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Benefits of Unifying Enterprise Storage, Management and Replication for Mainframe DASD, Virtual Tape, and Open Systems Data

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PKWARE, Inc.

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14875
Test link: www.SHARE.org

SHARE in Anaheim

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During this session, customer use cases will cover experiences implementing solutions that unify enterprise, modular, and cloud storage which share the same remote replication software for all solutions.

This approach can offer the ultimate strategy for enterprise-wide data protection, business continuity, and disaster recovery.

Data Transformation Challenges

- Metadata
- Packed Decimal Conversion
- EBCDIC-to-ASCII
- CRLF Terminators
- Size of the Data
- Data Security

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Traditional Data Archival

- Short-term Storage
  - DASD
  - Virtual Tape
- Long-term Storage
  - Virtual/Physical Tape
- Security Challenges
  - Protecting Data at Rest
  - Mainframe DLP

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Storage Alternatives

- Short-term Storage
  - SAN
    - High speed access
    - Transparent to users
    - Lower Storage Costs

- Long-term Storage
  - NAS
    - Advanced file server
    - Low cost to implement
    - Interoperable

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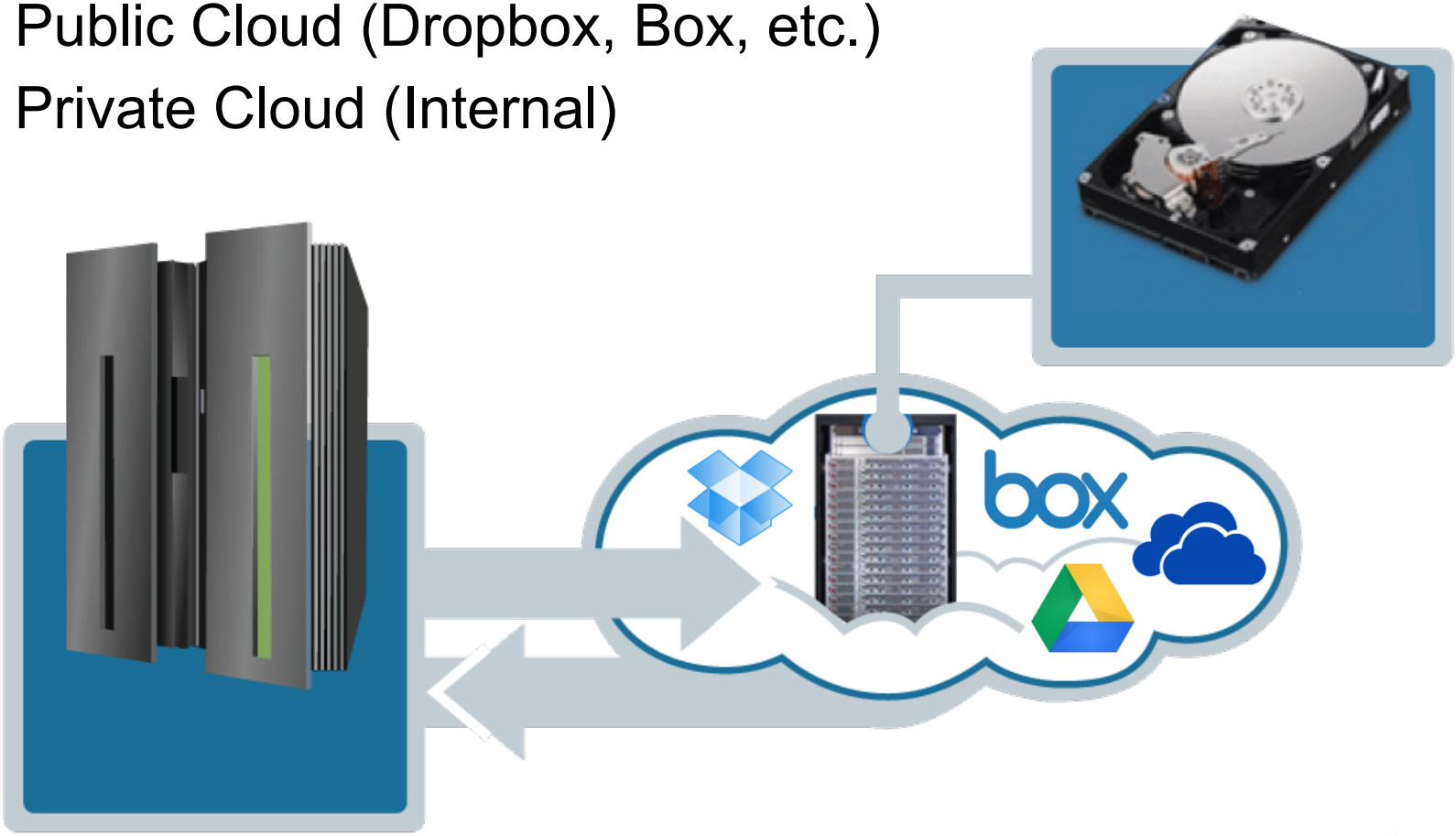
Cloud Storage Alternatives

- Public Cloud (Dropbox, Box, etc.)
- Private Cloud (Internal)



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Benefits of Open System & Cloud Storage

- Reduced storage expense
  - SAN/NAS devices cheaper than traditional DASD
  - Reduce data center facility expenses (i.e. electric, space)
  - Remove dependency on out dated hardware
- Easily accessible from multiple operating environments
  - Mainframe, zBX, Power, Distributed and mobile devices
- Flexible file exchange
  - Ease of sharing files internally and externally
- Efficiency for your network
  - Centralized data repository
  - Provides quick access and can minimize network traffic

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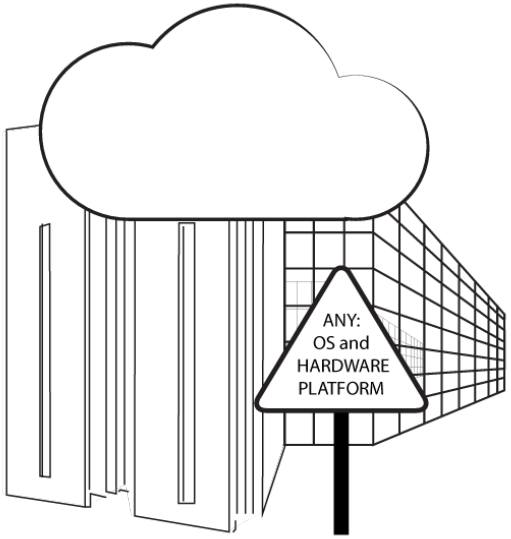
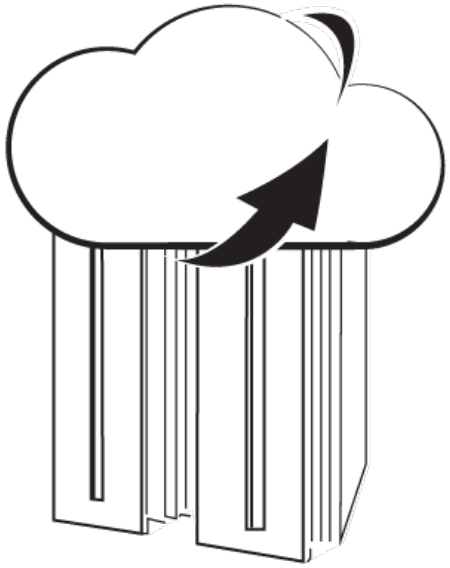
File Sync & Sharing from z/OS …
A thought experiment





Cross Platform **Flexibility** **Portability**

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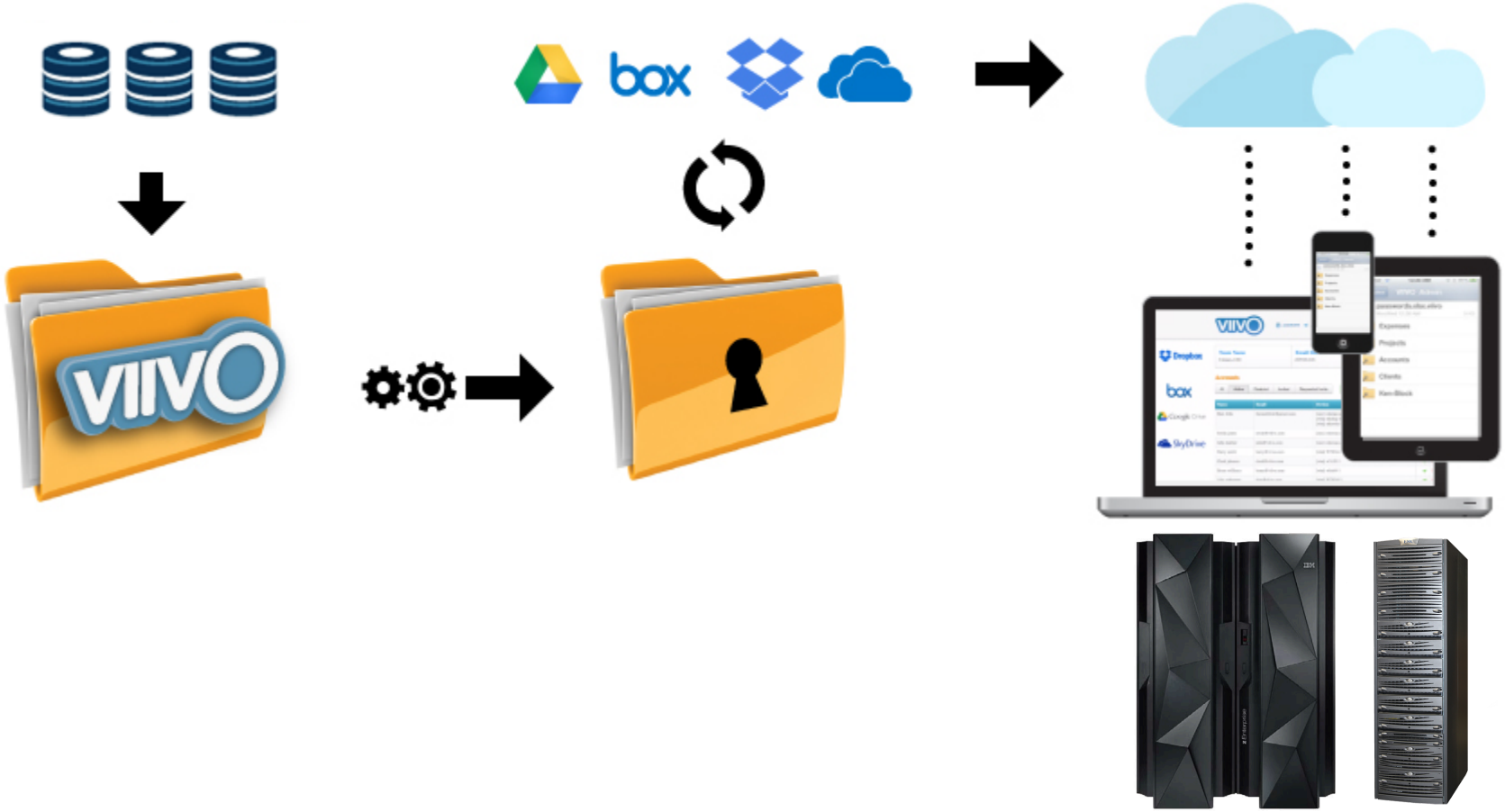
File Sync & Sharing with z/OS … A thought experiment



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File Sync & Sharing from z/OS …
A thought experiment

- Metadata Retained
- EBCDIC-to-ASCII
- Compression Enabled
- Seamless Security
- Secure Data Exchange

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File Sync & Sharing from z/OS … A thought experiment

- DEMO

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Summary

- Interoperability across Enterprise platforms
  - EBCDIC-to-ASCII data translation
  - Short term and Long term storage options
- Metadata Archive
  - Allows z/OS datasets to be stored on alternative platforms/ storage and still retain original DCB attributes
  - Easy restoration of long term archived data
- Encrypted data at rest *and* in motion
  - Address industry security regulations and compliance
  - Data is secured before, during and after being transferred to and from public storage alternatives

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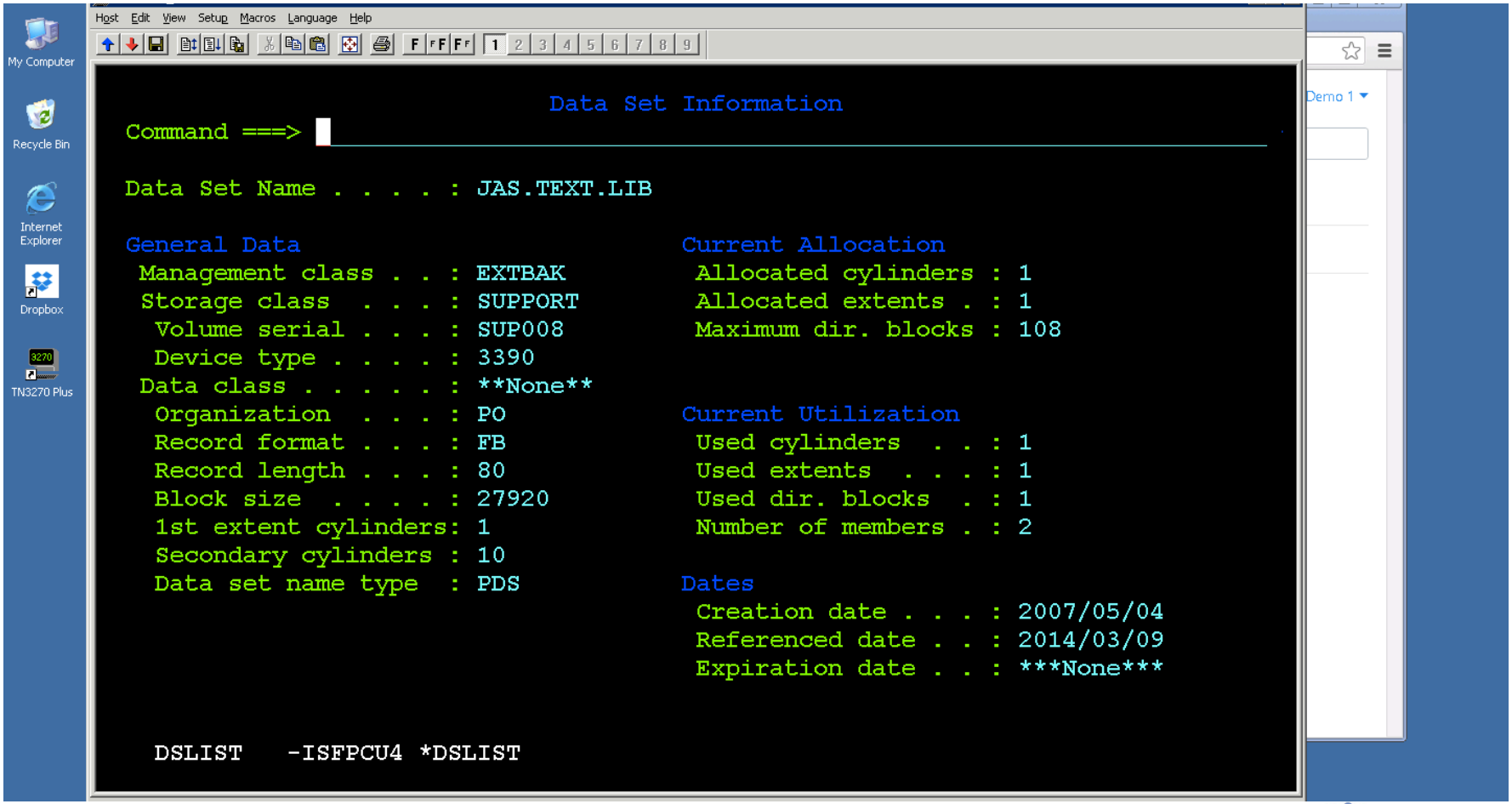
Demo 1 – LPAR PKW2



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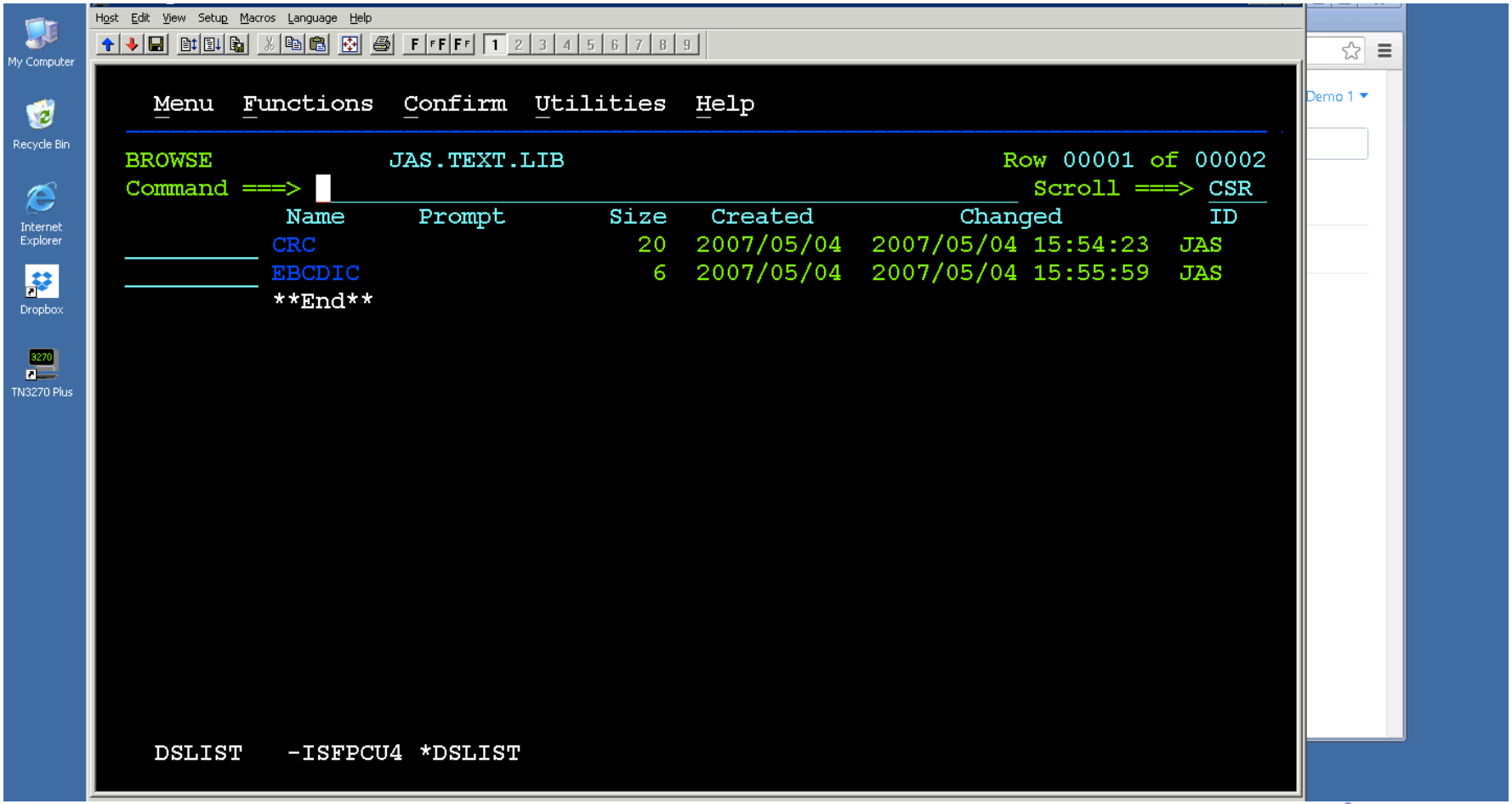

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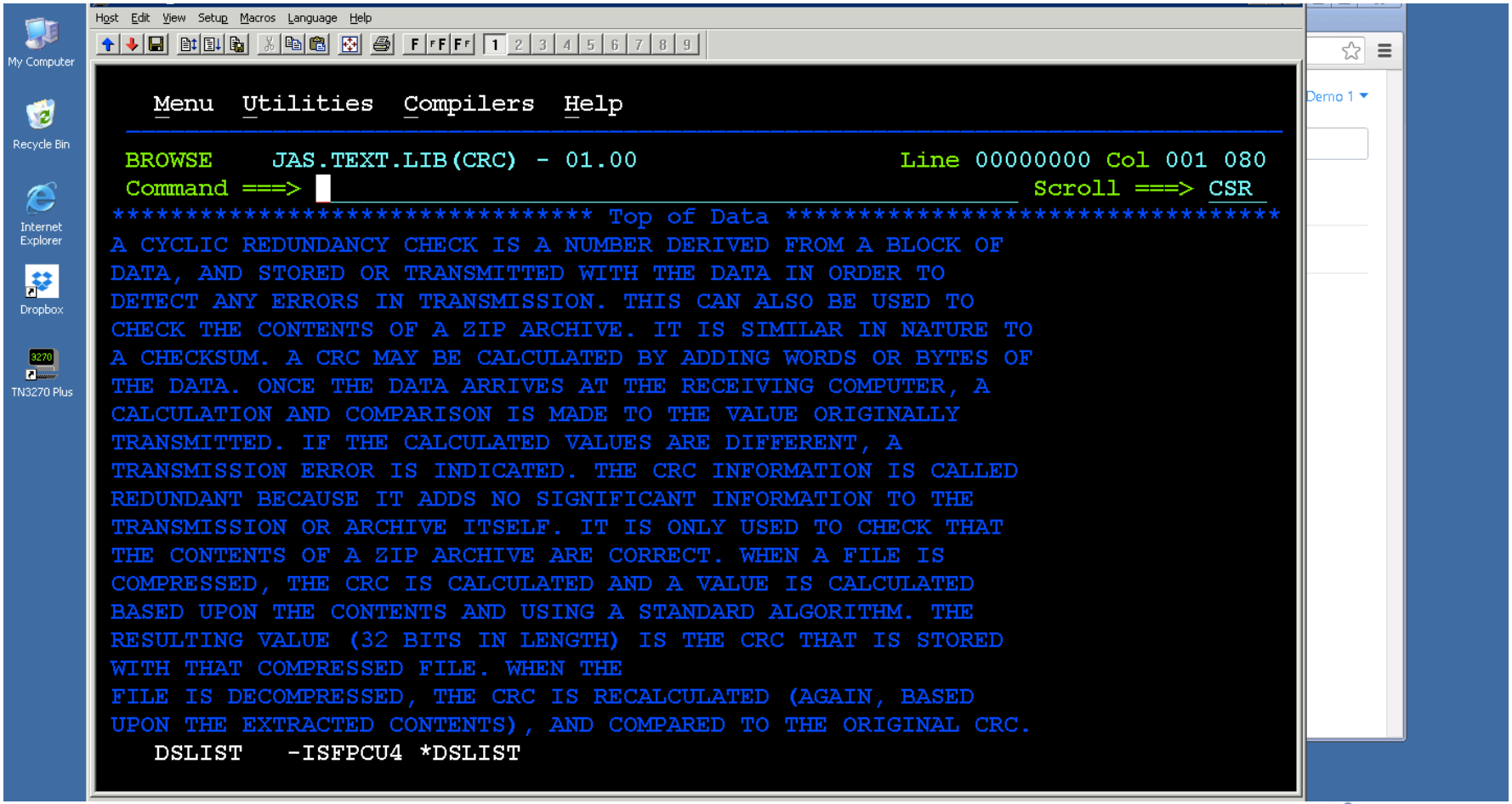

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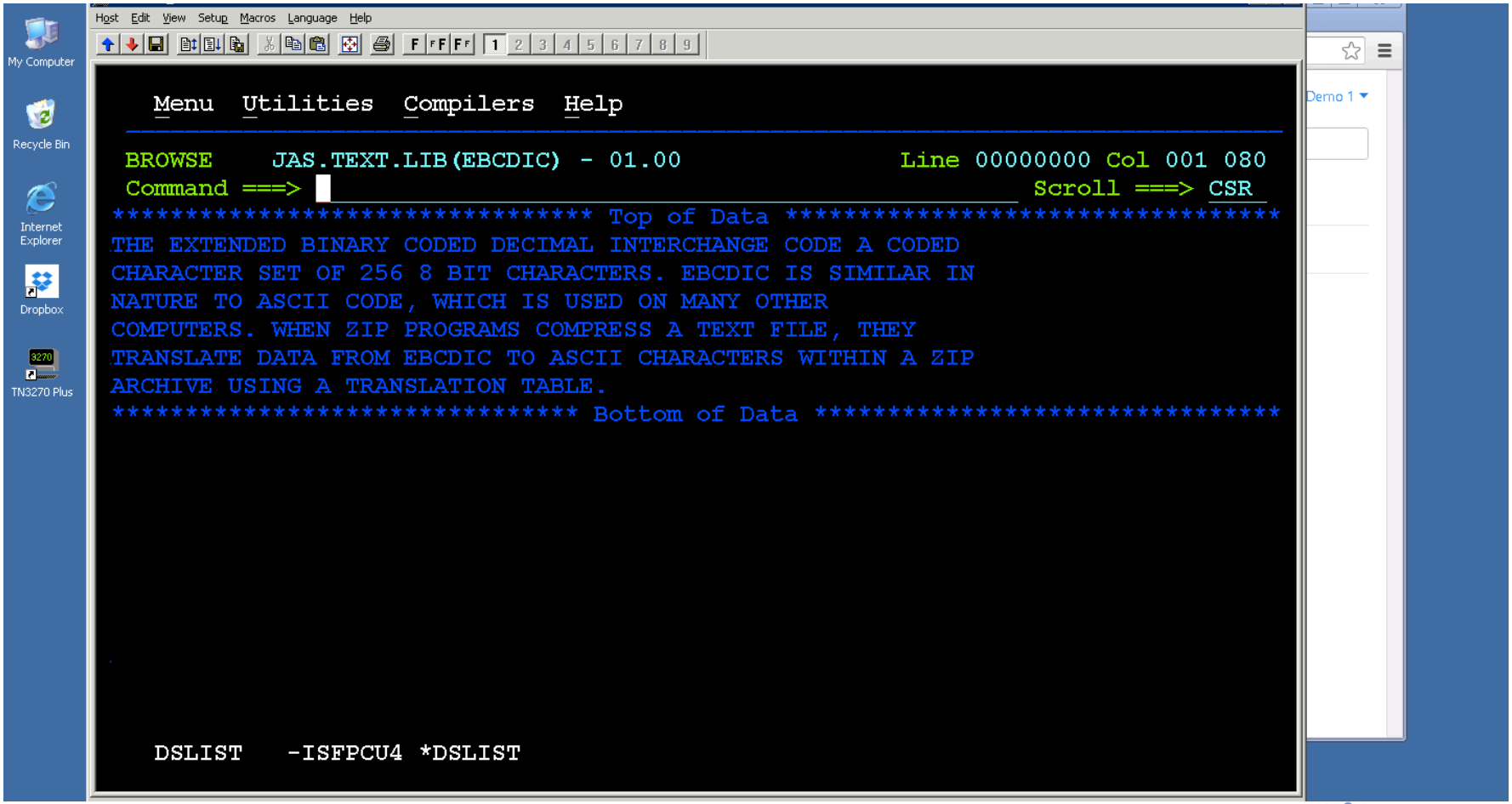

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Library compressed under z/OS and written to an NFS mount

```
//SECURE   EXEC PGM=PKZIP
//STEPLIB  DD DISP=SHR,DSN=SUPPORT.PK150R01.LOAD
//PATHOUT  DD PATH='/pkzip/fpdmnt/bin/Viivo/PKWARE/PKWData.zip',
//         PATHOPTS=(OCREAT,OTRUNC,ORDWR),
//         PATHMODE=(SIRUSR,SIWUSR,SIRGRP,SIWGRP,SIROTH,SIWOTH)
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
-VERBOSE
-ACTION(ADD)
-ARCHIVE_OUTFILE(PATHOUT)
JAS.TEXT.LIB
//
```


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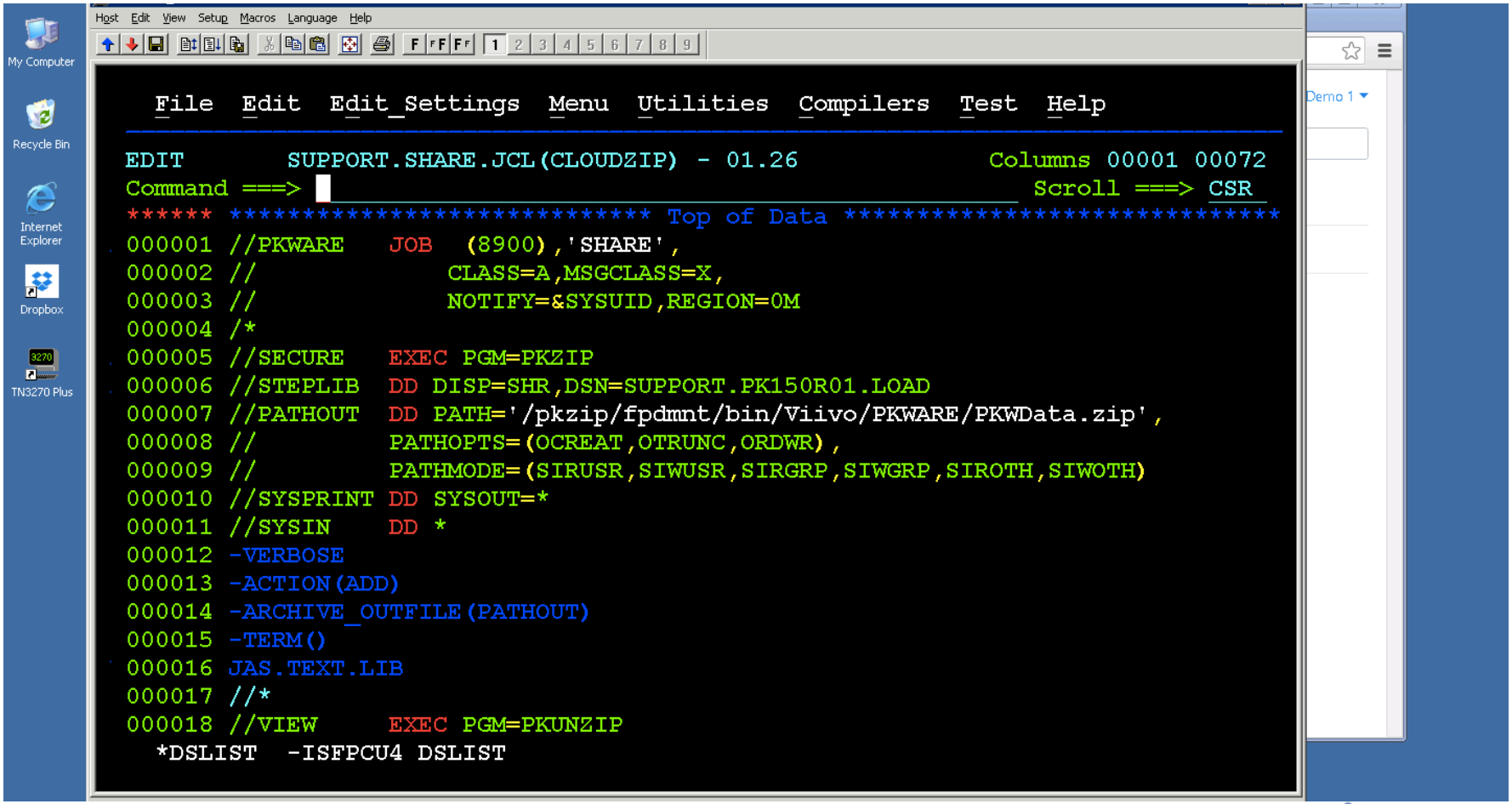

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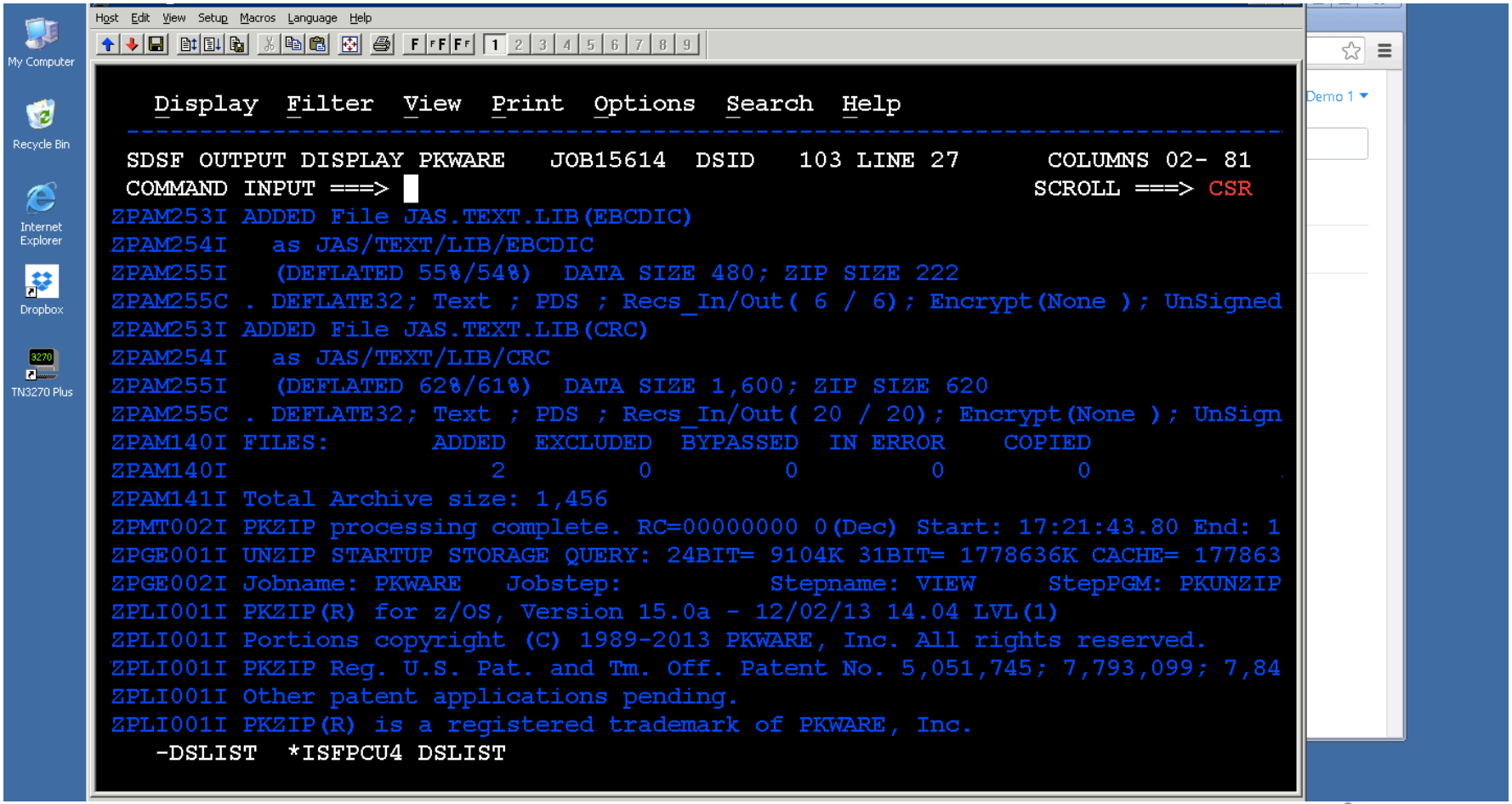

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DCB Attributes of z/OS Library Retained throughout the lifecycle of the archive

```
ZPAM001I Filename: JAS/TEXT/LIB/CRC
ZPAM002I File type:           TEXT
ZPAM003I Date/Time:           10-MAR-2014 08:55:04
ZPAM004I Compression Method: Deflate- Super Fast
ZPAM005I Compressed Size:     622
ZPAM006I Uncompressed Size:   1,641
ZPAM007I 32-bit CRC:          91F4C7C0    LHDR Offset: 0
ZPAM008I Created by:          PKZIP for z/OS 15.0.1  zArch:8  MemLarge
ZPAM009I Needed to extract:   ZipSpec     2.0
ZPAM301I File Type:           NONVSAM  PDS
ZPAM302I File PDS Directory Blocks: 108
ZPAM303I File Record Format: FB
ZPAM304I File Allocation Type: CYL
ZPAM305I File Primary Space Allocated: 1
ZPAM306I File Secondary Space Allocated: 10
ZPAM307I File Record Size: 80
ZPAM308I File Block Size:  27920
ZPAM309I File Volume(s) Used: SUP008
ZPAM310I File Creation Date:   2007/05/04
ZPAM311I File Referenced Date: 2014/03/10
ZPAM053I Total Cylinders allocated to original file: 1
ZPAM319I SMS Management Class:   EXTBAK
ZPAM319I SMS Storage Class:      SUPPORT
ZPAM312C -SIZE -CREATED-- ------CHANGED------ ---ID-- -INIT VV.MM
ZPAM312C     6 2007/05/04 2007/05/04 15:55:59 JAS         6 01.00
ZPAM313I PDS member TTRKZC: 00021600000F
```


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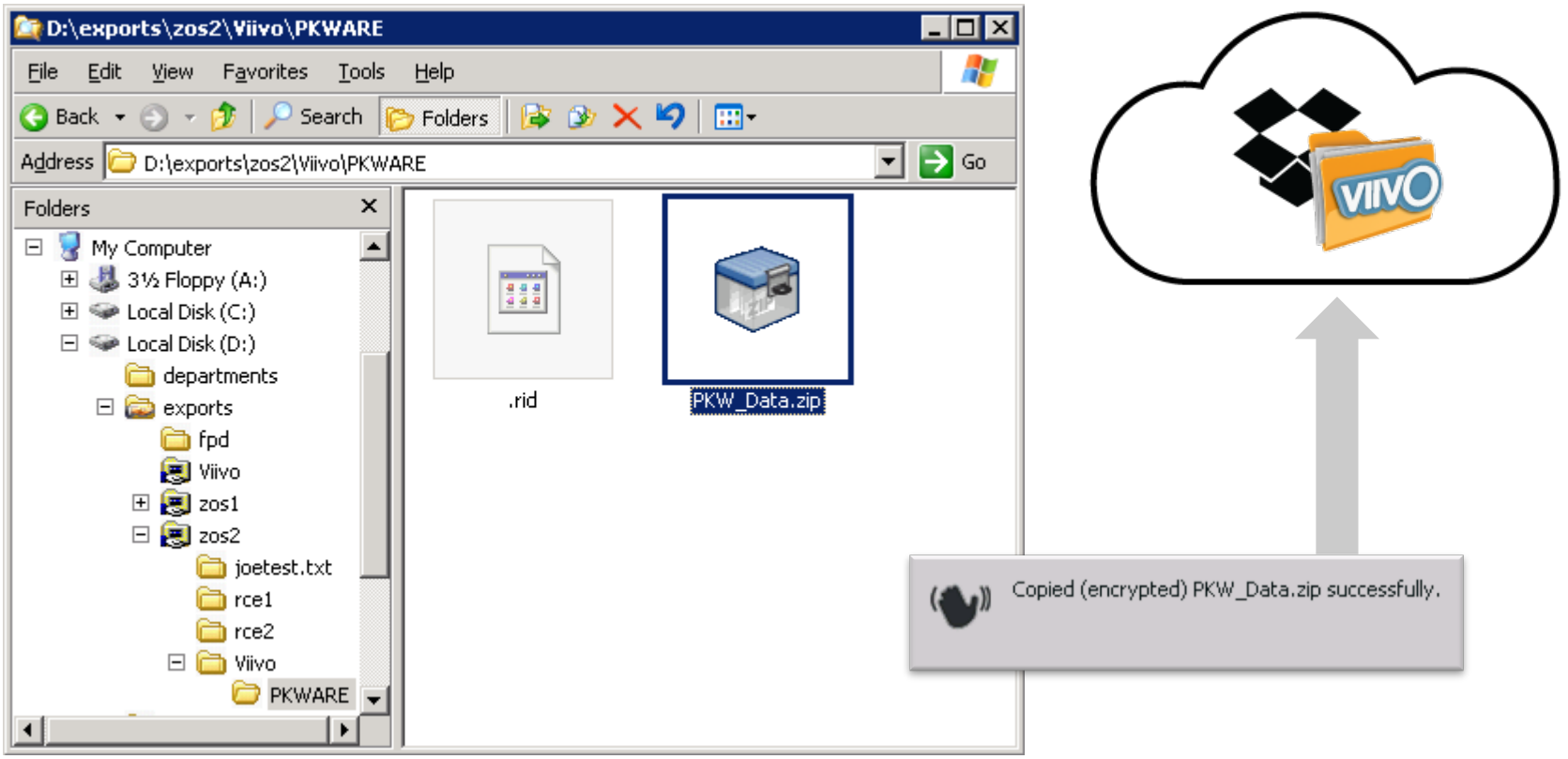
Archive stored on NFS mount, is encrypted and syncs to your cloud storage provider



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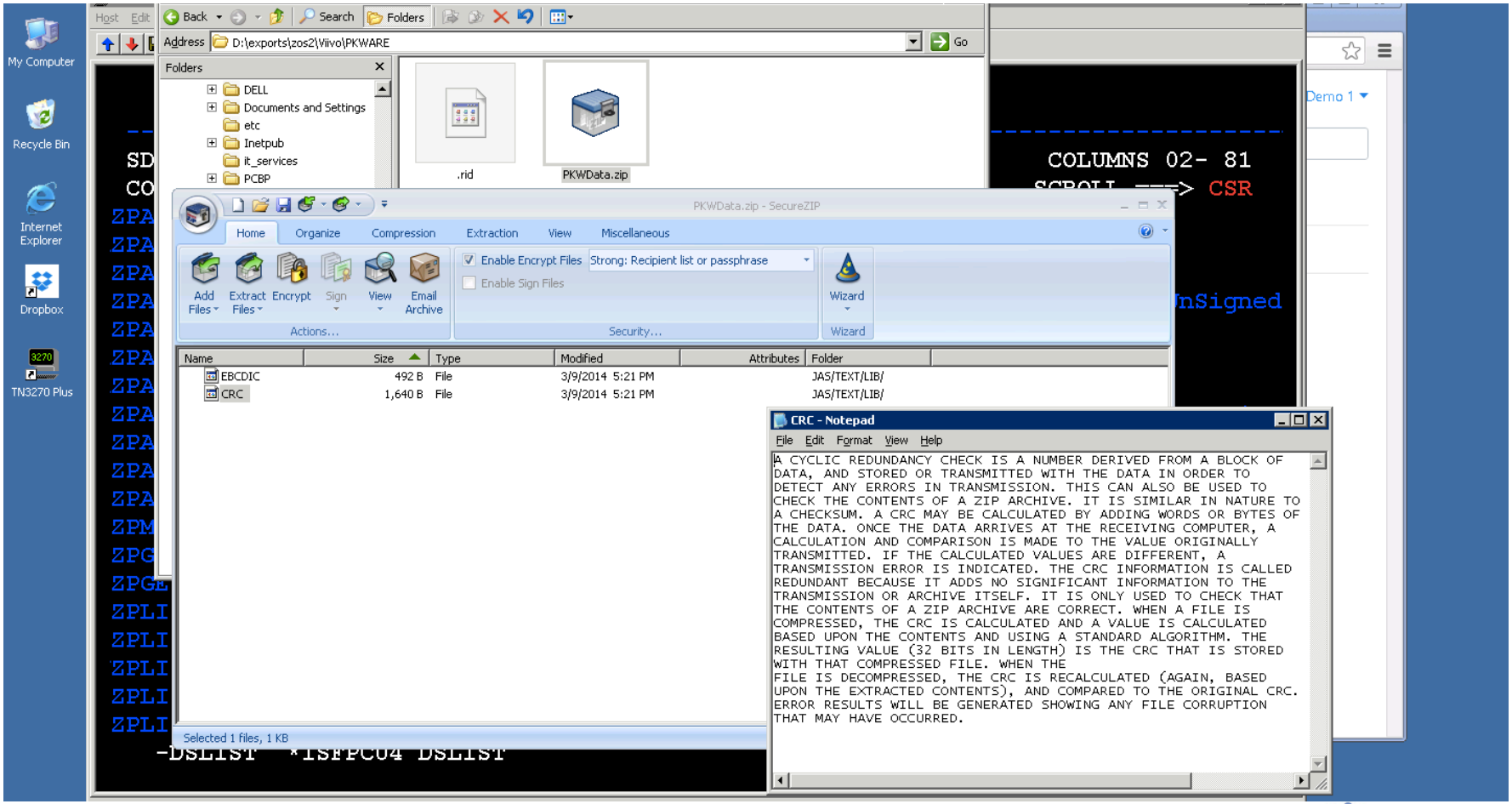

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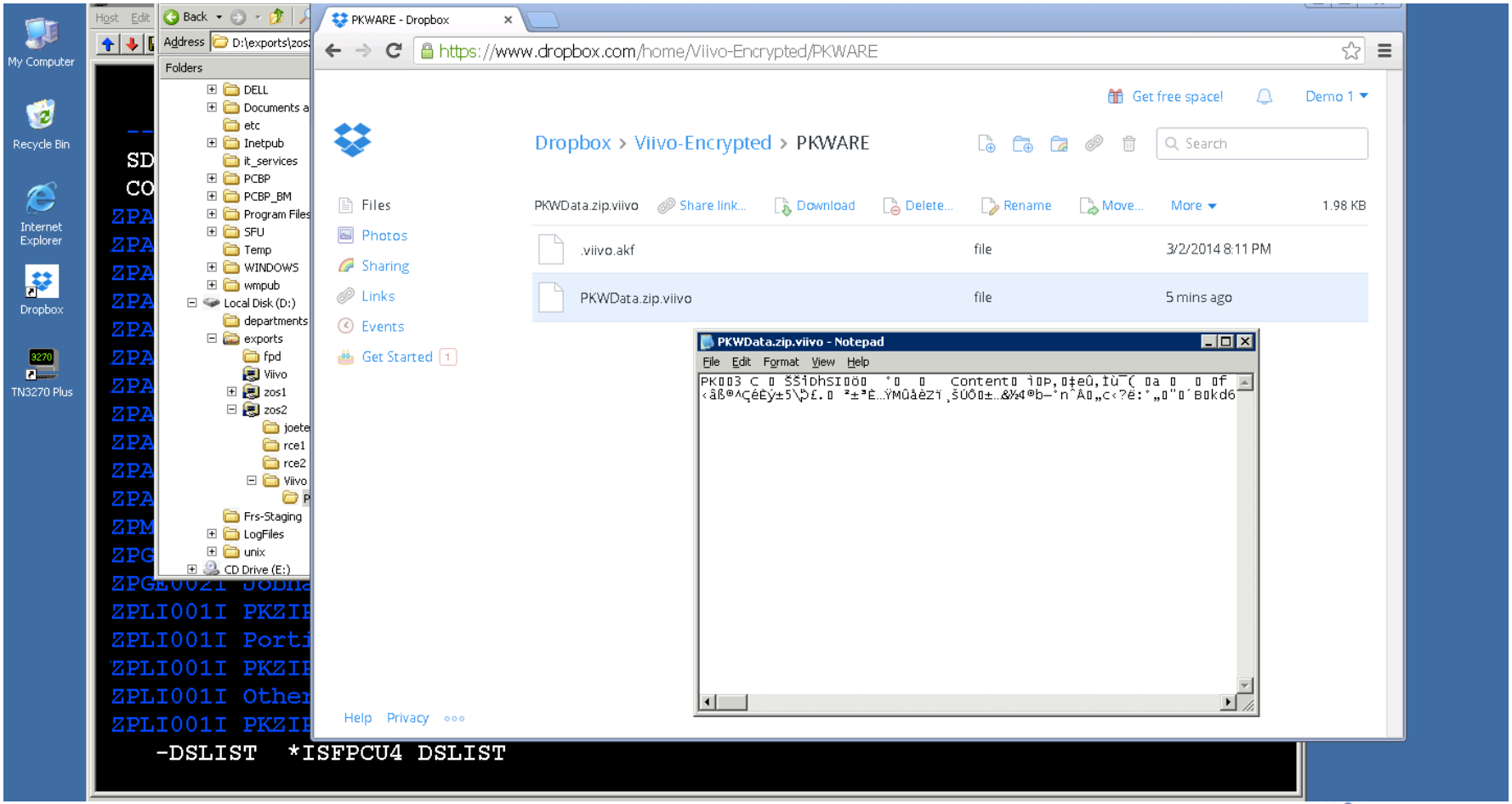
Dropbox



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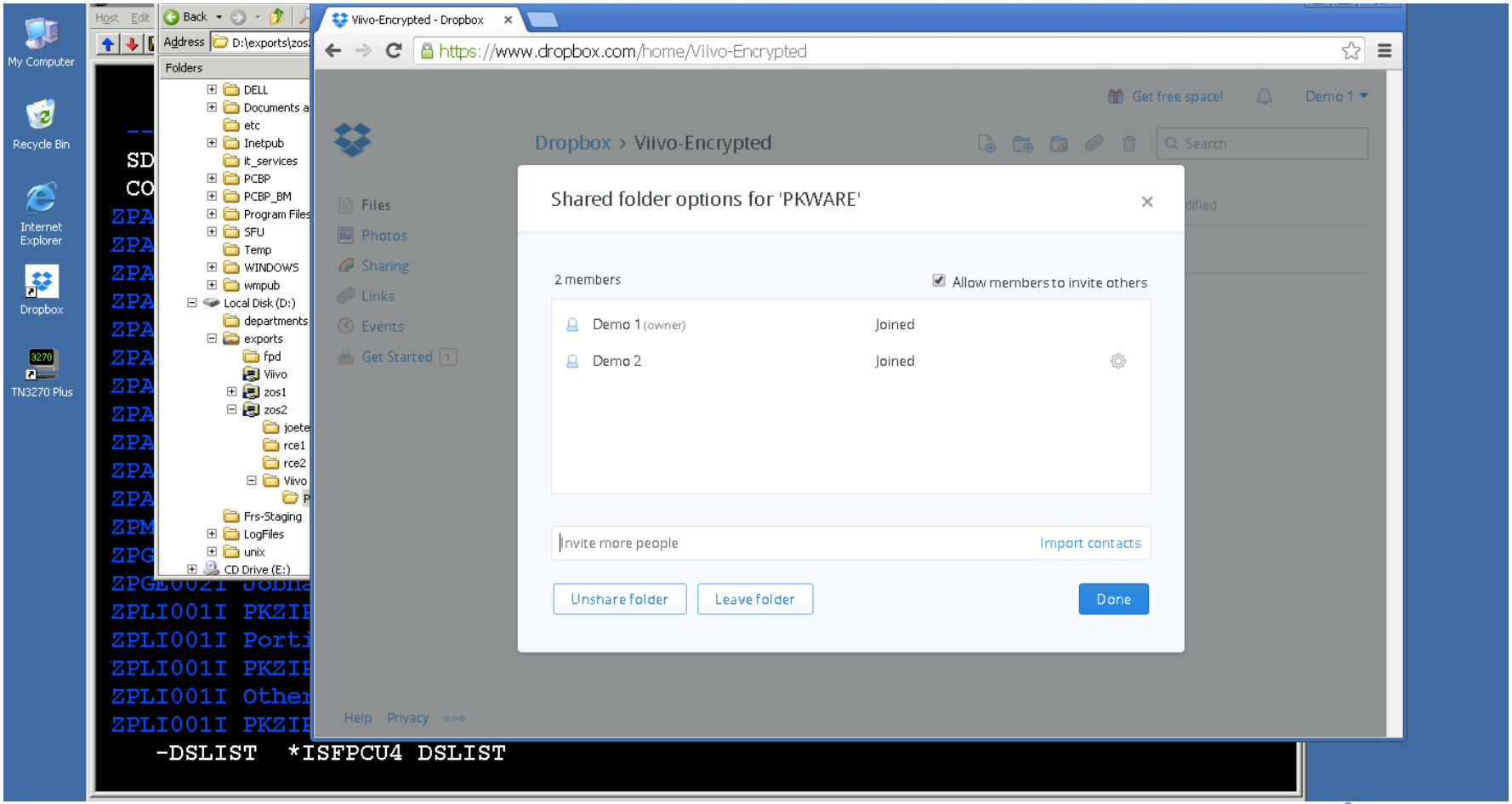

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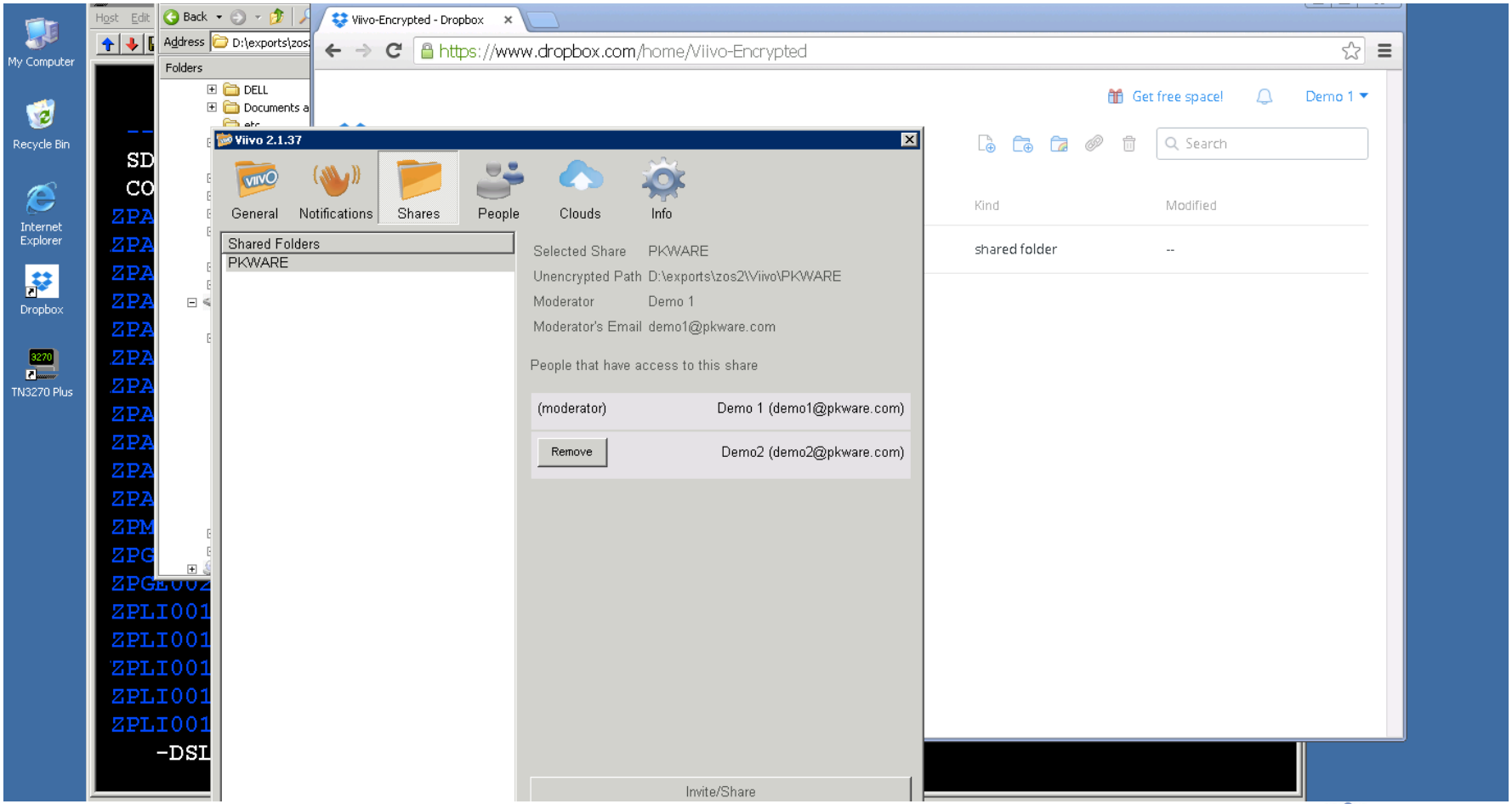
Viivo



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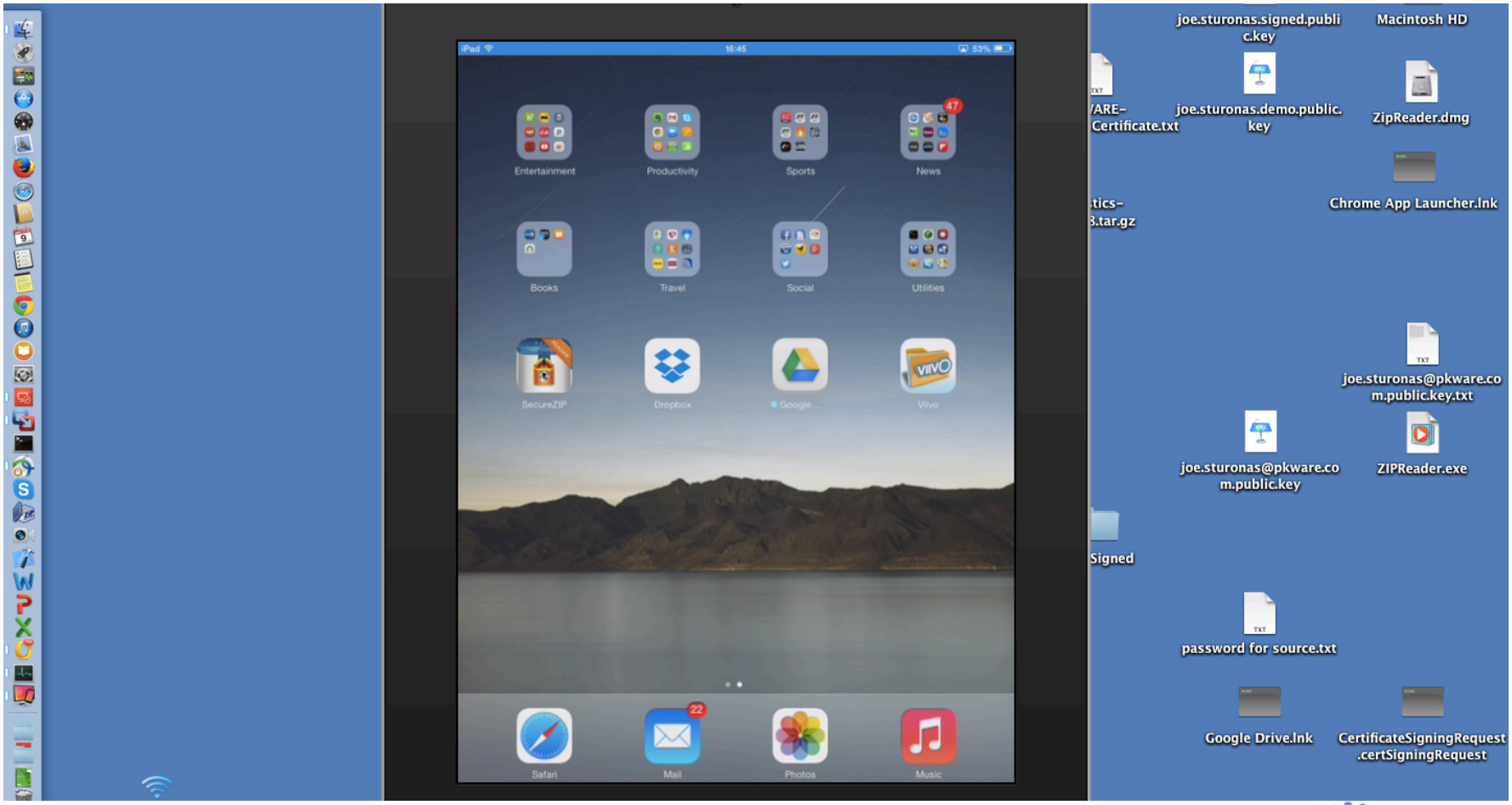
Mobile



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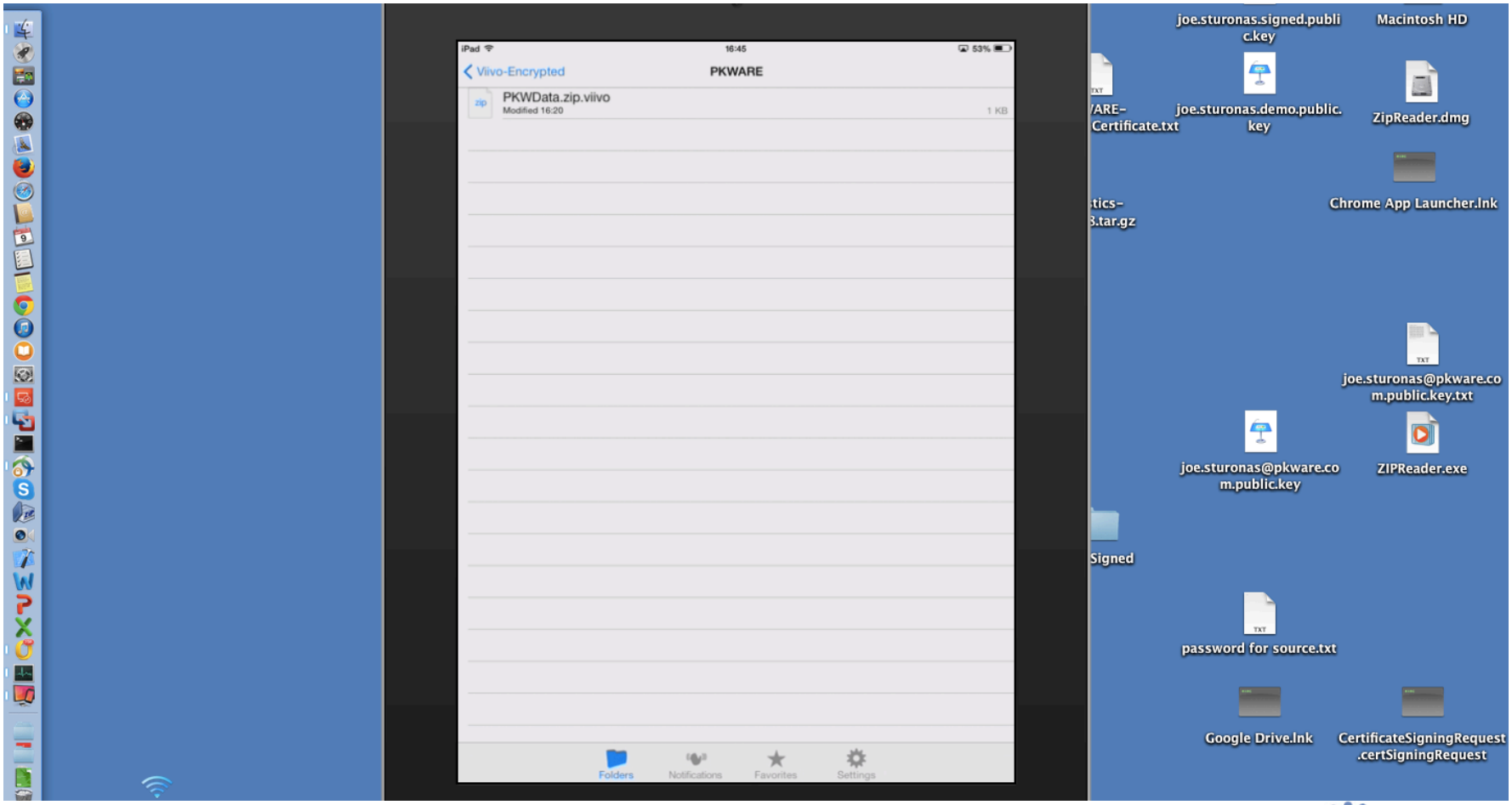

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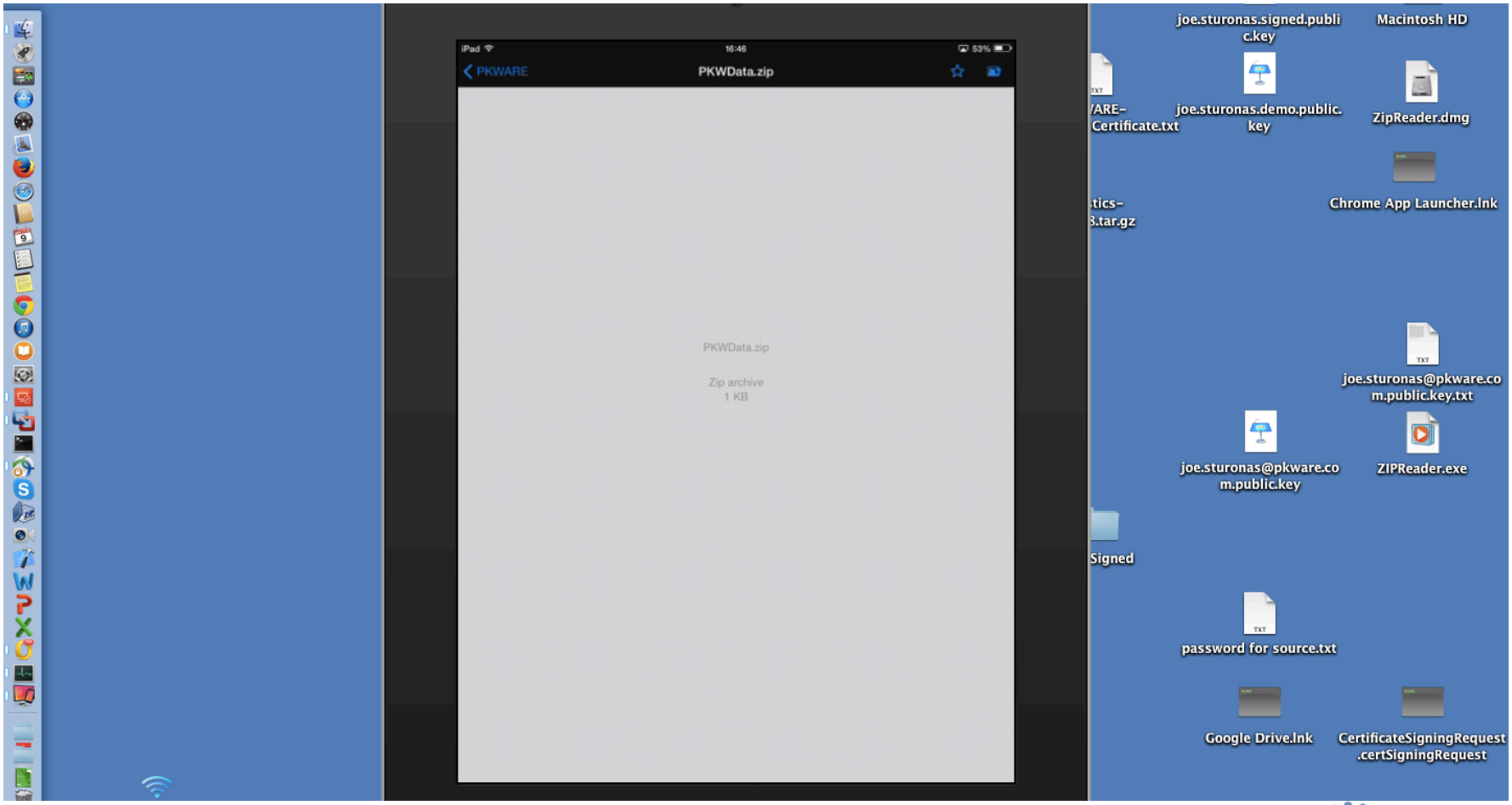

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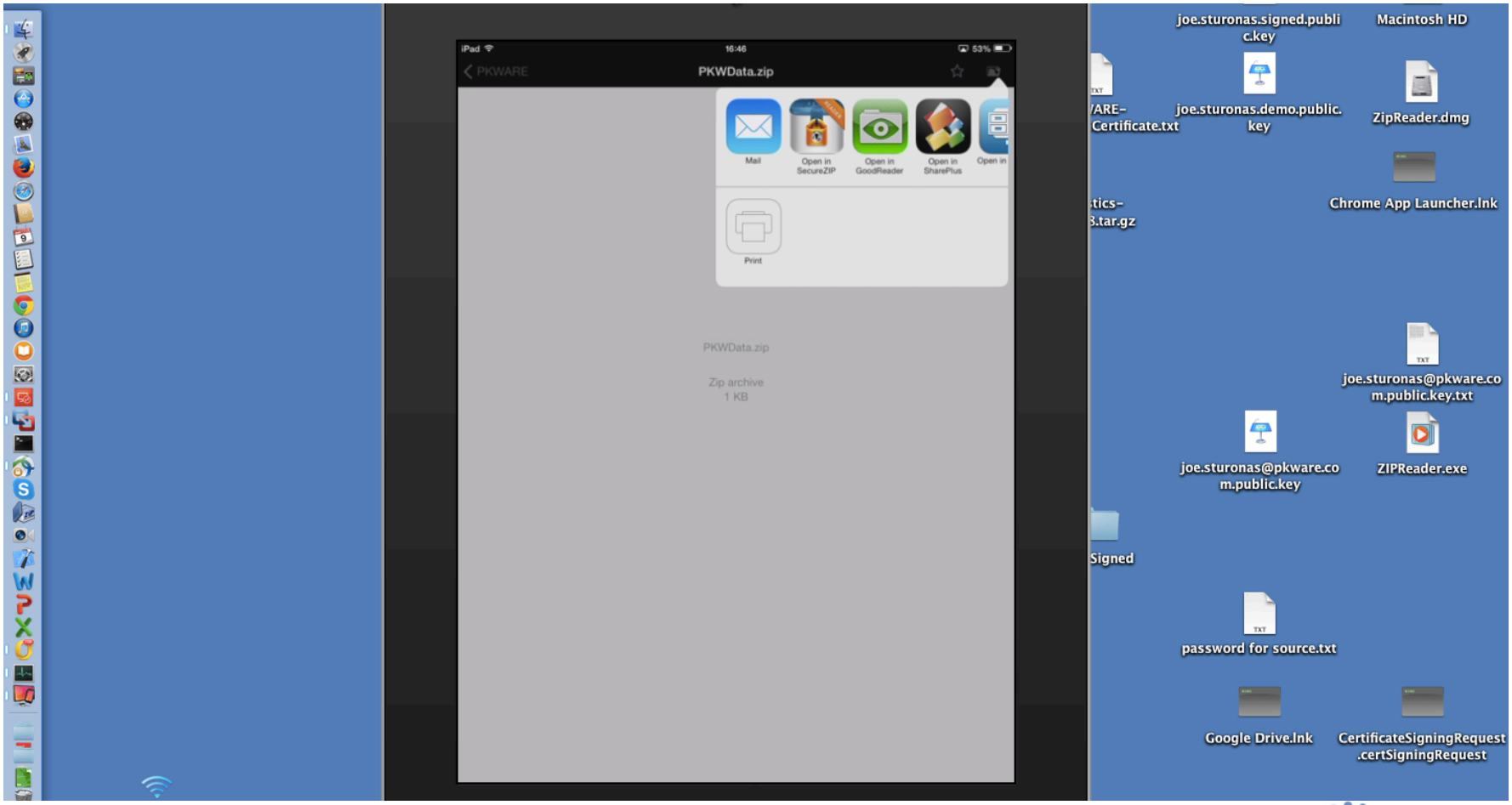

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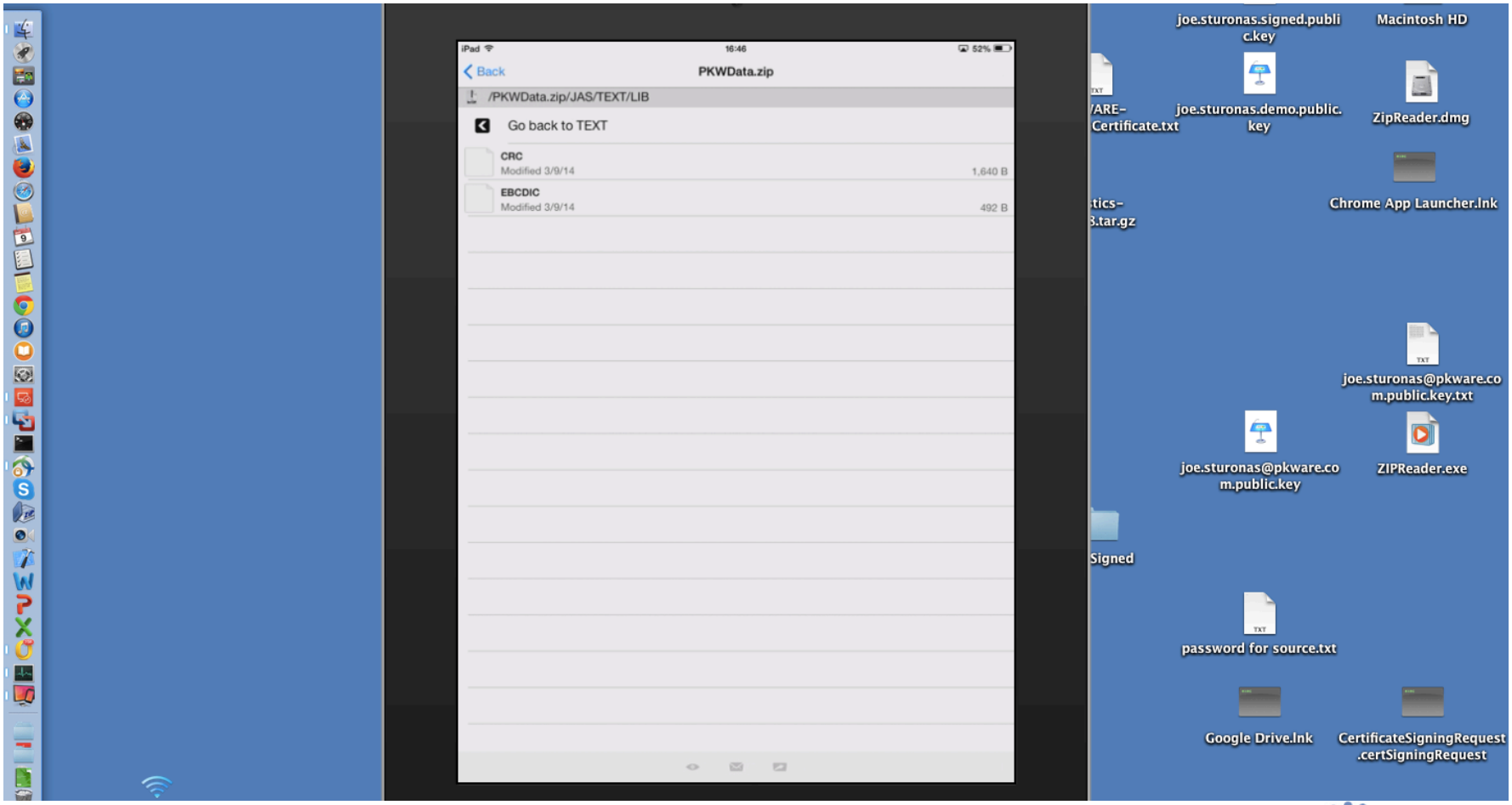

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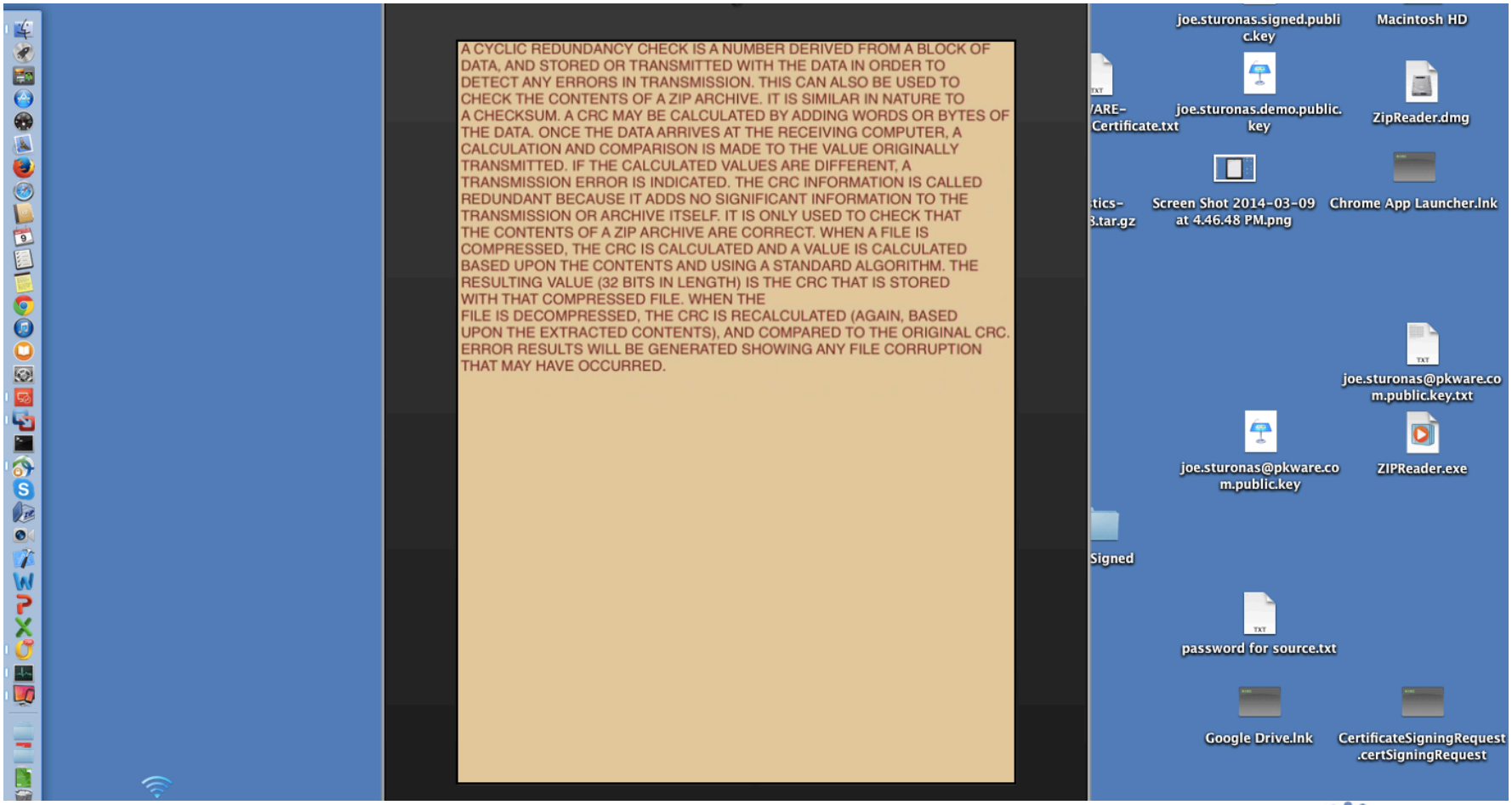

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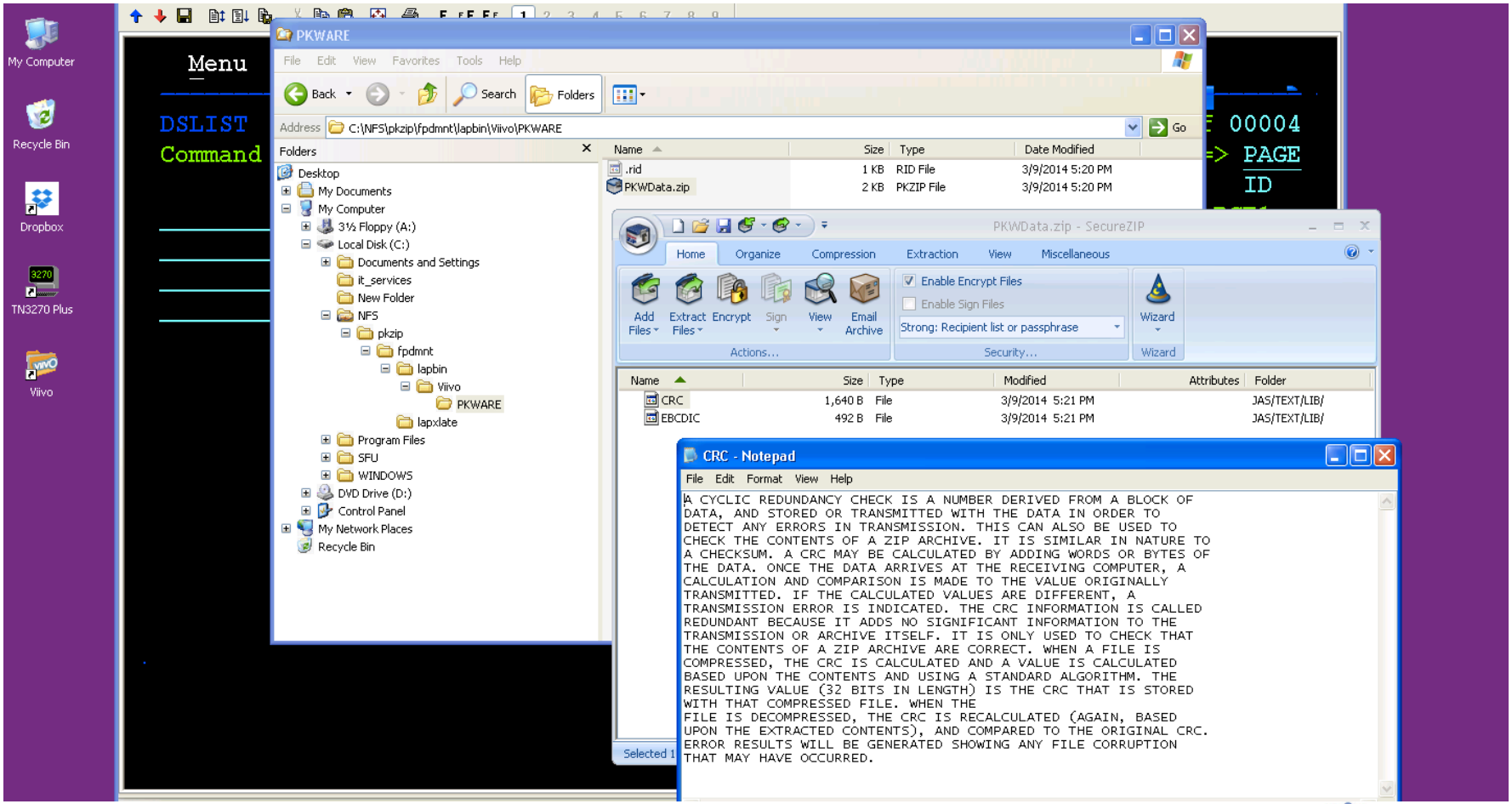
Demo 2



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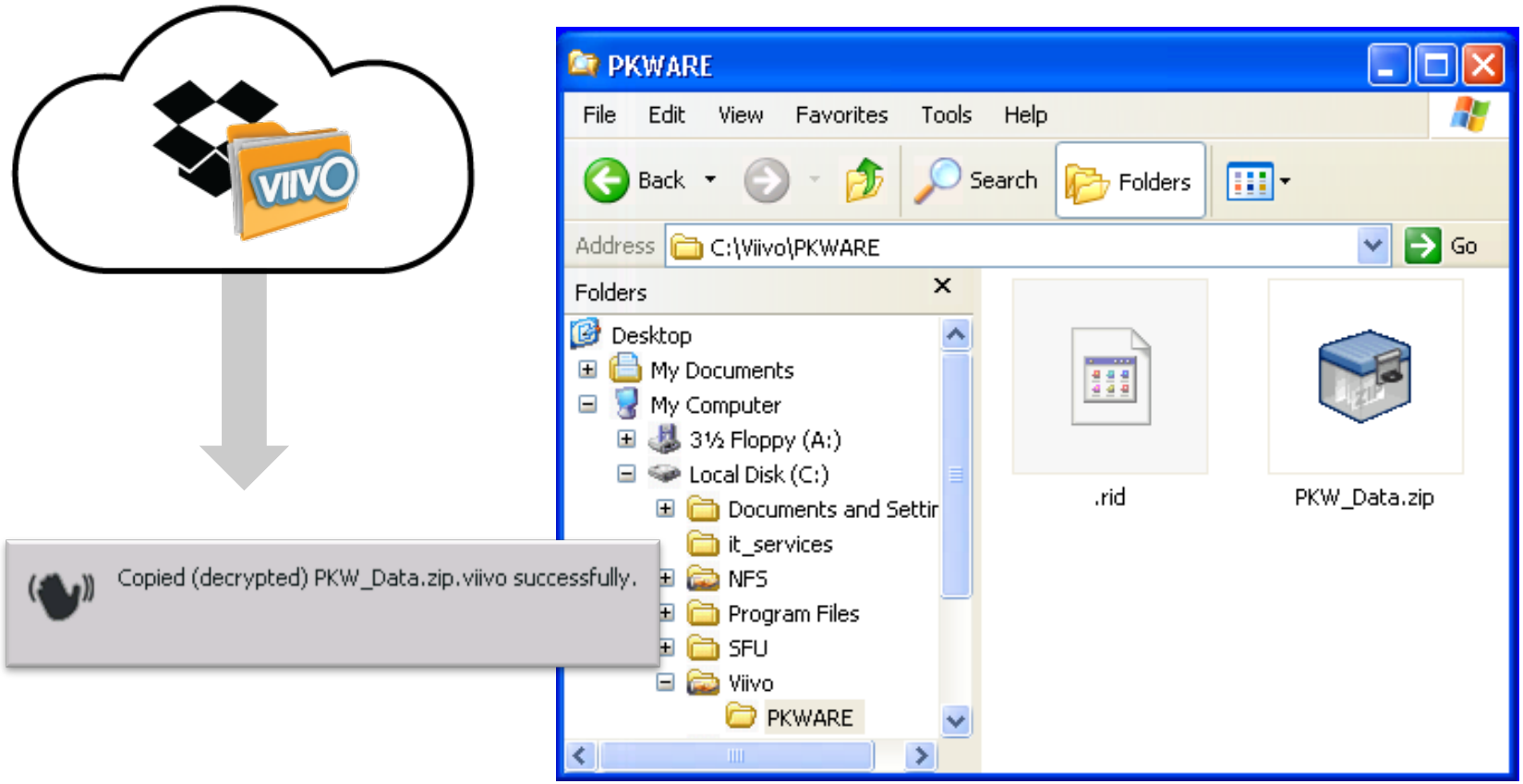
Archive stored on NFS mount, is decrypted and syncs to Partner's cloud storage



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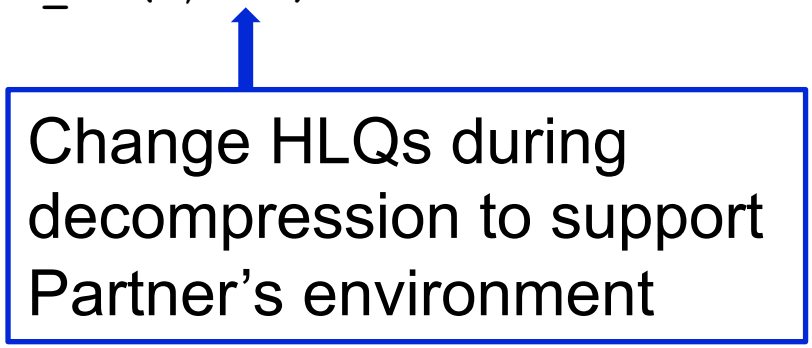
Archive read directly from the Partner's NFS mount and Library decompressed

```
//EXTRACT  EXEC PGM=PKUNZIP
//STEPLIB  DD DISP=SHR,DSN=SUPPORT.PK150R01.LOAD
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
-VERBOSE
-ACTION(EXTRACT)
-ARCHIVE(/pkzip/fpdmnt/lapbin/Viivo/PKWARE/PKWData.zip)
-UNZIPPED_DSN(*,JAS1)
//
```



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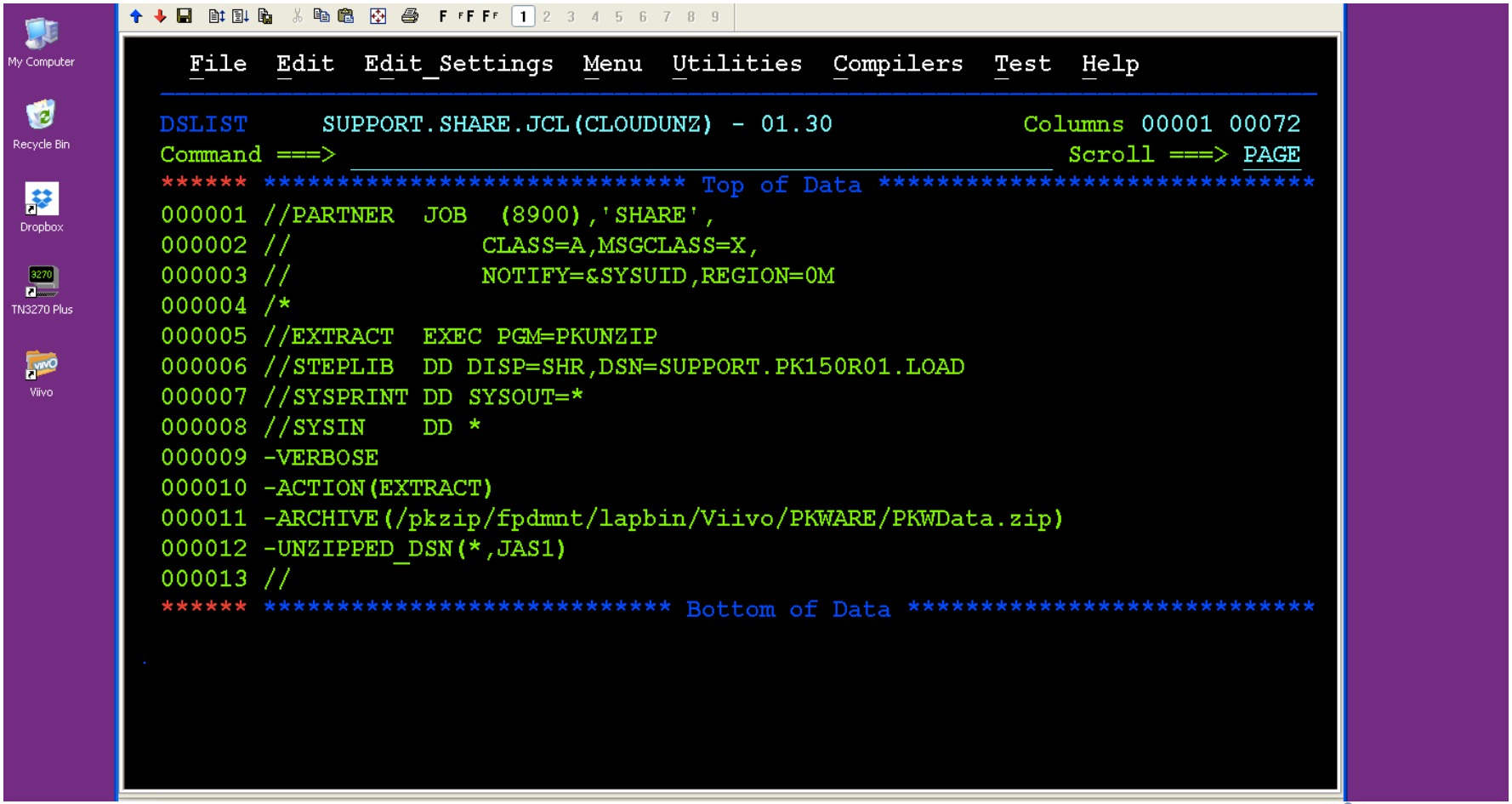
Demo 2 – LPAR PKW8



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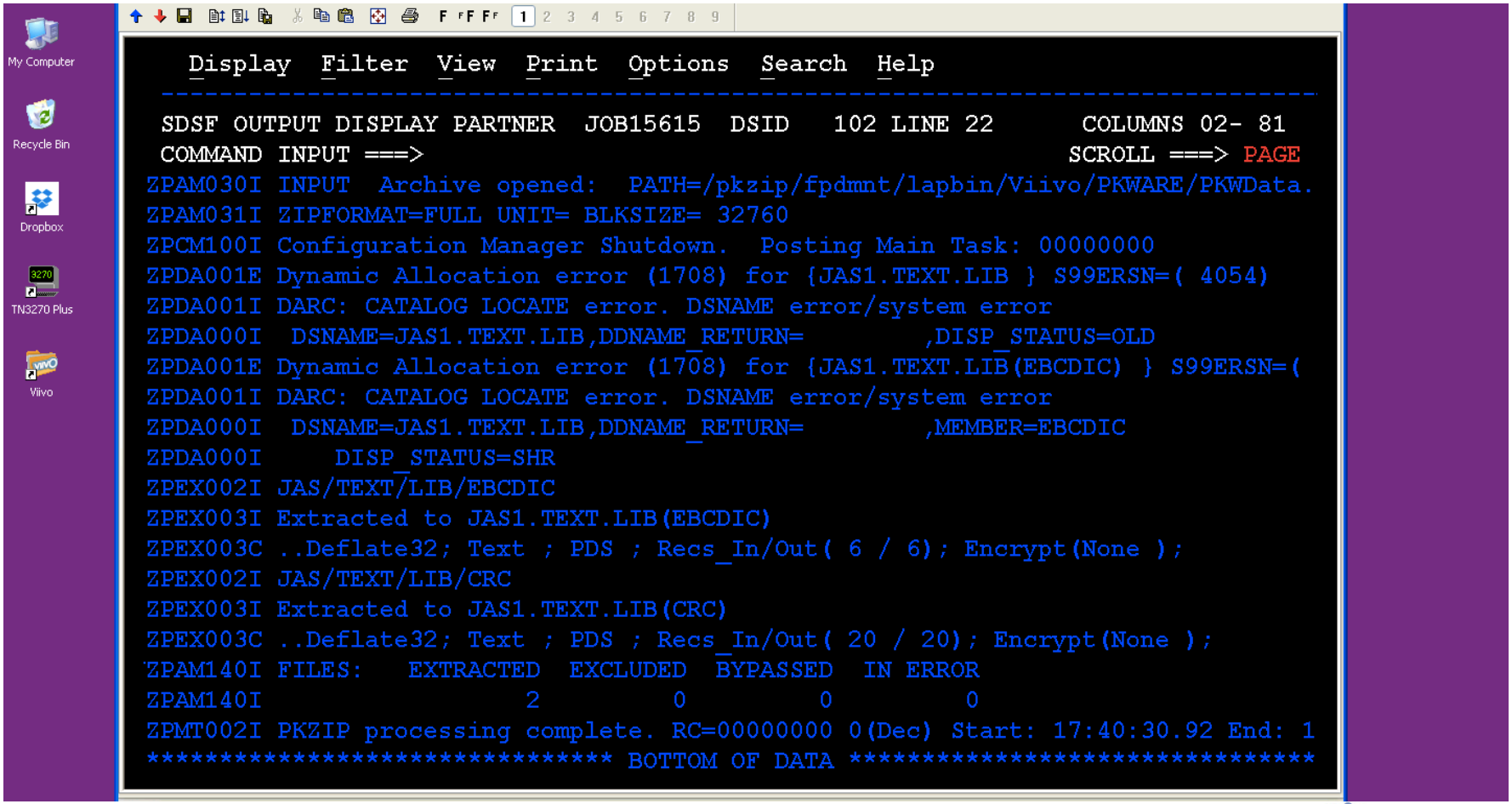

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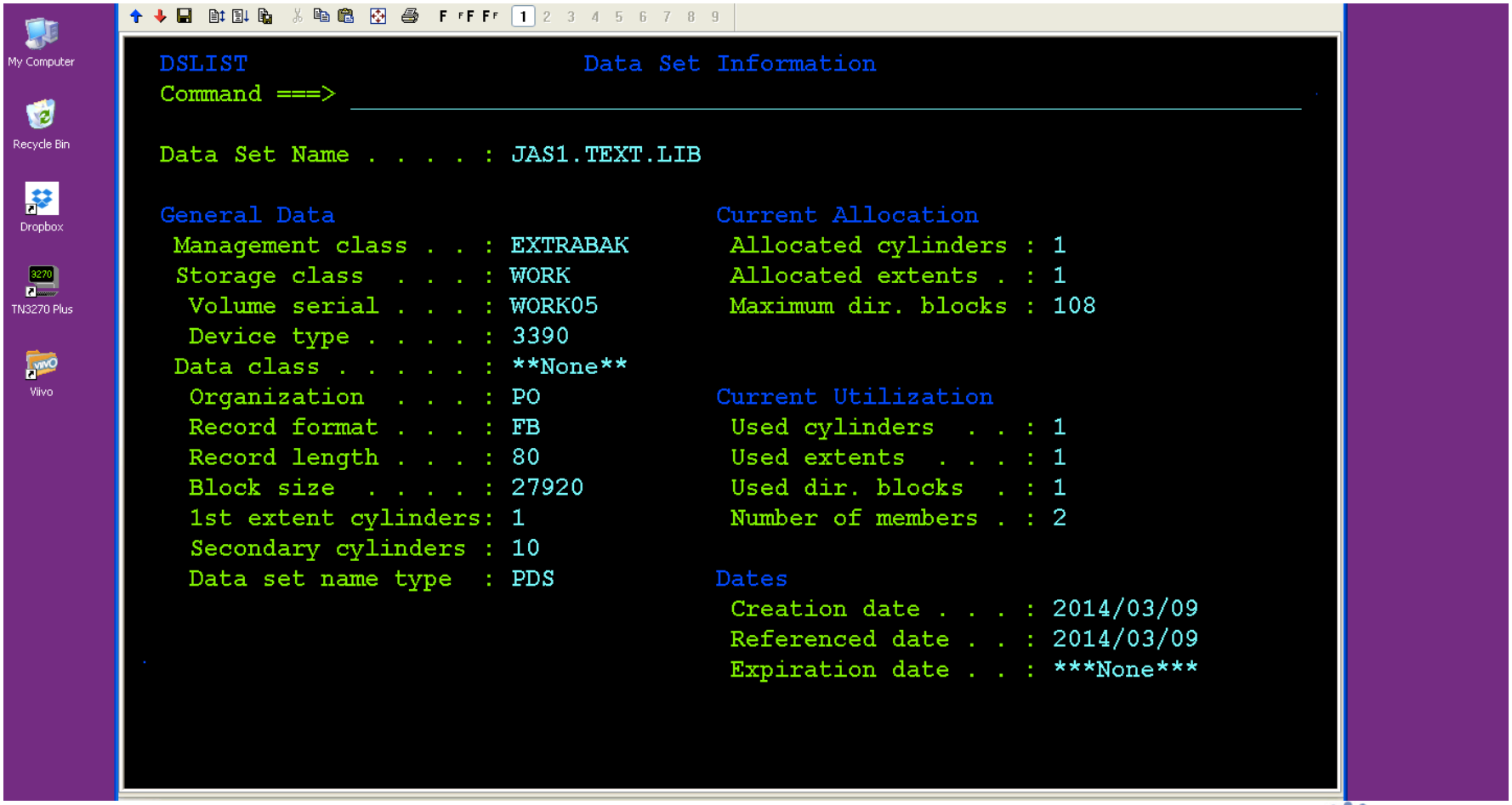

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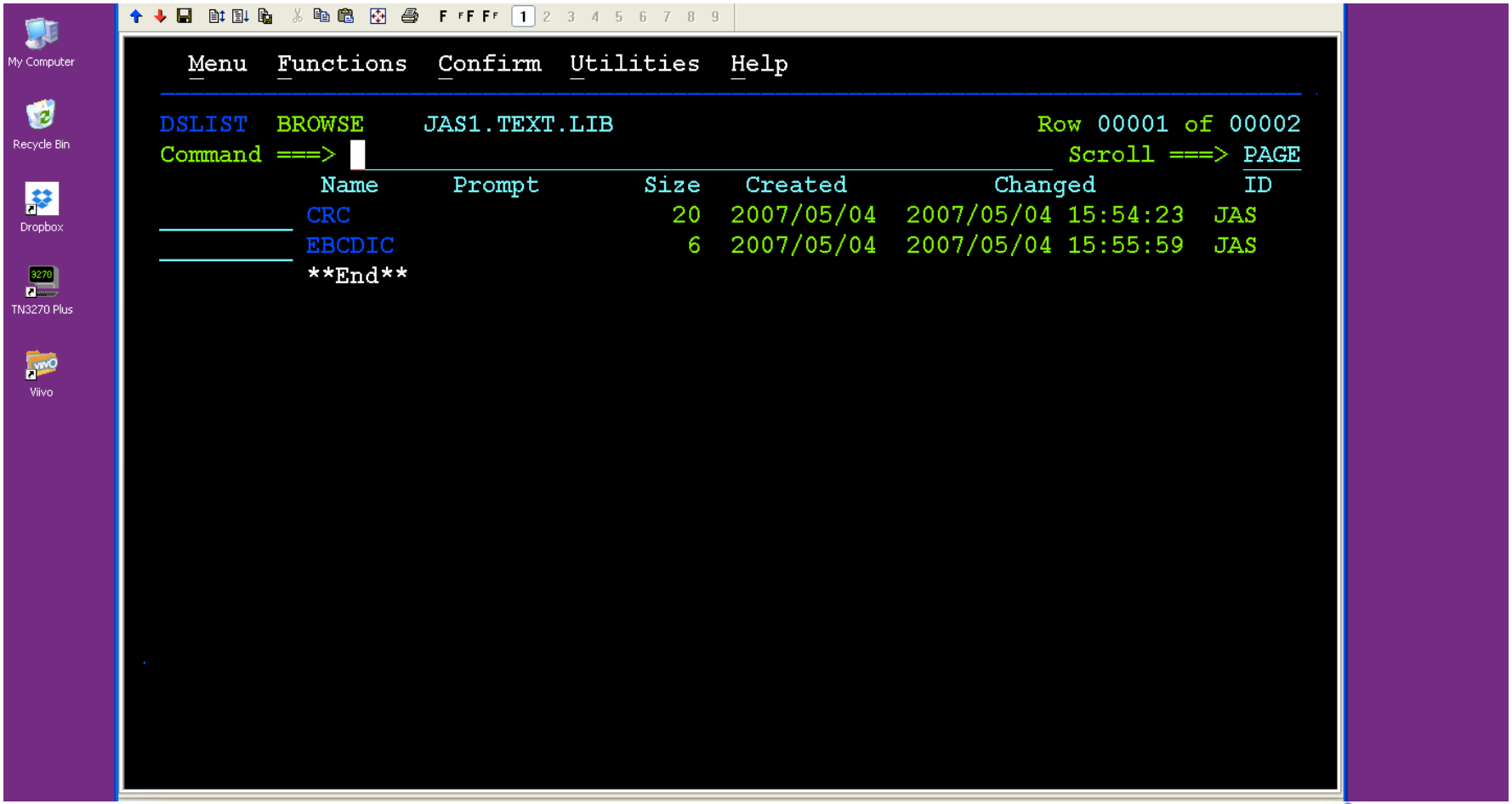

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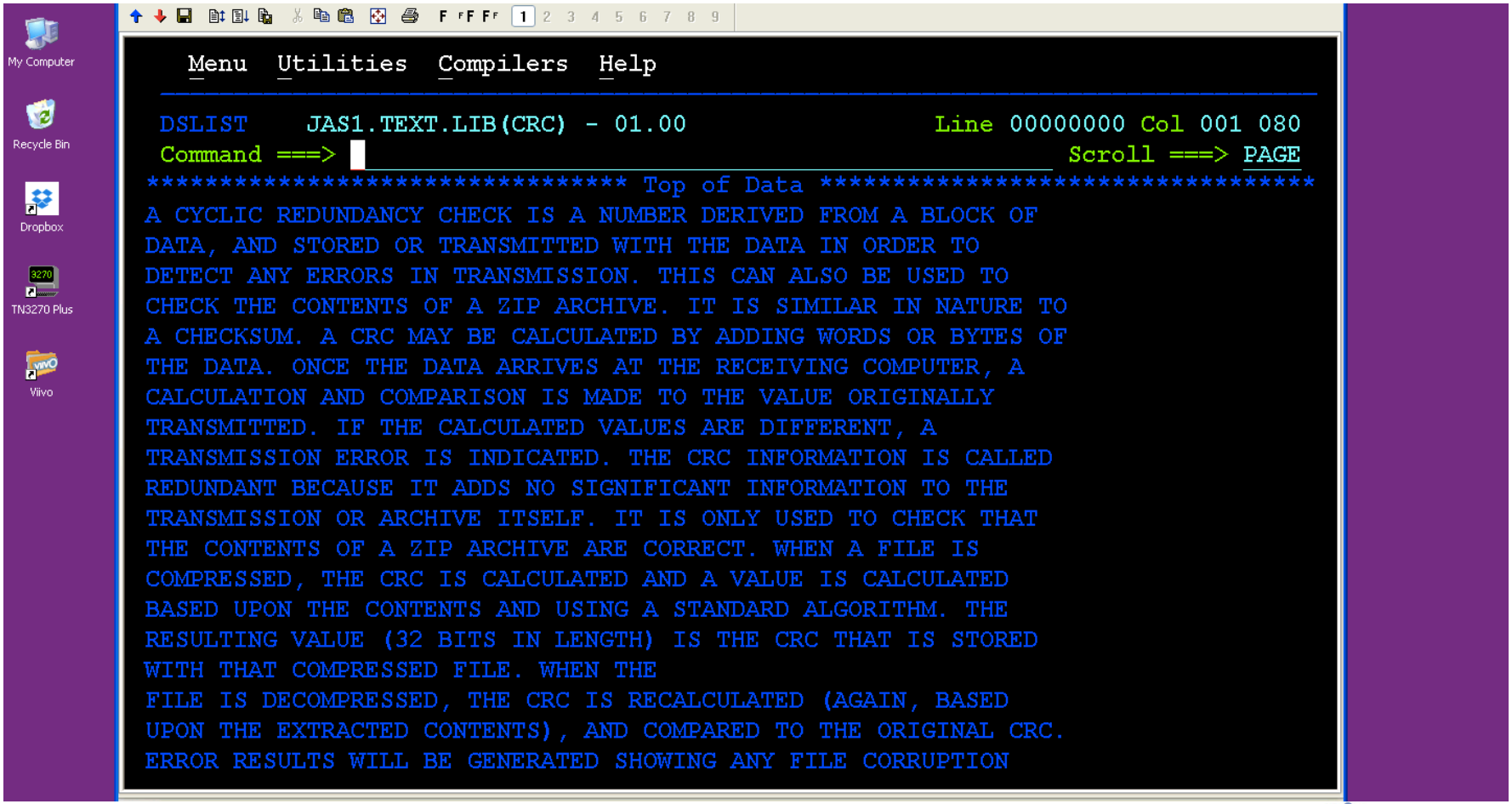

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