

# File System Changes

PxPlus 2016 (v13)



# File System Changes

- File backup directive
- ZIP file Insert and Extract directives
- SQL data validation
- PDF file UTF-8 support and Watermarks



# File Backup Directive

- The Problem:
  - Normal Backup software either requires exclusive use of file or makes a backup of a file that may be in mid-update
- How we solved this:
  - PxPlus 2016 added a high-speed file copy/backup option within PxPlus that defers updates during the process and does not require exclusive access to the file



# File Backup Directive

- Syntax:

```
CREATE FILE "new_path" FROM "old_path"  
CREATE FILE "new_path" FROM (channel)
```



# File Backup Directive

- Advantages:

- Performs high-speed binary copy of file and contents
- Does not require exclusive access to input file
- Can be used to make copy of **ANY** type of disc file



# ZIP Insert and Extract Directives

- New syntax to directly insert or extract file into a ZIP repository

```
EXTRACT FILE filename$ FROM (channel, KEY=name$)  
INSERT FILE filename$ TO (channel, KEY=name$)
```

- The key **name\$** is optional. Default uses **filename\$**



# ZIP Insert and Extract Directives

## ● Advantages

- Don't need to read file into memory to transfer
  - Reduces memory usage
  - Avoid OPEN / READ RECORD / CLOSE requirements
- Faster transfer of data



# SQL Data Validation

- PxPlus built-in ODBC interface can pre-validate data
  - 3 New INI file options in the [ODBC] section or OPT= string

CHECK\_DATES= Y|N

Validates dates  
supplied adhere to  
DATEFMT= option

CHECK\_NUMERICS= Y|N

Validates range and  
decimal places on  
numeric data

CHECK\_LENGTH= Y|N

Validates string lengths  
do not exceed field size

- Invalid data generates Error #5 - Data error on device or file
  - MSG(-1) provides additional details





# PDF UTF-8 Support & Watermarks

- Built in PDF driver now supports UTF-8 data
  - Controlled by the 'U8' system parameter
  - Allows inclusion of wide variety of characters
    - Font(s) chosen need to include the characters
- New \*PDF\* option: **WATERMARK=filename**
  - Adds image in file as background watermark
  - Image is centered and stretched to fit page



# Additional Resources

The help link(s) below refer to the current on-line help pages. The functionality may have been further updated since the PxPlus 2016 (version 13) release.

- [CREATE FILE Directive](#)
- [EXTRACT FILE Directive](#)
- [INSERT FILE Directive](#)
- [\[ODB\] Open Database](#)
- [\\*PDF\\* PDF Print Interface](#)

