

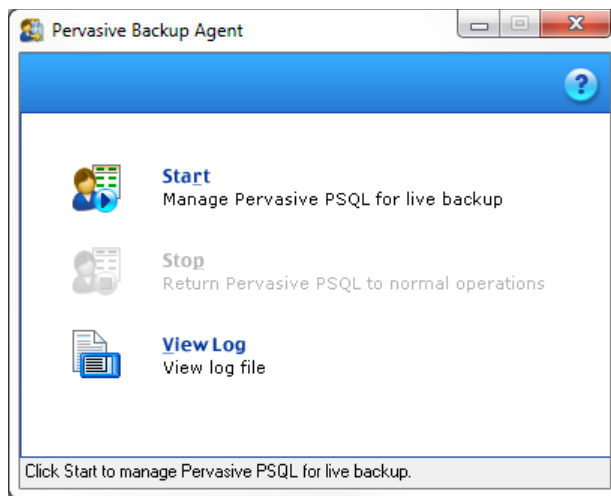
Tech Tip #8: Backing Up Your Database Files: Advanced Options

Overview: Ensuring good backups via Backup Agent, VSS, or Replication

In our last Tech Tip, we looked at a few options for getting proper backups of your PSQL data. In this tip, we continue this topic with some options for more advanced users, including the **Backup Agent**, the **VSS Writer**, and **Double-Take** replication.

Let's first investigate the **Backup Agent**. The Backup Agent is a software add-on for PSQL that automates the use of Continuous Operations Mode, discussed previously. If you have a PSQLv11 Server Engine v11.20 or higher, then you already have a FREE license for this tool – just download and install it from the Actian web site, and you can start using it immediately. If you have a PSQL v11 Workgroup Engine instead, the **Backup Agent** must be purchased separately at a list price of \$250.

Once installed, **Backup Agent** presents a dialog box to start and stop Continuous Operations Mode:



However, this dialog is really of limited value. The real power of the **Backup Agent** is the command line tool. To prepare your files for backup, simply integrate the command `pvbackup -on` into your backup software before the backup, and `pvbackup -off` afterwards. The agent takes care of the rest!

Of course, there are other options to force some files to be included (an include file list) or excluded (an exclude file list) in each backup, so some manual configuration may be needed for your own system. The product manual provides complete instructions on getting this set up and working properly.

Many backup packages also support a special backup feature within Windows called *Volume Shadow Copy Services* (VSS). If you have a PSQL v11 Server Engine v11.20 or newer, then you ALSO have a free license for the **VSS Writer** – and it is already installed on your system, too! (The **VSS Writer** is not currently available for Workgroup Engine users.)

Essentially, the **VSS Writer** integrates the PSQL database engine into the VSS environment so that when a VSS snapshot is taken, the database “freezes” the files for a brief moment so that VSS can capture a perfectly clean snapshot. The data can then be backed up from the VSS snapshot. **One VERY important note regarding VSS Backups – because the database engine doesn't write new timestamps on database files when a VSS snapshot is taken, you should NOT rely on incremental or differential backups with a VSS snapshot. All of your VSS backups should be FULL backups only!**

To use the **VSS Writer**, the only prerequisite is to configure VSS on your Windows Server, which can be done using the **VSSAdmin** tool from an elevated command prompt. Configuring VSS properly is outside

the scope of a simple Tech Tip, so check with the Microsoft documentation on how to set it up on your specific OS release. Once configured, you'll know it is working because you will see messages in your PVSU.LOG like this:

```
NTDBSMGR64.EXE  Nostromo  I    PSQL VSS Writer successfully started
NTDBSMGR64.EXE  Nostromo  I    PSQL VSS Writer state: Frozen
NTDBSMGR64.EXE  Nostromo  I    PSQL VSS Writer state: Thawed
```

For some companies, especially those with very large databases or mission-critical applications, even periodic snapshot backups are not a feasible solution. Full backups of your system may take several hours to complete, and the possibility of losing 24 hours of database updates in a mission-critical environment may give your users the heebie-jeebies!

If this is your situation, then you may be interested in a much more effective solution – **Double-Take for PSQL**. Vision Solutions is a company that provides a range of data replication and server migration products, and their flagship product, **Double-Take Availability**, is a superb way of replicating data in near real time from one production server to another, off-line server, either in-house or in a remote disaster-recovery data center.

Double-Take Availability for Windows provides affordable data protection, fault tolerance and enables immediate recovery from any system outage at the push of a button. Continuous data replication over any distance means that you always have access to a current copy of your data, applications and even operating system. This product monitors changes to all protected files and replicates only the bytes that change. Resource-friendly technology allows you to replicate to any disaster recovery site, over standard IP networks, for maximum protection against data loss. Choose between application-level or full-server failover to configure an alternate system to take over for the production server in the event of an outage.

Goldstar Software has been working with Double-Take products since the late 90's, and we certainly know how to work with and protect the PSQL database properly. To help you leverage this expertise, we include free implementation time with every Double-Take sale! This allows you to get your company up and running on a redundant environment utilizing near-real-time replication with the least amount of effort on your part. Get more information on this solution from our web site here:

<http://www.goldstarsoftware.com/doubletake.asp>

Of course, if you ever have any questions about proper backups, we are only a phone call away!