zOS Hybrid Batch Applications

Introduction

In today's environment, nearly every computing center is made up of multiple operating systems running on hardware from multiple vendors. This heterogeneousness provides an opportunity for companies to take advantage of the best features of each environment.

Being a multi-platform product with unique Multi-Platform Integration and Application Integration capabilities, ZIP/390 MP is a powerful, yet easy to implement, fully supported, solution for exploiting the synergistic efficiencies of mixed-platform processing.

Key criteria for true hybrid batch processing include:
- The ability to execute programs, scripts and system commands on a target system under the direction and control of another system.
- Target programs may already exist and should require little or no modification.
- Target programs input and output may be piped or redirected from/to the controlling system, in the platform appropriate format.
- Target programs exit codes are presented to the controlling system for process control and reporting purposes.

The examples presented in this document serve to illustrate practical applications of ZIP/390 MP Hybrid Batch processing, as well as serving as models for user defined applications.

The following assumes ZIP/390 MP is already installed and operational on the requisite platforms.

Case Study 1 - zOS Hybrid PGP/UNPGP

zOS Hybrid PGP can be a practical and highly cost effective alternative to traditional Mainframe PGP solutions, especially for customers with existing IFL (or zBX) white-space:

        - 100% zSeries Solution
        - zOS Batch Job Controlled
        - Leverages the complete OpenPGP implementation of GnuPG.
        - Leverages less costly white-space; offloading traditional mainframe processors
        - Super fast, secure and reliable HiperSockets communications
        - Easy to implement and use solution
   - Data 21 Help Desk Support

If migrating from a traditional z/OS PGP product, refer to its documentation on exporting keys from z/OS to non-z/OS. Refer to GnuPG *Key Management* documentation for importing keys into GPG.

Notes:
(1) GPG is a good example of zOS Hybrid Batch processing; however, any target application, that supports stdin & stdout , could be substituted in the following diagrams.
(2) ZIP/390 MP Hybrid batch operations are not exclusive to z/OS; any ZIP/390 MP platform can connect to any other ZIP/390 MP platform for hybrid operations.

zOS Hybrid Batch PGP

Action: PGP   **Input:** zOS File   **Output:** local or network file system
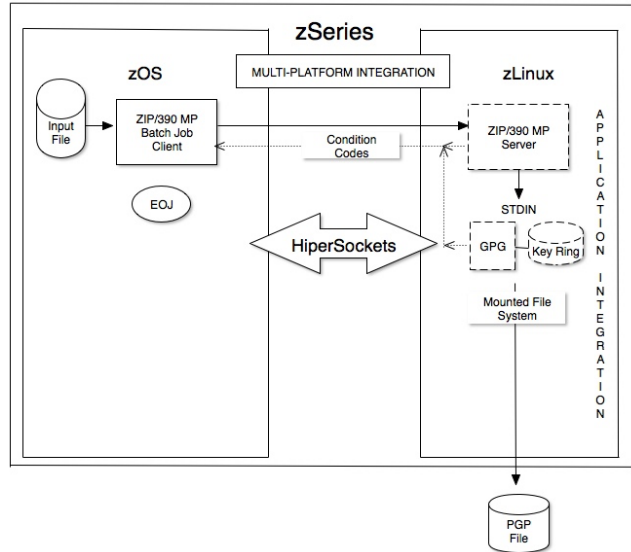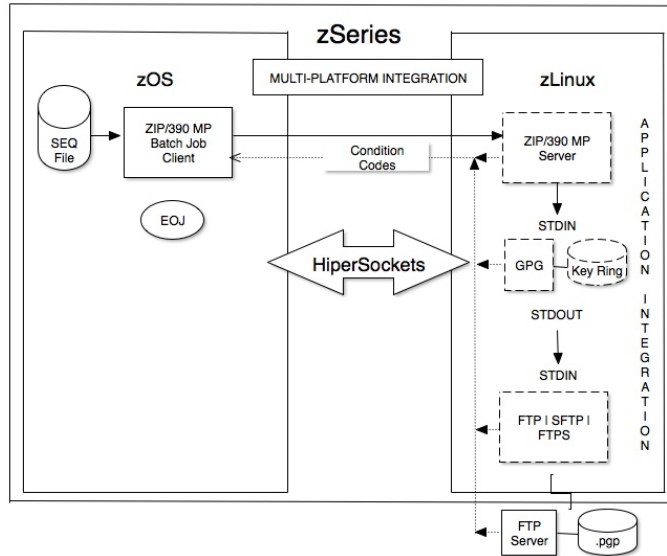


```
//S1PGP EXEC PROC=D21ZIP,COND=(0,LT)
//SYSIN DD *
CONNECT=zLinux domain-name or IP Address:port
ACTION=PGP
PGPTO=email address
IFILE=DSN/ZIP390.FILE1.TXT
OFILE=/<path>/file1.pgp
/*
//
```

zOS Hybrid Batch PGP (cont.)

Action: PGP   **Input:** zOS File   **Output:** FTP | FTPS
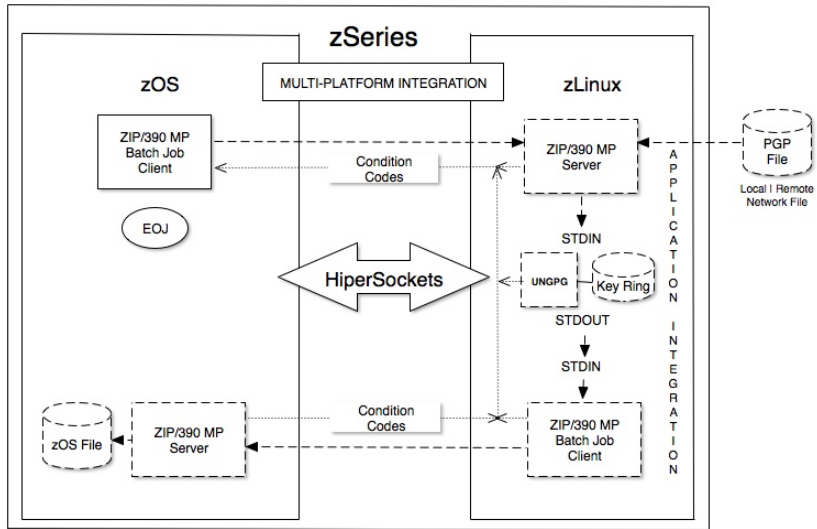

FTP Example

```
//S2APGP EXEC PROC=D21ZIP,COND=(0,LT)

//SYSIN DD *
CONNECT=zLinux domain-name or IP Address:port
ACTION=PGP
PGPTO=email address
IFILE=DSN/ZIP390.FILE1.TXT
OFILE=PIPE:curl ftp://ftp.domain.com/<path>/file1.pgp +
-u username:password
/*
//
```

FTPS Example

```
//S2BPGP EXEC PROC=D21ZIP,COND=(0,LT)

//SYSIN DD *
CONNECT=zLinux domain-name or IP Address:port
ACTION=PGP
PGPTO=email address
IFILE=DSN/ZIP390.FILE1.TXT
OFILE=PIPE: curl —insecure ftps://ftp.domain.com/<path>/file1.pgp

/*
//
```

zOS Hybrid Batch UNPGP

Action: UNPGP   **Input:** Network File System   **Output:** z/OS File
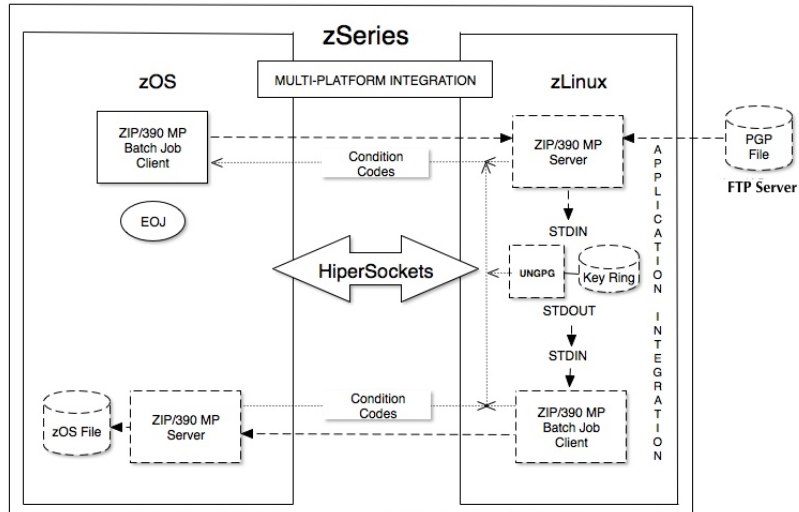


```
//S1UNPGP  EXEC PROC=D21ZIP,COND=(0,LT)
//SYSIN    DD *
CONNECT=zLinux domain-name or IP Address:port
ILOC=SERVER
ACTION=UNPGP
PASSWORD=password
IFILE=PIPE:curl ftp://ftp.domain.com/<path>/file1.pgp +
-u username:password
OFILE=PIPE:d21zip connect=zos.ipaddress:port -copy -auto +
o=DSN/ZIP390.FILE1.TXT +
oblksz=27920 orecsz=80 orecfm=FB
/*
//
```

zOS Hybrid Batch UNPGP (cont.)

Action: UNPGP   **Input:** FTP   **Output:** z/OS File
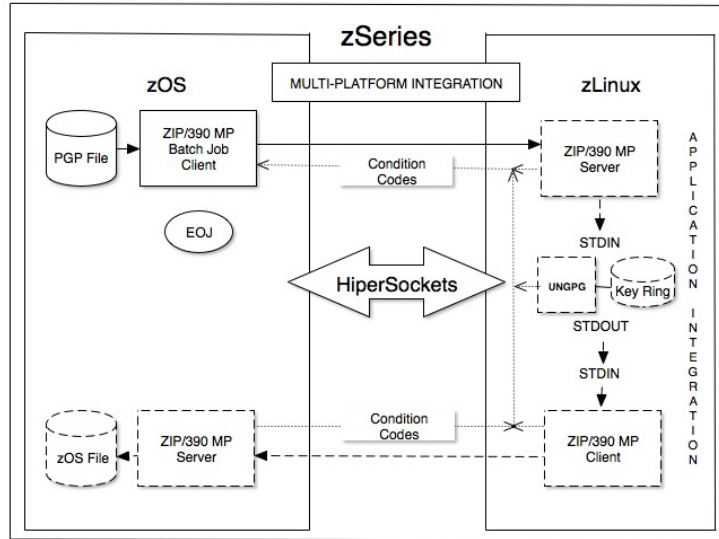


```
//S2UNPGP EXEC PROC=D21ZIP,COND=(0,LT)
//SYSIN DD *
CONNECT=zLinux domain-name or IP Address:port
ILOC=SERVER
ACTION=UNPGP
PASSWORD=password
IFILE=PIPE: curl ftp://ftp.domain.com/<path>/file1.pgp
-u username:password
OFILE=PIPE:d21zip connect=zos.ipaddress:port -copy -text +
o=DSN/ZIP390.FILE1.TXT +
oblksz=27920 orecsz=80 orecfm=FB
/*
//
```

zOS Hybrid Batch UNPGP (cont.)

Action: UNPGP   **Input:** zOS File   **Output:** z/OS File


```
//S3UNPGP EXEC PROC=D21ZIP,COND=(0,LT)
//SYSIN DD *
CONNECT=zLinux domain-name or IP Address:port
ACTION=UNPGP
PASSWORD=password
IFILE=DSN/ZIP390.FILE1.PGP
OFILE=PIPE:d21zip connect=zos.ipaddress:port -copy -text +
o=DSN/ZIP390.FILE1.TXT +
oblksz=27920 orecsz=80 orecfm=FB
/*
//
```