Submitting Jobs and Retrieving the Output Via FTP

BY LIONEL B. DYCK

AS an alternative to Remote Job Entry (RJE), you can now submit jobs and retrieve the results using TCP/IP FTP. This process requires the batch job to be submitted from a platform on which TCP/IP is active using the FTP (File Transfer Protocol) application. To comply with local data center jobname and classname standards, a job must meet the following criteria to be successfuly submitted for processing.

1. The JCL and any control statements must be created on the submitting platform with no record exceeding 80 characters. If the control cards will exceed 80 characters, then you must issue the FTP subcommand site jeslrecl. For example:

```
site jeslrecl=xxx (up to 254)
```

2. The job name must match the user's userid plus one character.
3. The following OUTPUT JCL statement must be used, or similar JCL statements, to place the job's SYSOUT into the HOLD queue. For example:

```
//HOLD OUTPUT JESDS=ALL,DEFAULT=Y, OUTDISP=(HOLD,HOLD)
```

4. To create output for printing via the standard host print services, include the following OUTPUT JCL statement:

```
//NORMAL OUTPUT DEFAULT=N,DEST=destination
```

Then reference this OUTPUT JCL statement in your JCL. For example:

```
//ddname   DD  SYSOUT=*,OUTPUT=*.NORMAL
```

The destination specified is the name of a printer connected to the host system or a node.printer address that references a printer connected to the host at the specified node.

5. If the job card contains the user's userid, then it must match the userid that is specified when connecting via FTP and must be of the form "userid?" where "?" is any single character.

BATCH SUBMISSION PROCEDURE

1. FTP to the MVS host system (e.g., nkaiserm.ncal.kaiperm.org) and login using your registered userid and password. See Figure 1.

> This article demonstrates how TCP/IP's File Transfer Protocol (FTP) can be an effective alternative to Remote Job Entry (RJE) systems. With FTP it is possible to submit JCL from your desktop to the mainframe, have it execute, and bring the resulting SYSOUT back to your desktop.

Figure 1: FTP to the MVS Host System and Login Using Your Registered Userid and Password

```
[D:\t\t]ftp nkaiserm
IBM TCP/IP for OS/2 - FTP Client ver 22:15:24 on Sep 22 1997
Connected to nkaiserm.ncal.kaiperm.org.
220-FTP IBM MVS V3R2 at nkaiserm.ncal.kaiperm.org, 08:55:18 on 1998/03/30
220 Connection will close if idle for more than 5 minutes.
Name (nkaiserm): syslbd
331 Send password please.
Password: .......
230 SYSLBD is logged on.  Working directory is "SYSLBD.".
```

Figure 2: The FTP Subcommand "site filetype=jes"

```
ftp> site filetype=jes
200 Site command was accepted
```

Figure 3: The "site" Subcommand

```
ftp> quote site filetype=jes
200 Site command was accepted
```

Figure 4: The FTP Subcommand "put filename"

```
ftp> put test.jcl
200 Port request OK.
125 Sending Job to JES Internal Reader FIXrecfm 80
250-It is known to JES as JOB04661
250 Transfer completed successfully.
local: test.jcl remote: test.jcl
244 bytes sent in 0.00 seconds (0 Kbytes/s)
```

Figure 5: The FTP Subcommand "ls" or "dir"

```
ftp> dir
200 Port request OK.
125 List started OK
SYSLBDT   JOB04661   OUTPUT     4 Spool Files
250 List completed successfully
74 bytes received in 0.12 seconds (0 Kbytes/s)
ftp> ls
200 Port request OK.
125 Nlst started OK
JOB04661
250 Nlst completed successfully
10 bytes received in 0.07 seconds (0 Kbytes/s)
```

Figure 6: Sample Batch Job

```
//SYSLBD1  JOB  666001,'LIONEL DYCK',CLASS=Q,NOTIFY=SYSLBD,
//         MSGLEVEL=(1,1),USER=SYSLBD
//HOLD OUTPUT JESDS=ALL,DEFAULT=Y,OUTDISP=(HOLD,HOLD)
//STEP1    EXEC PGM=IEBGENER
//SYSPRINT DD   SYSOUT=*
//SYSUT2   DD   SYSOUT=*
//SYSUT1   DD   DISP=SHR,DSN=SYS1.PROCLIB(JES2)
//SYSIN        DD       DUMMY
```

Figure 7: The Subcommand "get"

```
GET JOBnnnnn.s where 'nnnnn' is the job number from the
        'ls' or 'dir' ftp subcommand and 's' is the SYSOUT
        file sequence number.

GET JOBnnnnn.X where 'nnnnn' is the job number and 'X' is
        used to indicate to retrieve ALL of the JOB's
        SYSOUT into one file. The 'X' may be specified
        in either upper or lower case.
```

> Once a job submitted via FTP has completed processing it is possible to retrieve the results of the processing by using FTP to bring the SYSOUT back to the submitting platform. This is accomplished using the GET FTP subcommand.

BATCH JOB OUTPUT RETRIEVAL REQUIREMENTS

Once a job submitted via FTP has completed processing it is possible to retrieve the results of the processing by using FTP to bring the SYSOUT back to the submitting platform. This is accomplished using the GET FTP subcommand. You must be connected via FTP to the host jesplex where the job was executed and the "site filetype=jes" must have been executed. Note that on some system TCP/IP platforms the "site" subcommand must be invoked as "quote site filetype=jes." To retrieve the SYSOUT reports for your batch job issue the FTP subcommand "get" using the syntax shown in Figure 7. **Note:** Leading zeros are not required in JOBnnnnn. The output will be returned to a data set in the current directory on your TCP/IP platform using the naming convention of JOBnnnnn.s or JOBnnnnn.X.

ADDITIONAL DOCUMENTATION

For complete information on the use of TCP/IP and FTP see the documentation for the TCP/IP application for your platform and the IBM TCP/IP documentation for the host TCP/IP available under BookManager Read/MVS *(IBM Transmission Control Protocol/Internet Protocol Version 3 Release 2 for MVS: User's Guide* SC31-7136-02).

SAMPLE FTP SESSION

Figure 8 provides a sample FTP session between TCP/IP on an OS/2 platform and the MVS TCP/IP at NKAISERA.

Hopefully this article has demonstrated how TCP/IP FTP can be used to effectively replace some of the uses for RJE in your environment. The client (workstation) operating system implementation of TCP/IP

2. Enter the FTP subcommand "site filetype=jes" as shown in Figure 2. Note that on some systems the TCP/IP FTP software does not support the "site" command directly. To issue the "site" subcommand you must issue it as "quote site filetype=jes". See Figure 3.

3. Enter the FTP subcommand "put filename," where filename is the name of the file on your platform that contains the JOB's JCL to be submitted. See Figure 4.

4. Enter the FTP subcommand "ls" or "dir" to display your JOB's progress and status as shown in Figure 5.

Note that Figure 6 provides a sample batch JOB that demonstrates the requirements for Figure 5.

Figure 8: Sample FTP Session Between TCP/IP on an OS/2 Platform and the MVS TCP/IP at NKAISERA

```
[D:\t\t]ftp nkaiserm
IBM TCP/IP for OS/2 - FTP Client ver 22:15:24 on Sep 22 1997
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220-FTP IBM MVS V3R2 at nkaiserm.ncal.kaiperm.org, 08:55:18 on 1998/03/30
220 Connection will close if idle for more than 5 minutes.
Name (nkaiserm): syslbd
331 Send password please.
Password: .......
230 SYSLBD is logged on.  Working directory is "SYSLBD.".
ftp> site filetype=jes
200 Site command was accepted
ftp> put test.jcl
200 Port request OK.
125 Sending Job to JES Internal Reader FIXrecfm 80
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local: test.jcl remote: test.jcl
244 bytes sent in 0.00 seconds (0 Kbytes/s)
ftp> dir
200 Port request OK.
125 List started OK
SYSLBDT   JOB04661  OUTPUT    4 Spool Files
250 List completed successfully
74 bytes received in 0.12 seconds (0 Kbytes/s)
ftp> ls
200 Port request OK.
125 Nlst started OK
JOB04661
250 Nlst completed successfully
10 bytes received in 0.07 seconds (0 Kbytes/s)
ftp> get job04661.x
200 Port request OK.
125 Sending all SPOOL files for requested JOBID
250 Transfer completed successfully
local: job04661.x remote: job04661.x
4603 bytes received in 0.43 seconds (10 Kbytes/s)
ftp> get job04661.1
200 Port request OK.
125 Sending data set SYSLBD.SYSLBDT.JOB04661.D0000002.JESMSGLG
250 Transfer completed successfully
local: job04661.1 remote: job04661.1
2270 bytes received in 0.07 seconds (31 Kbytes/s)
ftp> del job04661
250 Cancel Successful
ftp> dir
200 Port request OK.
125 List started OK
No jobs found on Held queue
250 List completed successfully
29 bytes received in 0.18 seconds (0 Kbytes/s)
ftp> quit
221 Quit command received. Goodbye.

D:\t\t]dir


The volume label in drive D is DATA.
The Volume Serial Number is 675D:8415.
Directory of D:\t\t


11-05-97    8:13a          <DIR>         0 —       .
11-05-97    8:13a          <DIR>         0 —       ..
3-30-98     9:01a          2,271         0 a—      job04661.1
3-30-98     9:00a          4,604         0 a—      job04661.x
3-30-98     9:00a          245           0 a—      test.jcl
5           file(s)        7,120 bytes used
                           1,651,712 K bytes free


[D:\t\t]
```

will vary, but the examples and basics are valid for at least the OS/2, Windows 95, and Windows NT clients. *ts*

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