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## Informix Primary Storage Manager

"Change gear for your IBM Informix backups, replace ontape with onbar NOW!"

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## Darwin's theory of evolution applied to the backup and restore tools in Informix.



the dawn of the Informix Era, in the 1980s, and during the appearance of the "Informix Turbus" specimen on the planet Earth, the perspectives for a strong volume growth for the databases was already raising the question of the time required to perform backups of the same database, as well as their and restoration. The technology of the time was based mainly on tape media, either 9mm cartridges or later DAT 3mm and 8mm

Unlike Informix SE or its ancestor Informix-4GL 'bundled' whose data were residing in files and directories mounted on filesystems, the Informix Turbo data residing on raw devices could only be saved by a specialized tool (somewhat smarter than the 'dd' command), whose name was tbtape.

### ***OnTape: so easy to implement and to use***

Tbtape, whose name shows a clear relationship with 'tape', later became ontape, a reliable and easy to use tool, requiring surprisingly little configuration work. The main configuration works for ontape consists in naming the tape device in the ONCONFIG file, as well as its maximum size and tape block size for speed purpose.

Running ontape is as simple as configuring it "ontape -s -L 0", "Y", return, return and that's it. If the DBA puts these commands into a shell script, the main administration task consists in placing the tape into to the tape writer and removing it when the backup operation is completed (plus note the date+reference logical log number ☺)

Those ontape advantages have been and are highly appreciated by many small to medium instance Informix DBAs, but when backup time or restore time becomes an issue, ontape is no more the best answer for big databases.

### ***Onbar: a tool for both performance and versatility.***

After the unsuccessful and short lifetime of onarchive, quickly deprecated for performance and reliability reasons, onbar has been introduced in version 7.30 circa 1997. The main advantages of onbar are its ability to efficiently manage large volumes (> 100Gb) by interfacing to the main Storage Managers on the market (Tivoli, Netbackup and others ...), while consequently reducing the backup time and restore time by invoking parallel IO operations on multiple disks or tape devices.

Another advantage is the possibility of onbar to perform "point in time" restores, or until completion of a specific logical log number. This means restoring the Informix instance to a consistent and stable situation

at a particular timestamp because, for instance, a batch program was launched by mistake, or data has been corrupted after an identified time of the day.

Onbar can also restore individual dbspaces, as far as the data contained in these dbspaces are mutually consistent.

Finally another interesting onbar feature is to use the backup media in order to restore the contents of individual tables instead of whole dbspaces as explained above, by implementing archecker utility. Archecker can resolve in a timely manner so many dramatic situations that it deserves a fully dedicated section.

## ***So I use ontape if I don't want a complicated life, and I use onbar when data volume is high and short backup/restore times are a requirement ?***

Not that simple! At this stage, you understand that ontape is extremely simple to implement, but its options are limited and that onbar is much more powerful but requires a lot more difficult to implement, either by setting interfacing with Storage managers often complex and expensive market or with the Informix Storage Manager comes with the product.

If you are not familiar with the Storage Managers technology, you will also understand that the installation of Informix Storage Manager was « not necessarily made for you », and you may have returned to ontape because it's much simpler. However, the deprivation of a number of onbar features will bring you some bitter taste, which is really not required at this time.

## ***Primary Informix Storage Manage, just included in version 12.10***

Primary Storage Manager comes with IBM Informix 12.10: this is what many ontape-fans DBAs have been waiting for long! No more pain to configure ISM, PSM is configured and operational in less time than to write it!

Although PSM is not entirely new, since it comes Informix XPS 8.11, the concept has been enhanced to integrate seamlessly with onbar in version 12.10. And it really does!

## ***How to Configure Primary Storage Manager for onbar?***

1) in the onconfig file, update the parameter as follows:

```
BAR_BSALIB_PATH $ INFORMIXDIR / lib / libbsapsm.so
```

2) define where the backup of dbspaces will be stored on disk:

```
onpsm-D add / home/ backup/ dbspaces FILE-g-t-p DBSPool HIGH
```

3) define where the backup of logical logs will be stored on disk:

```
onpsm-D add / home/backup/logicallogs FILE-g-t-p LOGPOOL HIGH
```

## *How to make your backups / restores?*

Et voilà:, you can now make your backups as easily as you would with ontape, now enjoying the benefits of onbar mentioned above, but also from the backups administration tool called onpsm and onsmsync.

To check the configuration of PSM:

```
onpsm D-list
```

To check the list of backup objects.

```
onpsm-O list
```

....

Also note that onsmsync has an export-import functionality to easily duplicate a backup across different servers.

## **Conclusion**

Should you still have any valuable reason that would stop you from taking advantage from a faster, accurately administered and richer in functionality backup system than ontape will never achieve, please discard this reading.

Now if you had not, in the past, adopted onbar because of its implementation complexity, your time has come to test onbar PSM on Informix 12.10. You will adopt it in the next minute!