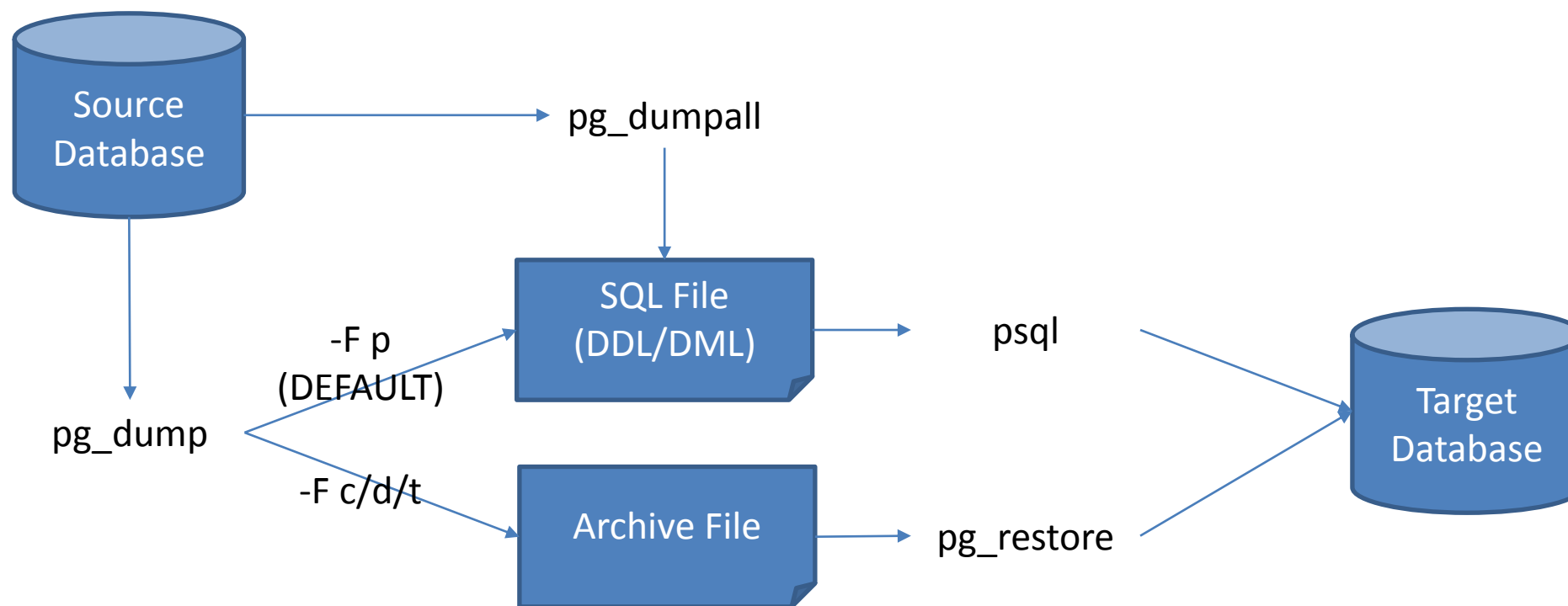


PG 持续备份及时间点恢复

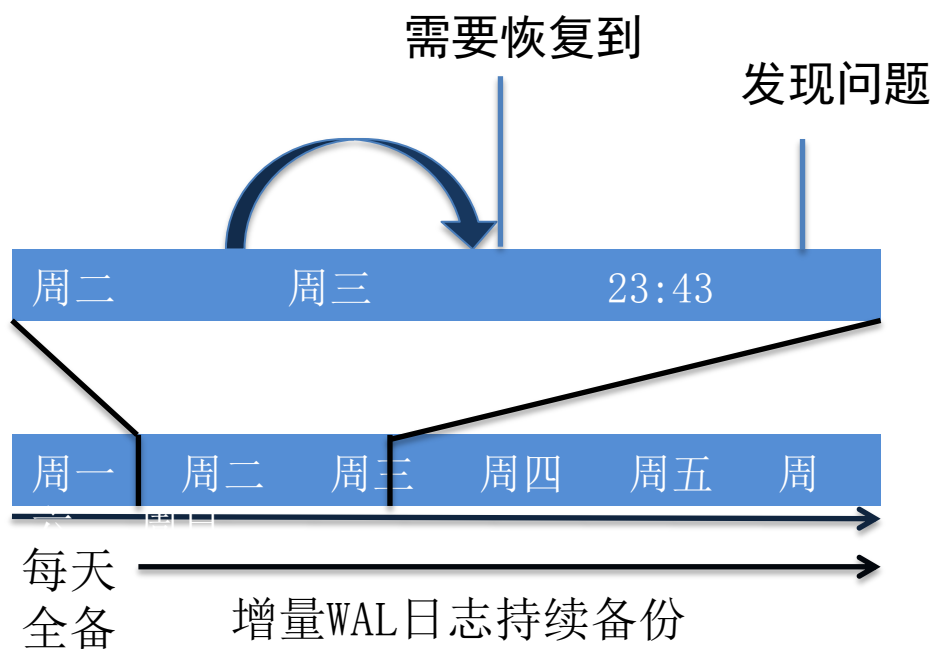


- 逻辑备份 (pg_dump)
- 时间点恢复 (Archive & PITR)
- 流复制 (Stream Replication)

逻辑备份



归档及按时间点恢复

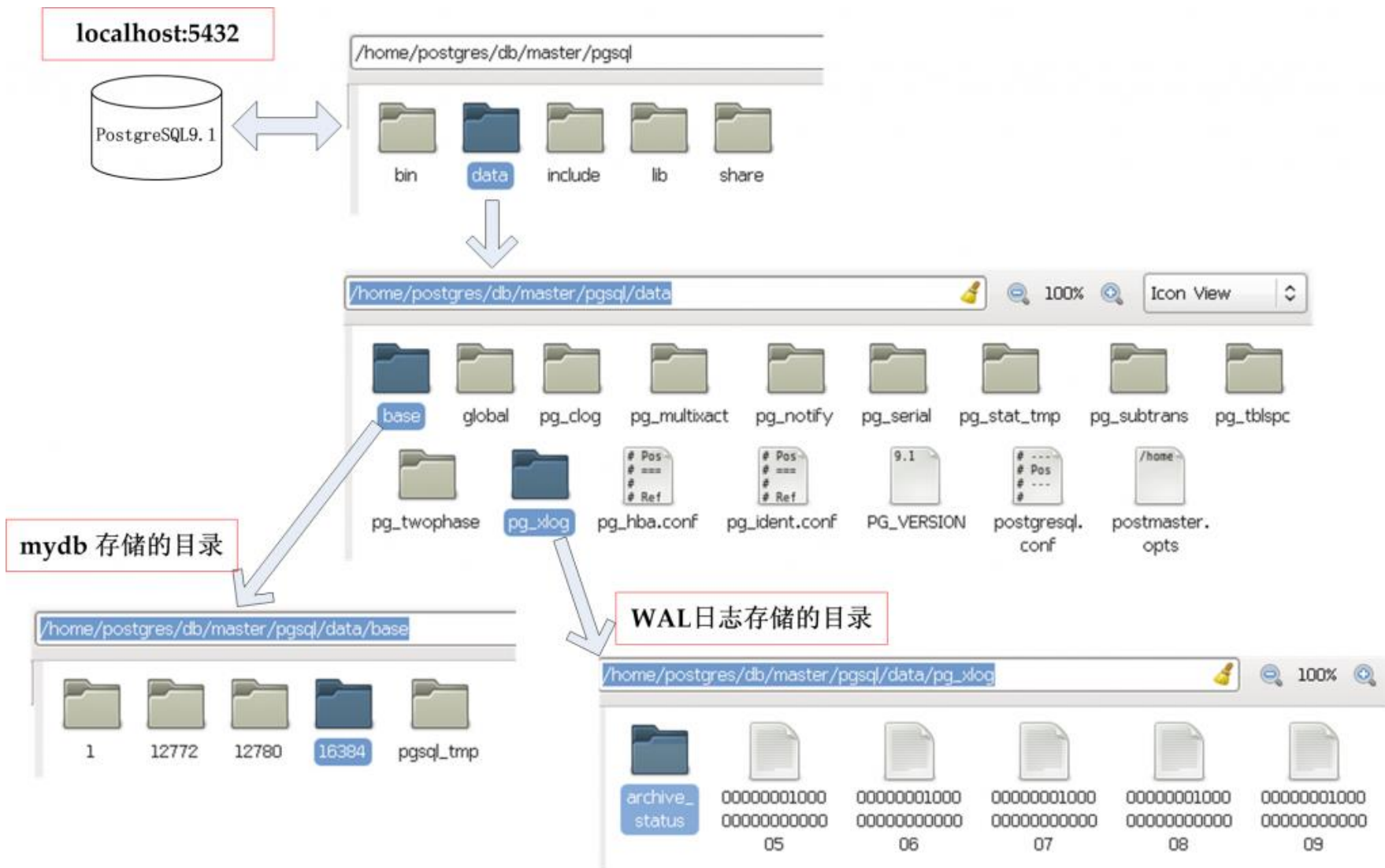


周三的全备
+
全备后到23:43之间的增量 WAL
=
还原到 周三23:43

归档及按时间点恢复

感谢 孙鹏:

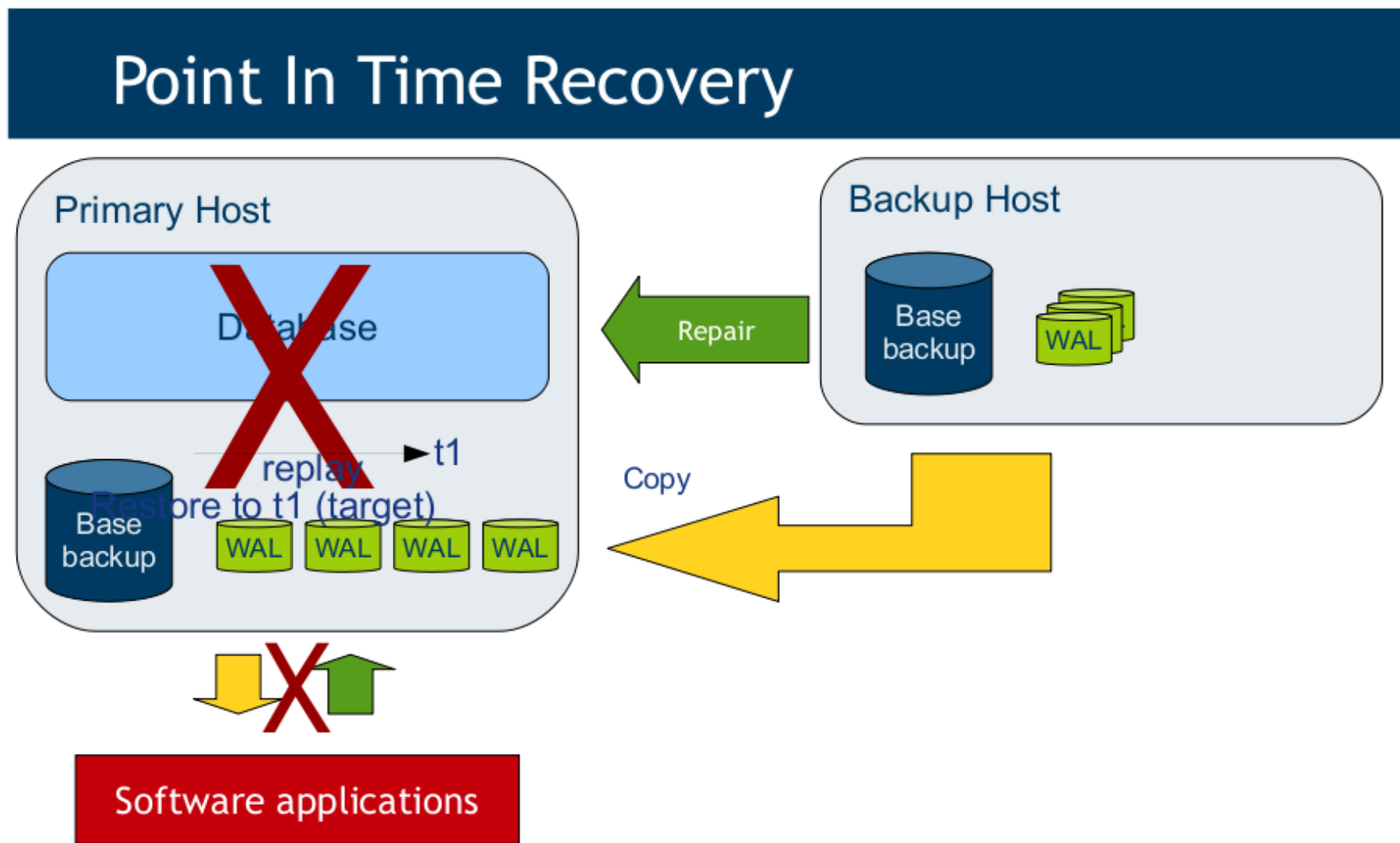
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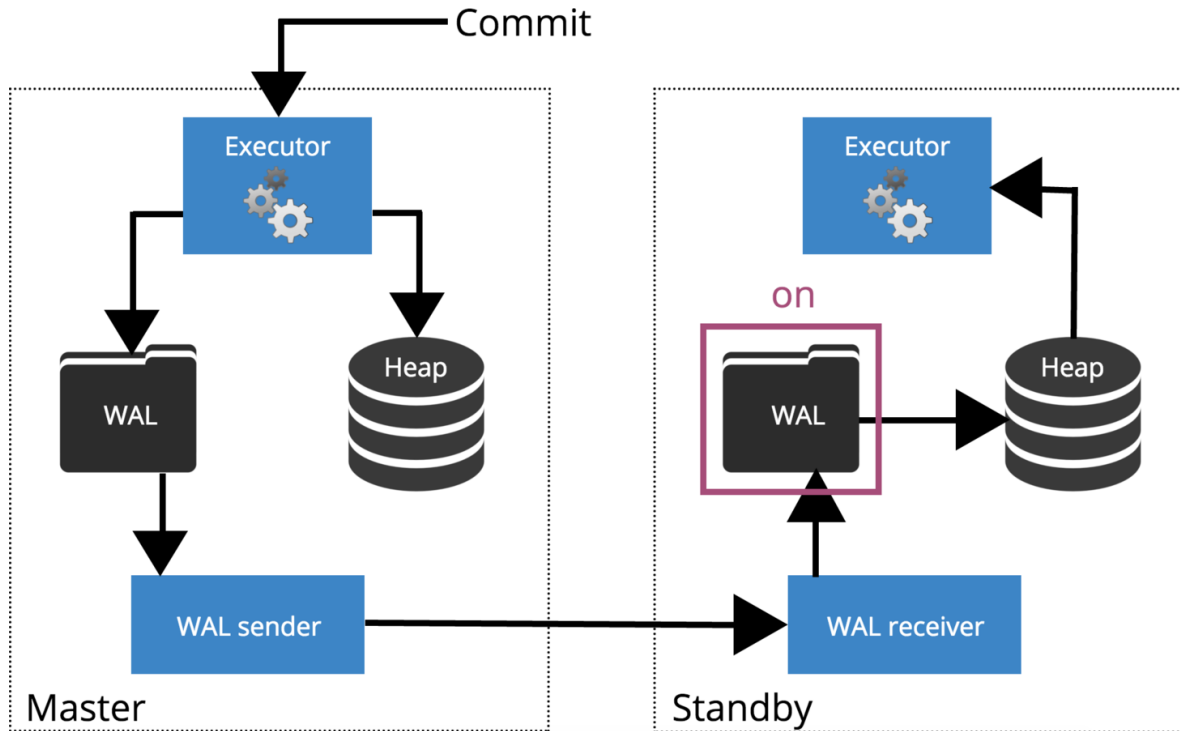
归档及按时间点恢复

感谢 孙鹏:

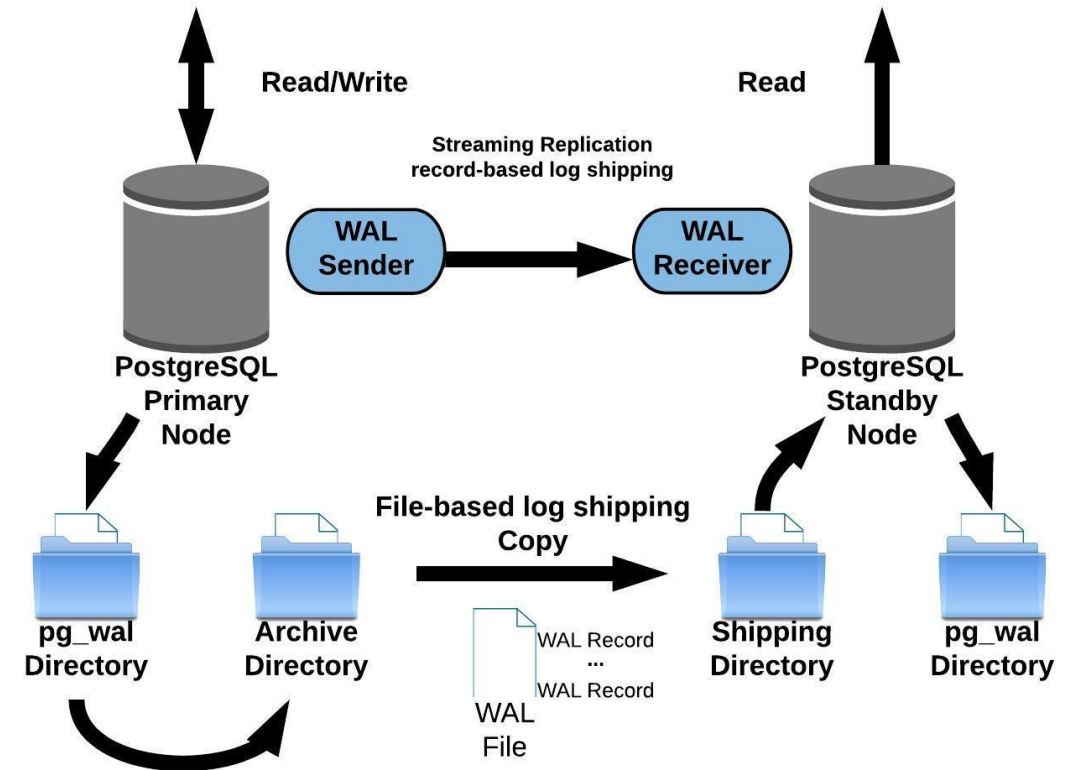
<http://blog.sciencenet.cn/home.php?mod=space&uid=419883&do=blog&id=537939>



流复制（只读实例）



来自: <https://slides.com/apatheticmagpie/ft-in-postgres-fosdem#/>



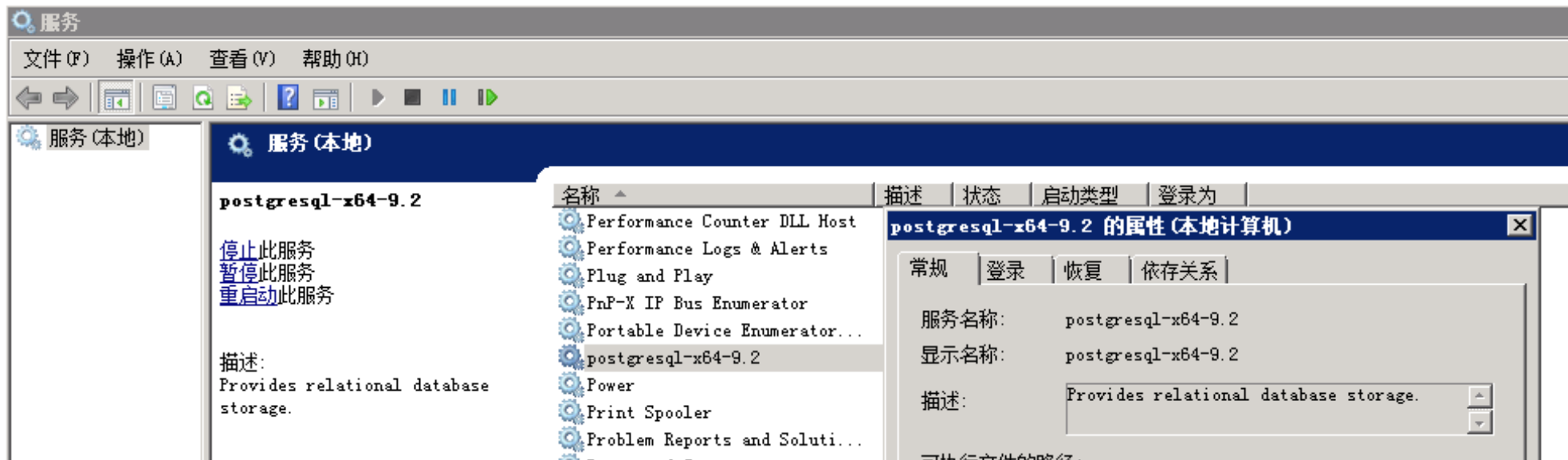
来自: <https://severalnines.com/blog/postgresql-streaming-replication-deep-dive>

解决方案

在PostgreSQL 服务器系统环境变量中配置 PostgreSQL 数据库的环境变量。请执行如下步骤：

1. 获取 PostgreSQL 数据库环境变量信息。点击开始菜单 > 管理工具 > 服务，找到对应的 PostgreSQL 数据库服务，右键点击PostgreSQL 数据库服务，选择属性，查看可执行文件 pg_ctl.exe 的路径。

如下示例中：服务名为 postgresql-x64-9.2，可执行文件的路径为 C:\Program Files\PostgreSQL\9.2\bin\





> NetBackup for PostgreSQL 简介

> 安装 NetBackup for PostgreSQL Agent

> 配置 NetBackup for PostgreSQL

▼ NetBackup for PostgreSQL 备份和还原

> 关于 PostgreSQL 备份

执行 PostgreSQL 备份

验证 PostgreSQL 备份

查询 PostgreSQL 备份

从 NetBackup 目录库文件中删除备份信息

关于 PostgreSQL 还原

执行 PostgreSQL 还原

重定向还原

执行 PostgreSQL 备份

本主题列出了备份的先决条件，并描述了运行备份的过程以及从 NetBackup 安排备份的信息。

先决条件

运行备份之前，请确保满足以下先决条件：

- 确保 PostgreSQL 代理和 NetBackup 的版本相同。如果将 NetBackup 升级到更高版本，则还必须升级代理版本。
- (Windows) 在环境变量中设置 `NetBackup\bin` 目录。

例如，`Path =C:\Program Files\Veritas\Netbackup\bin`

- (Windows) 在用户环境变量中设置 `PostgreSQL\bin` 目录。

例如，`Path=C:\Program Files\PostgreSQL\bin`

- (Linux) 符号链接：如果符号链接不存在，则创建符号链接 `libpq.so` 并确保该链接指向 `libpq.so.<n>`，其中 `n` 是 PostgreSQL 库版本。

有关更多信息，请参见 [NetBackup for PostgreSQL Agent 的安装后要求](#)。

Data Protector for Postgres using IBM Spectrum Protect 4.4

Solution overview

Solution details

ID# : 37906

Solution name :

Data Protector for Postgres using IBM Spectrum Protect 4.4

Solution description :

This product will allow you to protect your PostgreSQL databases using existing "Spectrum Protect" provided by IBM.

Solution web page :

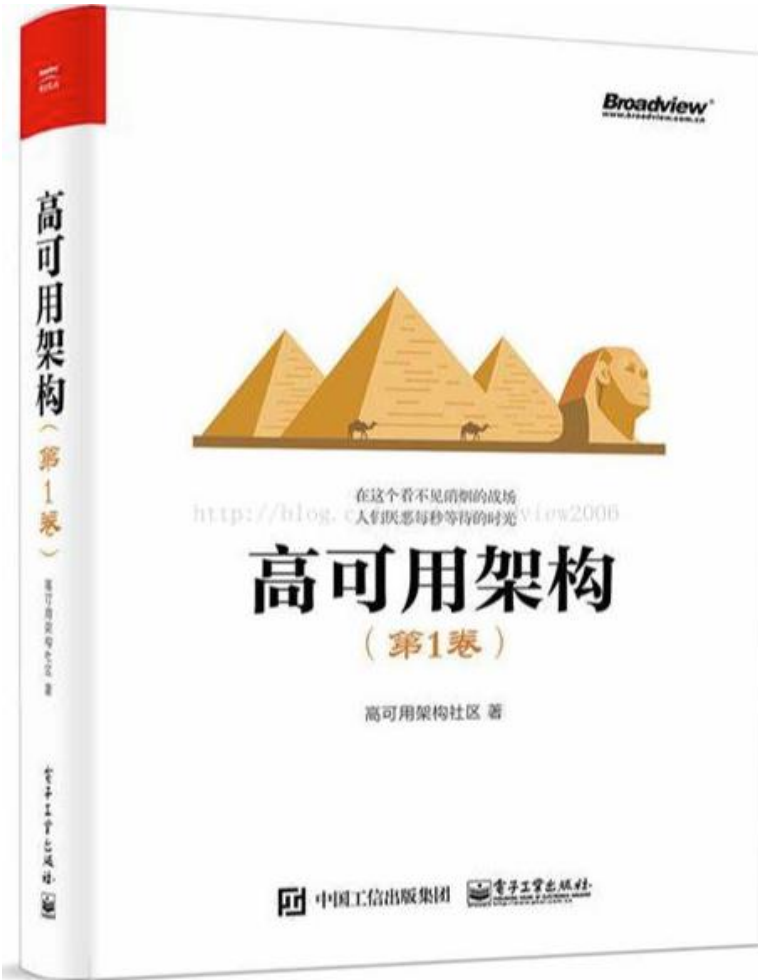
 www.repostor.com

→ [Solution collateral](#)

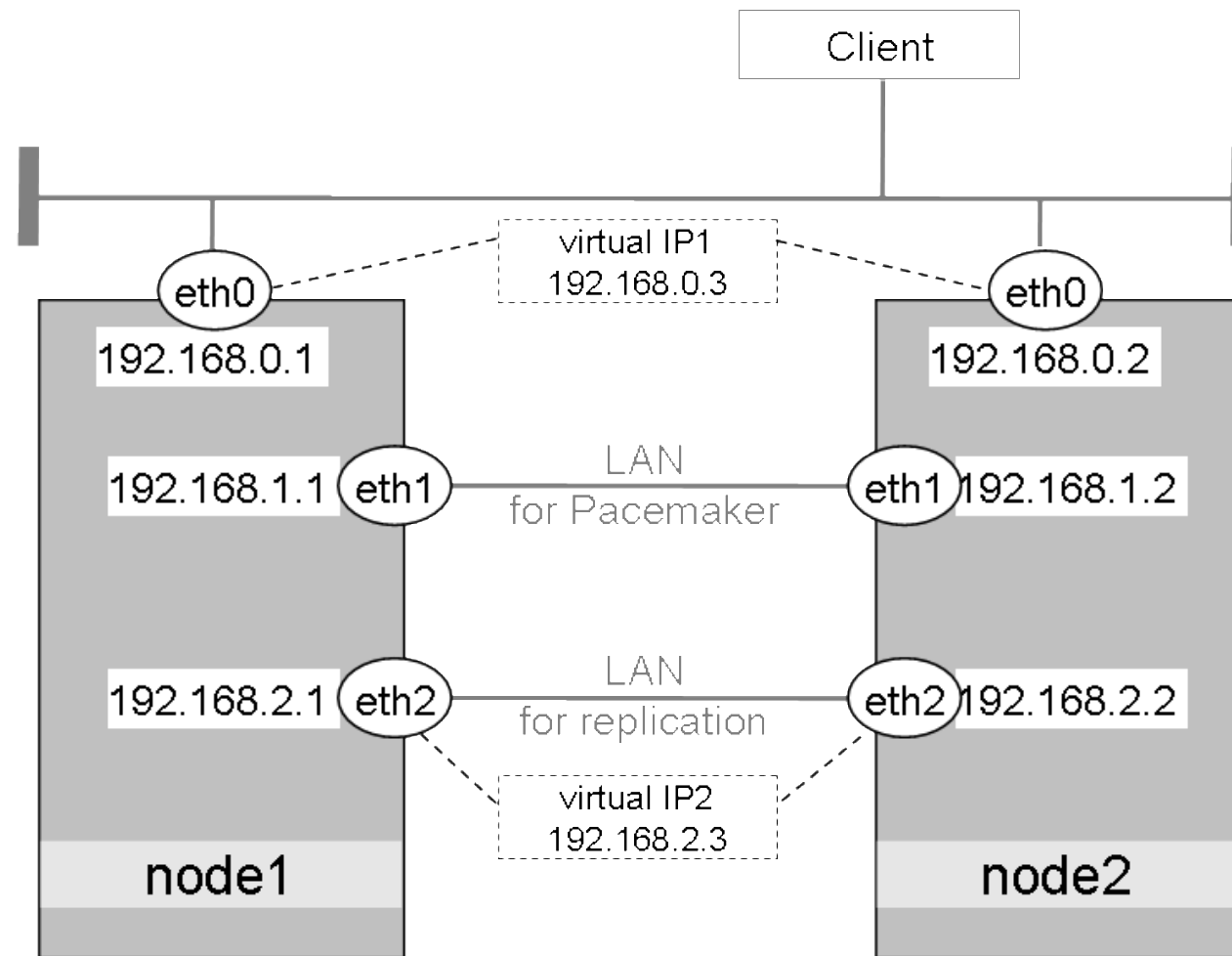
Date last modified: Nov 24, 2017

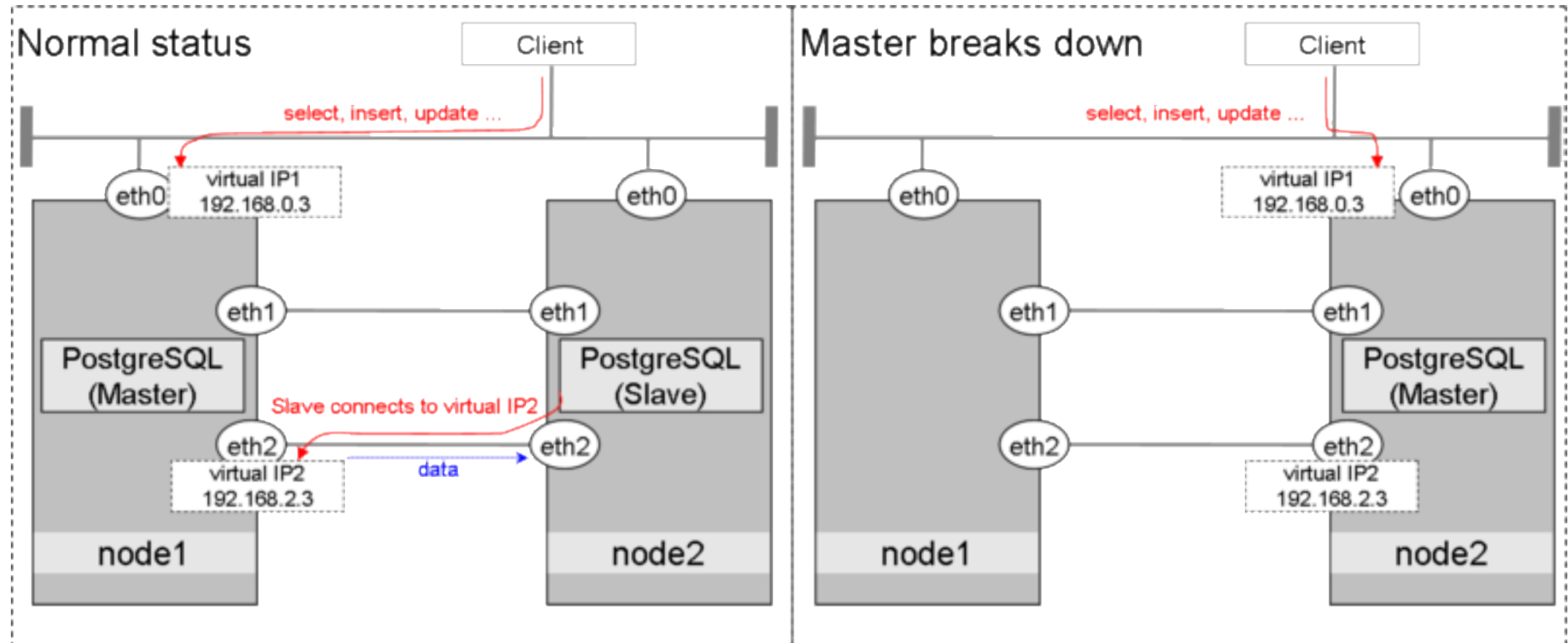


PostgreSQL高可用集群



可用性	年宕机	月宕机
99.9%	8.76小时	43.8分钟
99.99%	52.56分钟	4.32分钟
99.999%	5.26分钟	25.9秒
99.9999%	31.5秒	2.59秒





ClusterControl

Free Community Edition

The ClusterControl Community Edition is a free-to-use, all-in-one database management system that allows you to deploy and monitor the top open source database technologies like MySQL, MariaDB, Percona, MongoDB, PostgreSQL, Galera Cluster and more.

Download for FREE



Easy and Secure Deployments

Using proven methodologies and industry best practices the ClusterControl Community Edition enables you to easily deploy database instances with a point-and-click interface.



Advanced Monitoring

The ClusterControl Community Edition offers free database monitoring which provides a unified view of all of your deployments across data centers and lets you drill down into individual nodes.



Fully Integrated CLI

Used in conjunction with the powerful GUI, the CLI gives you an alternate way to manage your open source database environments using whatever engine you prefer.



Automated Performance Advisors

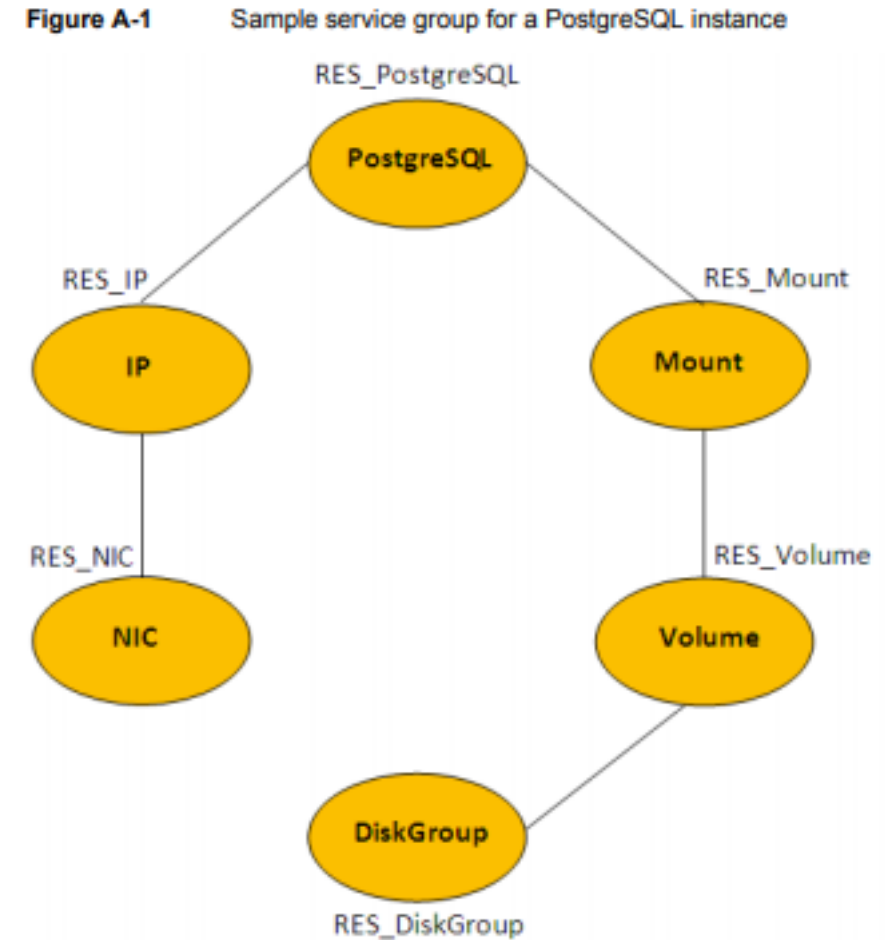
The ClusterControl Developer Studio provides you a set of monitoring and performance advisors to use and lets you create custom advisors to add security and stability to your database infrastructures.



VCS Agent Details	
PostgreSQL.7.0.6.0.Red Hat Enterprise Linux [Download]	
Agent:	PostgreSQL 7.0.6.0
Application name:	PostgreSQL
Application version(s):	8.1, 8.4, 9.x, 10.x
Application components:	PostgreSQL, EnterpriseDB PostgreSQL
Agent type:	Database agent
VCS release:	VCS 6.2
Platform version:	Red Hat Enterprise Linux 7
Architecture:	x86-64
Internationalization:	N/A
IMF support:	Supports Intelligent Monitoring Framework (IMF) and intelligent resource monitoring from VCS version 5.1SP1.
MD5:	c8fe876778801f95251488b26e2d37c6
Notes:	Supports Intelligent Monitoring Framework (IMF) and intelligent resource monitoring.
Documentation:	VCS Postgresql Install

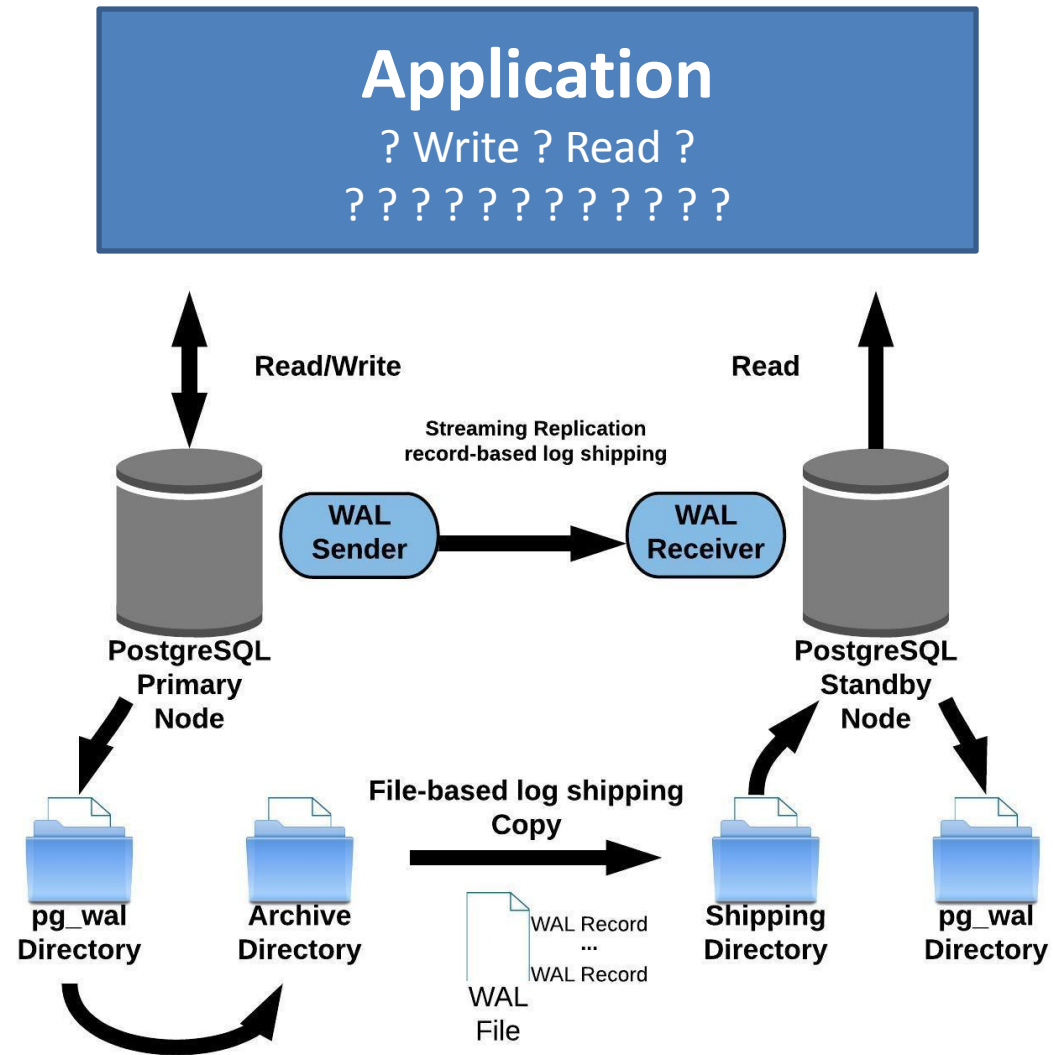
VERITAS
The truth in information.

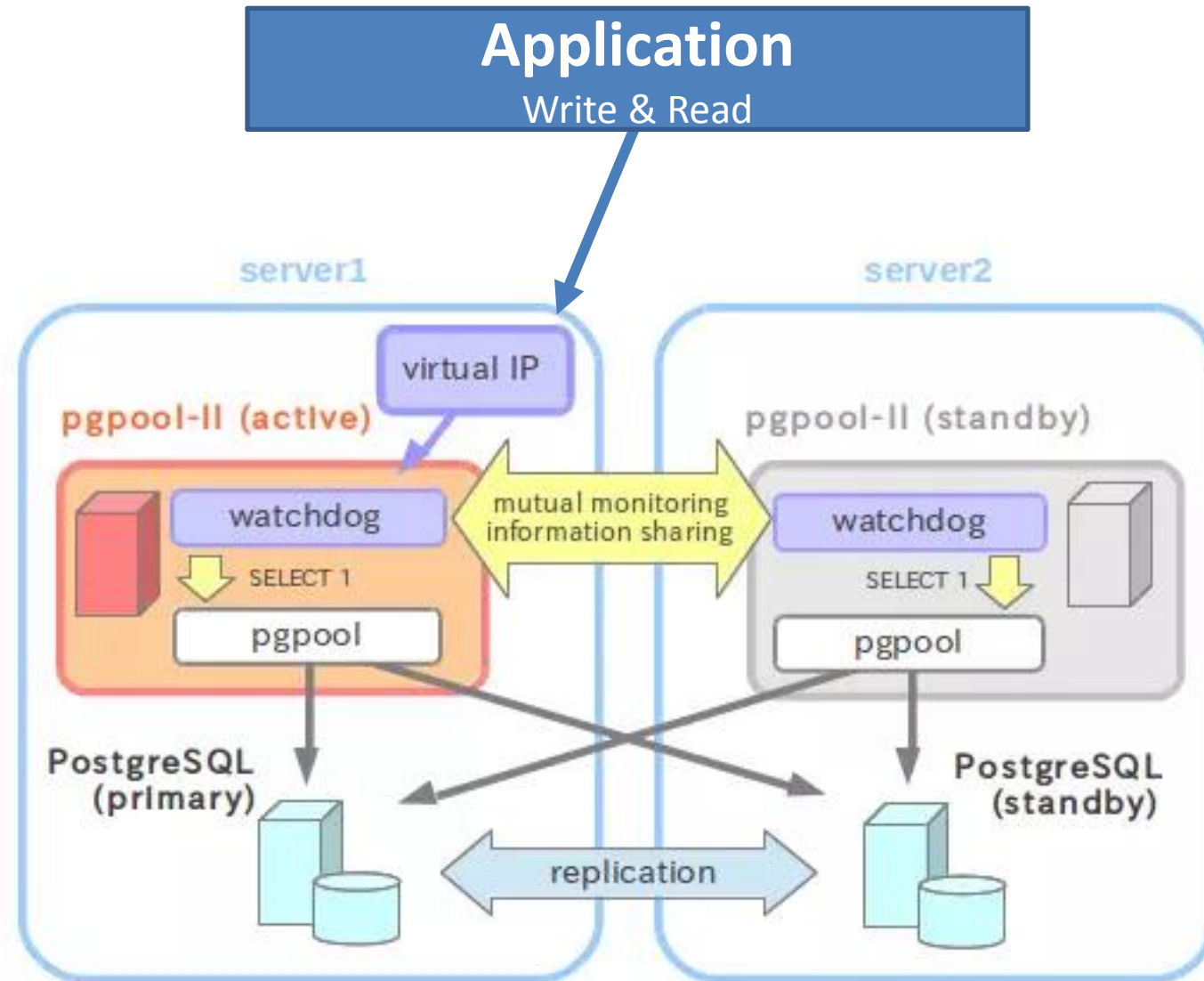
来自: https://sort.veritas.com/agents/download_docs/7687/vcs_postgresql_install

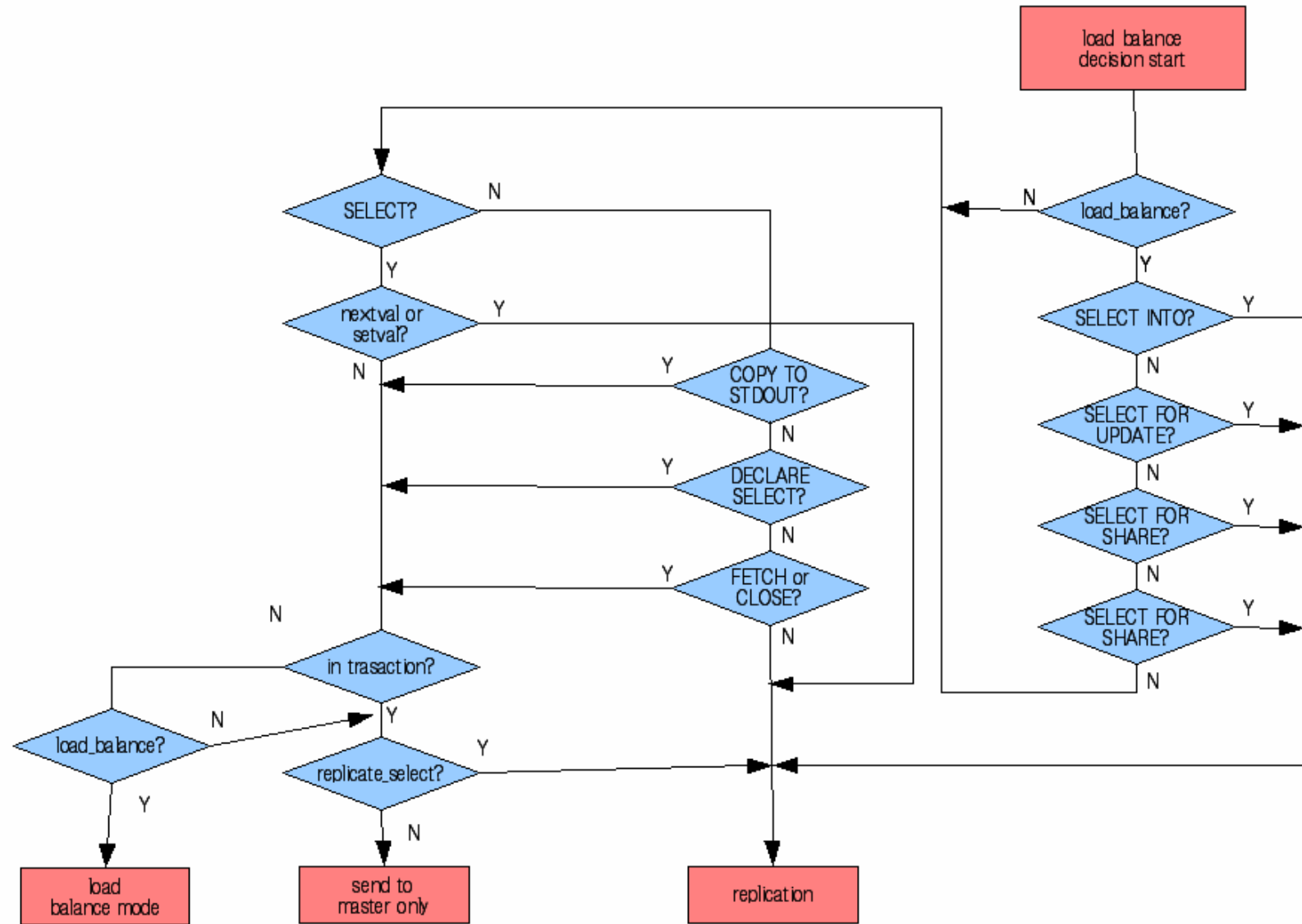


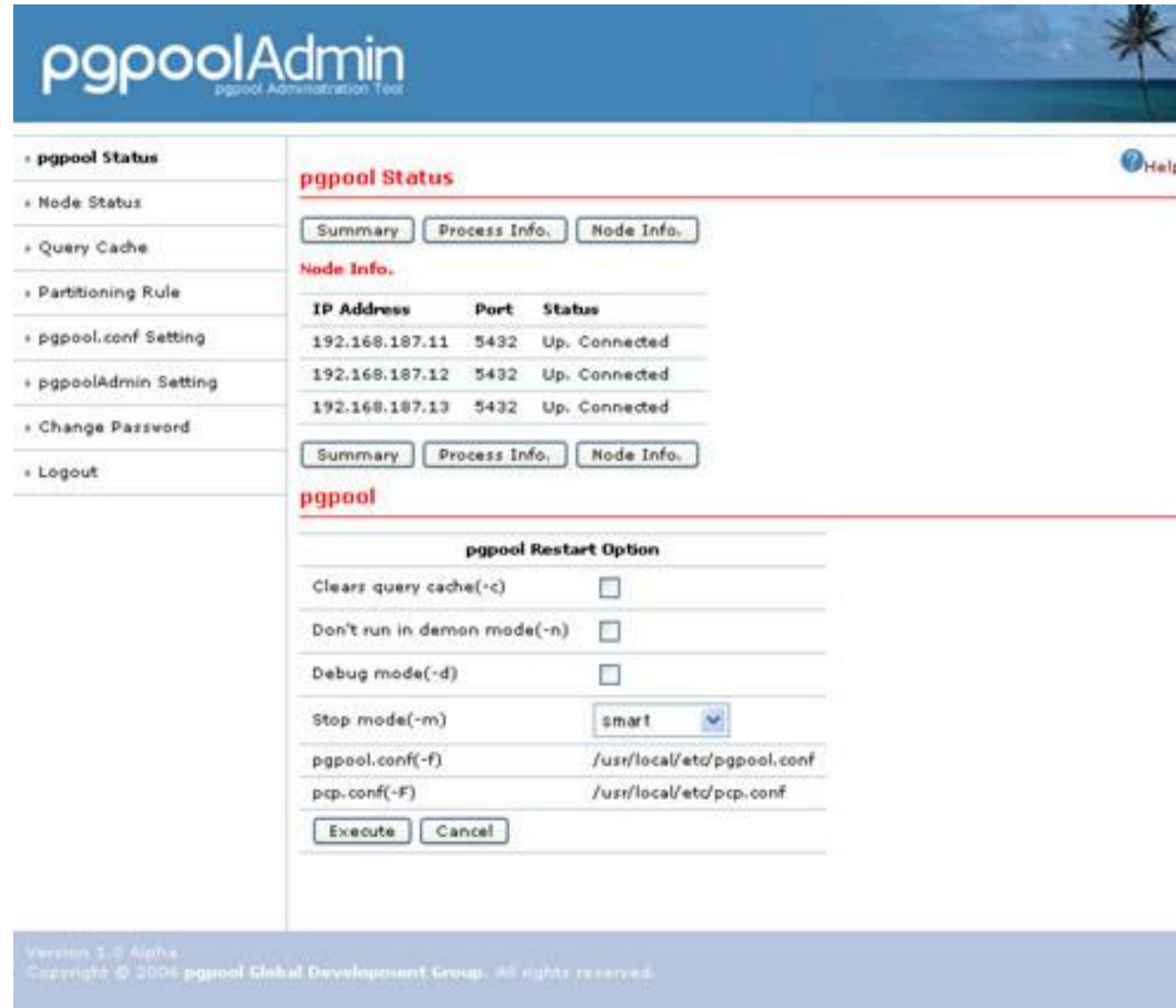


PostgreSQL 读写分离架构









The screenshot displays the pgpoolAdmin web interface. The top navigation bar includes a sidebar with menu items: pgpool Status, Node Status, Query Cache, Partitioning Rule, pgpool.conf Setting, pgpoolAdmin Setting, Change Password, and Logout. The main content area is titled "pgpool Status" and features a "Help" icon. Below the title are three tabs: "Summary", "Process Info.", and "Node Info.". The "Node Info." tab is active, showing a table with three columns: "IP Address", "Port", and "Status". The table lists three nodes, all with a status of "Up, Connected". Below the table are the same three tabs. Underneath is the "pgpool Restart Option" section, which contains several configuration options with checkboxes and a dropdown menu. At the bottom of this section are "Execute" and "Cancel" buttons. The footer of the page contains the text: "Version 1.0 Alpha Copyright © 2006 pgpool Global Development Group. All rights reserved."

pgpoolAdmin

pgpool Administration Tool

- pgpool Status
- Node Status
- Query Cache
- Partitioning Rule
- pgpool.conf Setting
- pgpoolAdmin Setting
- Change Password
- Logout

pgpool Status

Help

Summary Process Info. Node Info.

Node Info.

IP Address	Port	Status
192.168.187.11	5432	Up, Connected
192.168.187.12	5432	Up, Connected
192.168.187.13	5432	Up, Connected

Summary Process Info. Node Info.

pgpool

pgpool Restart Option

Clears query cache(-c)

Don't run in demon mode(-n)

Debug mode(-d)

Stop mode(-m)

pgpool.conf(-f) /usr/local/etc/pgpool.conf

pcp.conf(-F) /usr/local/etc/pcp.conf

Execute Cancel

Version 1.0 Alpha
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Thanks

Q & A

