

PROXY COUPLING TECHNOLOGY

A New Paradigm in Mainframe Computing



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ABOUT PSC

- Founded in 2009 by Ron Hilton, founder of Platform Solutions, Inc. (PSI was acquired by IBM in 2008).
- PSC's proxy coupling technology allows compute-intensive applications to be offloaded from the mainframe to emerging platforms, including zLinux.
- Fully transparent - familiar interfaces, business processes, and operations all remain intact.
- Extends the Reliability, Availability, and Serviceability characteristics of the mainframe to open systems.

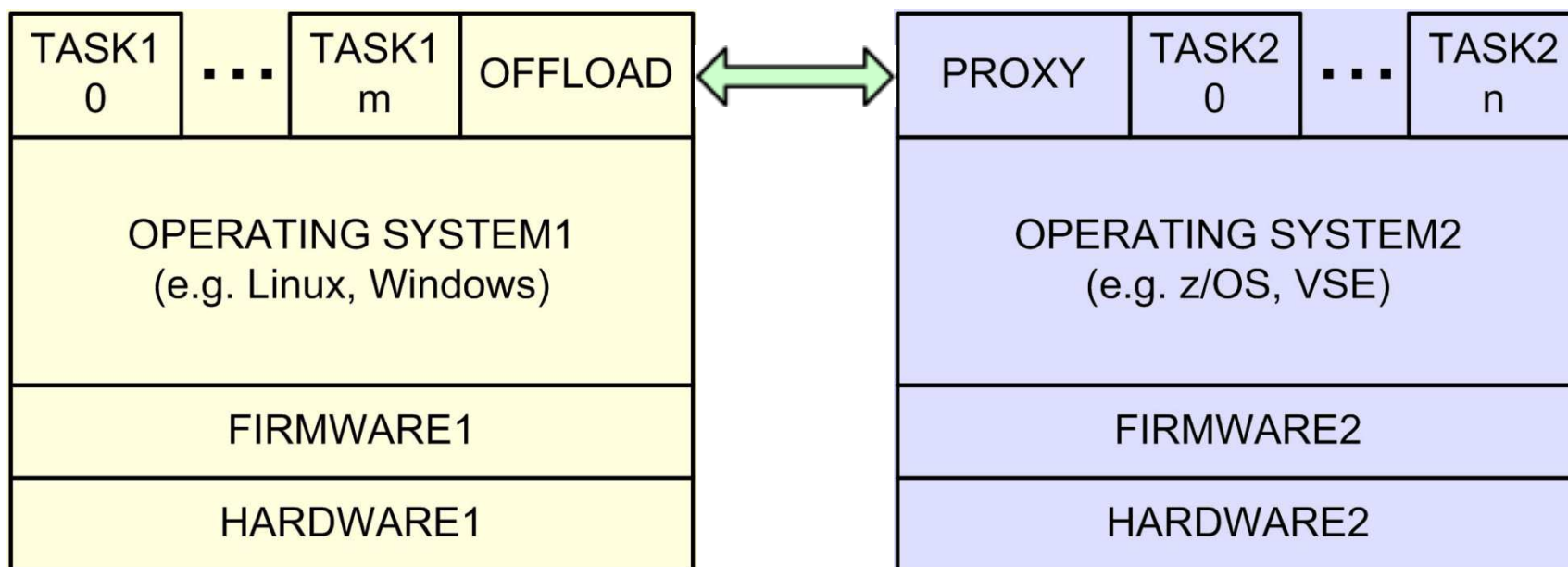
PROPRIETARY TECHNOLOGY

- Proxy Coupling Technology automates movement of mainframe tasks from z/OS to open systems, with complete transparency.
 - PSCsort™ offloads DFSORT® and SyncSort ®.
 - PSCmkPDF™ offloads PDF conversion.
 - Many other applications to follow.
- Protected by US Patent No. 8,527,991
 - Also patented in the UK, Australia, and Hong Kong.
 - Patent pending in Germany, South Korea, and Brazil.
- Patent pending Heterogeneous Data Sharing technology will further improve offload performance.

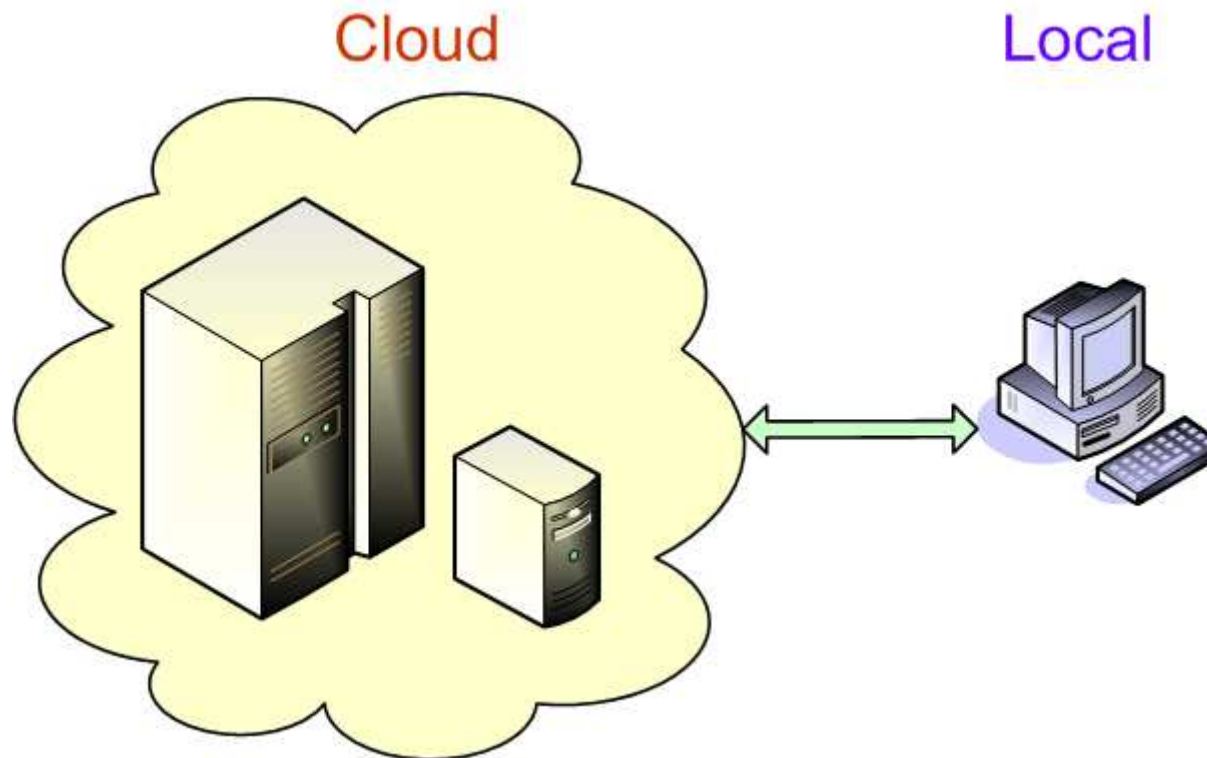
PROXY COUPLING TECHNOLOGY

Linux or other OS

Mainframe

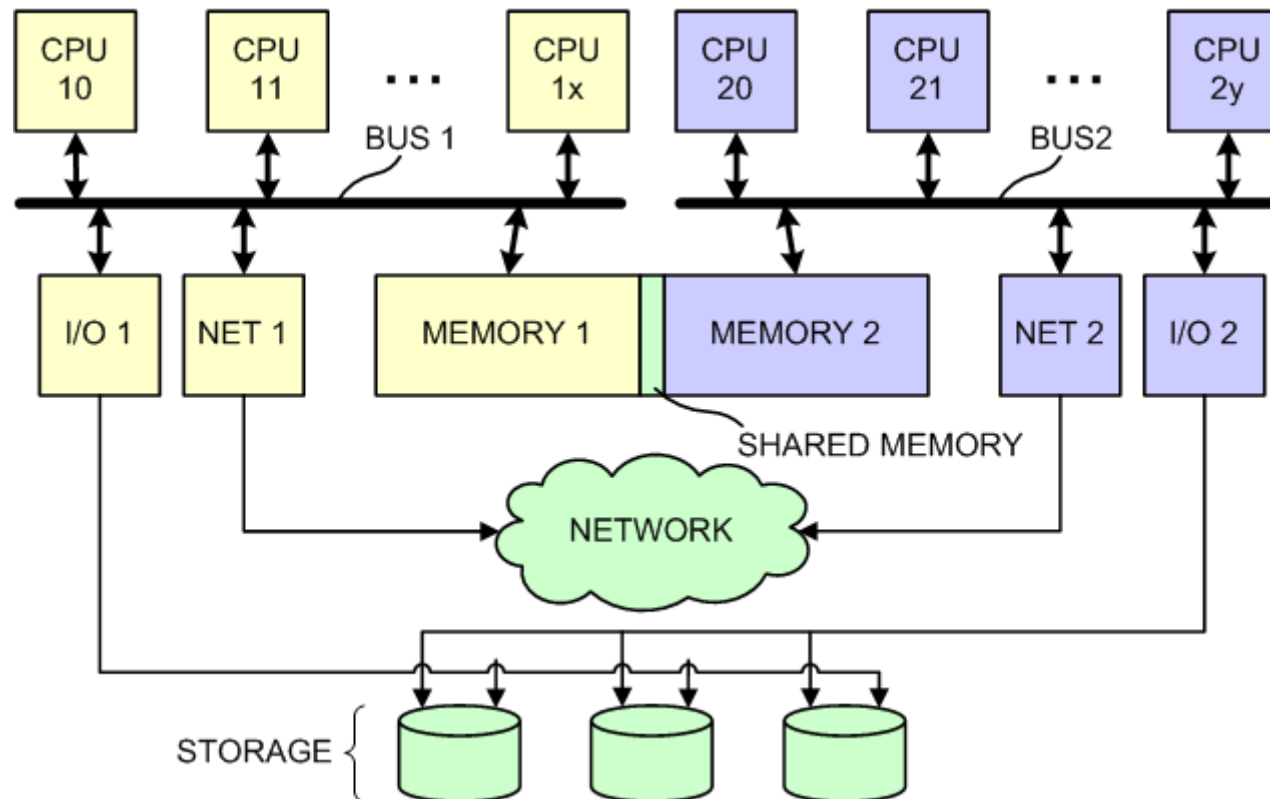


PROXY COUPLING IN THE CLOUD

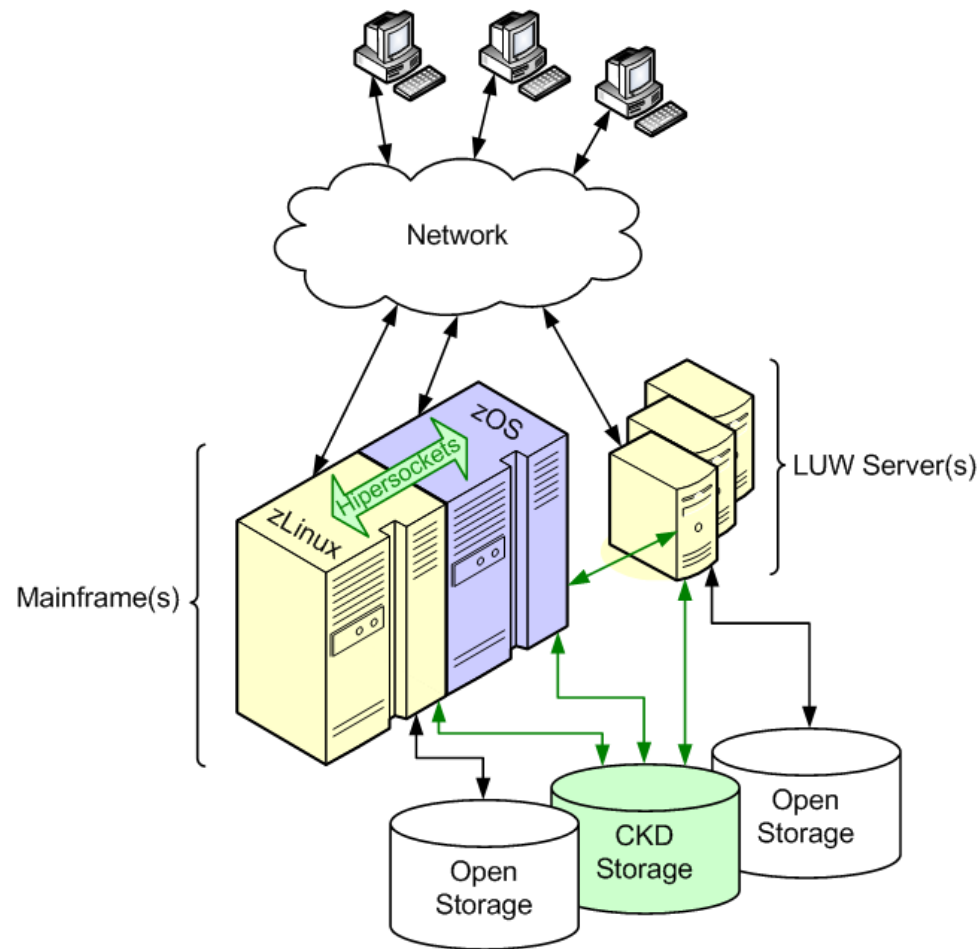


Complete your session evaluations online at www.SHARE.org/Seattle-Eval

HETEROGENEOUS DATA SHARING

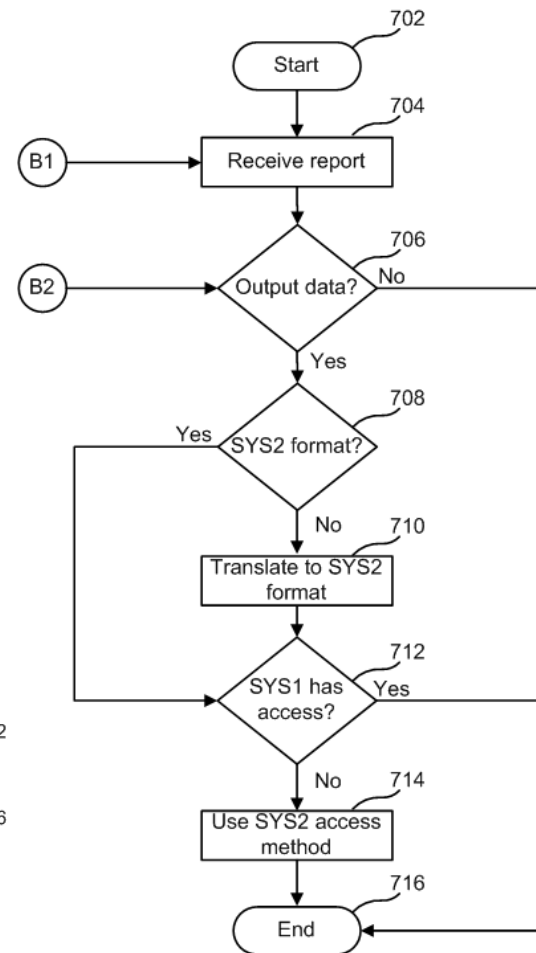
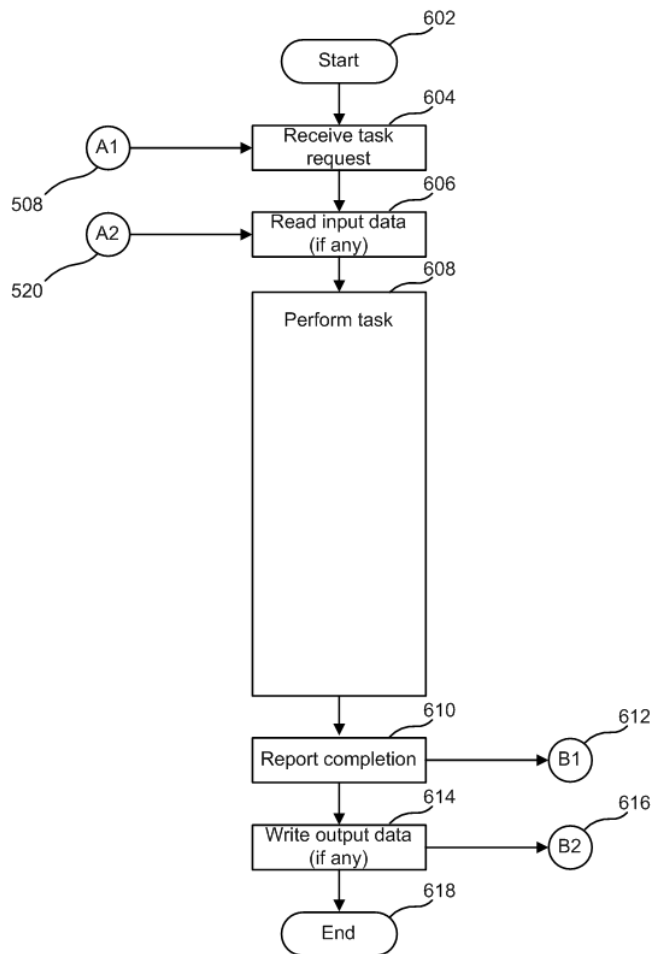
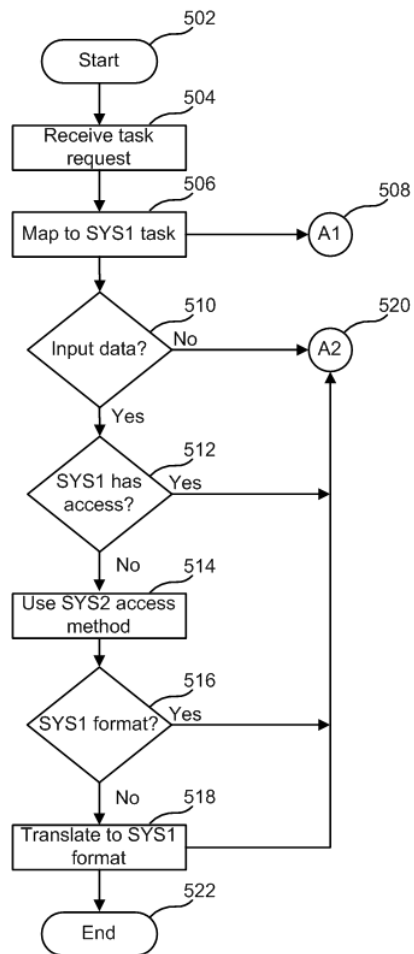


PSC DATACENTER - LOGICAL DIAGRAM



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PROXY/OFFLOAD FLOW DIAGRAMS



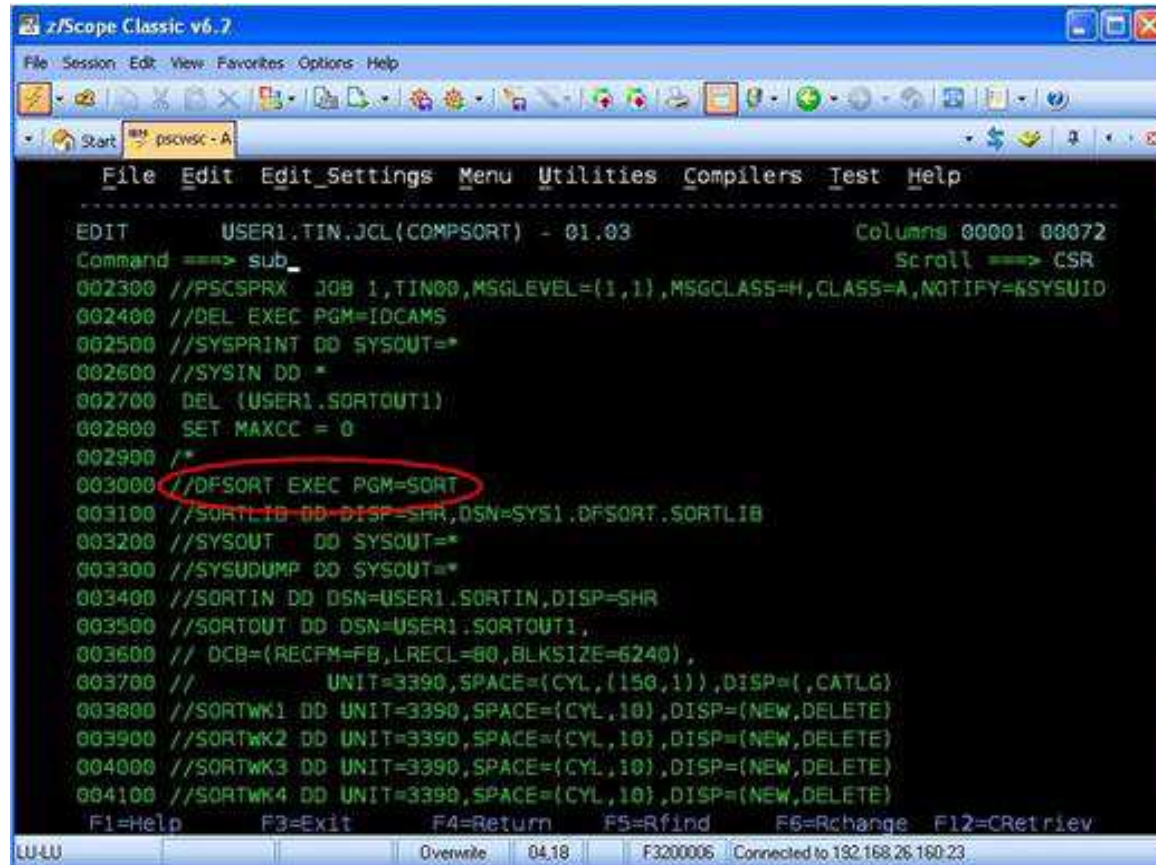
RESEARCH AND DEVELOPMENT

- Initial prototype was tested at IBM's Washington Systems Center, under the auspices of the State of Utah Science, Technology and Research (USTAR).
- Further development and testing performed with our Linux system co-located at Maintec's mainframe site.
- Entered into an Alliance Agreement with Alebra and continued development and testing at Maintec with Alebra's Parallel Data Mover (PDM) software.
- Alebra tested it with their z/OpenGate™ hardware.
- Next step is Heterogeneous Data Sharing.

SCREENSHOTS FROM IBM WSC

Complete your session evaluations online at www.SHARE.org/Seattle-Eval

Sort job being submitted on a z/OS system in the usual manner.



```
z/Scope Classic v6.7
File Session Edit View Favorites Options Help
-----
File Edit Edit_Settings Menu Utilities Compilers Test Help
-----
EDIT      USER1.TIN.JCL(COMPSORT) - 01.03      Columns 00001 00072
Command ==> sub_                               Scroll ==> CSR
002300 //PSCSPRX JOB 1,TIN00,MSGLEVEL=(1,1),MSGCLASS=H,CLASS=A,NOTIFY=KSYSUID
002400 //DEL EXEC PGM=IDCAMS
002500 //SYSPRINT DD SYSOUT=*
002600 //SYSIN DD *
002700 DEL (USER1.SORTOUT1)
002800 SET MAXCC = 0
002900 /*
003000 //DFSORT EXEC PGM=SORT
003100 //SORTLIB DD DISP=SHR,DSN=SYS1.DFSORT.SORTLIB
003200 //SYSOUT DD SYSOUT=*
003300 //SYSUDUMP DD SYSOUT=*
003400 //SORTIN DD DSN=USER1.SORTIN,DISP=SHR
003500 //SORTOUT DD DSN=USER1.SORTOUT1,
003600 // DCB=(RECFM=FB,LRECL=80,BLKSIZE=6240),
003700 //          UNIT=3390,SPACE=(CYL,(150,1)),DISP=(,CATLG)
003800 //SORTWK1 DD UNIT=3390,SPACE=(CYL,10),DISP=(NEW,DELETE)
003900 //SORTWK2 DD UNIT=3390,SPACE=(CYL,10),DISP=(NEW,DELETE)
004000 //SORTWK3 DD UNIT=3390,SPACE=(CYL,10),DISP=(NEW,DELETE)
004100 //SORTWK4 DD UNIT=3390,SPACE=(CYL,10),DISP=(NEW,DELETE)
F1=Help  F3=Exit  F4=Return  F5=Rfind  F6=Rchange  F12=CRetrieve
LU4U                               Overwrite  04.18  F3200006  Connected to 192.168.26.160:23
```

//DFSORT EXEC PGM=SORT

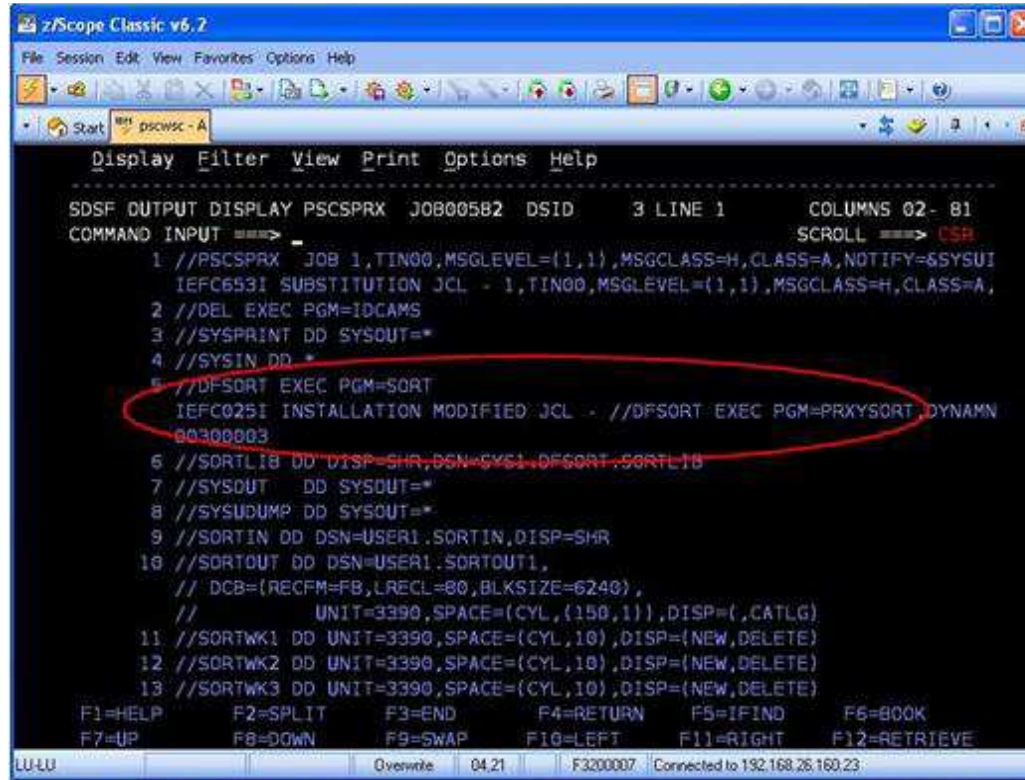
Sort job being executed on a remote Linux system.

```
user1@wsc335-9:~/proxysort
File Edit View Terminal Tabs Help
user1@wsc335-9:~/proxysort> ls
user1@wsc335-9:~/proxysort> ls
T2460565.SORTIN
user1@wsc335-9:~/proxysort> ls
T2460565.PROXYS T2460565.SORTIN
user1@wsc335-9:~/proxysort> ls
SWUKdao4 T2460565.PROXYS T2460565.SORTIN T2460565.SYSPRINT
user1@wsc335-9:~/proxysort> ls
SW8KieRM SWJm3Xdp SWUKdao4 T2460565.SORTIN T2460565.SYSPRINT
SWcG4rsG SWT6C4fd T2460565.PROXYS T2460565.SORTOUT
user1@wsc335-9:~/proxysort> ls
T2460565.DONE T2460565.SORTIN T2460565.SYSPRINT
T2460565.PROXYS T2460565.SORTOUT
user1@wsc335-9:~/proxysort> ls
T2460565.DONE T2460565.SORTIN T2460565.SYSPRINT
T2460565.PROXYS T2460565.SORTOUT
user1@wsc335-9:~/proxysort> ls
T2460565.DONE T2460565.SORTIN T2460565.SYSPRINT
T2460565.PROXYS T2460565.SORTOUT
user1@wsc335-9:~/proxysort> ls
T2460565.DONE T2460565.SORTIN T2460565.SYSPRINT
T2460565.PROXYS T2460565.SORTOUT
user1@wsc335-9:~/proxysort> ls
user1@wsc335-9:~/proxysort>
```

T2460565.SORTIN

T2460565.SORTOUT

Message reporting the automatic substitution of the proxy for the sort job.



```
z/Scope Classic v6.2
File Session Edit View Favorites Options Help
Start pscwsc - A
Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY PSCSPRX JOB00582 DSID 3 LINE 1 COLUMNS 02- 81
COMMAND INPUT ==> - SCROLL ==> CSB
1 //PSCSPRX JOB 1,TIN00,MSGLEVEL=(1,1),MSGCLASS=H,CLASS=A,NOTIFY=&SYSUI
IEFC653I SUBSTITUTION JCL - 1,TIN00,MSGLEVEL=(1,1),MSGCLASS=H,CLASS=A,
2 //DEL EXEC PGM=IDCAMS
3 //SYSPRINT DD SYSOUT=*
4 //SYSIN DD *
5 //DFSORT EXEC PGM=PRXYSORT
IEFC025I INSTALLATION MODIFIED JCL - //DFSORT EXEC PGM=PRXYSORT
00300003
6 //SORTLIB DD DISP=SHR,DSN=CYS1.DFSORT.SORTLIB
7 //SYSOUT DD SYSOUT=*
8 //SYSUDUMP DD SYSOUT=*
9 //SORTIN DD DSN=USER1.SORTIN,DISP=SHR
10 //SORTOUT DD DSN=USER1.SORTOUT1,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=6240),
// UNIT=3390,SPACE=(CYL,(150,1)),DISP=(,CATLG)
11 //SORTWK1 DD UNIT=3390,SPACE=(CYL,10),DISP=(NEW,DELETE)
12 //SORTWK2 DD UNIT=3390,SPACE=(CYL,10),DISP=(NEW,DELETE)
13 //SORTWK3 DD UNIT=3390,SPACE=(CYL,10),DISP=(NEW,DELETE)
F1=HELP F2=SPLIT F3=END F4=RETURN F5=IFIND F6=BOOK
F7=UP F8=DOWN F9=SWAP F10=LEFT F11=RIGHT F12=RETRIEVE
LU+LU Overwrite 04.21 F3200007 Connected to 192.168.26.160.23
```

//DFSORT EXEC PGM=PRXYSORT
IEFC025I INSTALLATION MODIFIED JCL - //DFSORT EXEC PGM=PRXYSORT

Message reporting the completion of the sort job on the Linux host.

```
z/Scope Classic v6.2
File Session Edit View Favorites Options Help
-----
Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY PSCSPRX JOB00582 DSID 104 LINE 2 COLUMNS 01- 80
COMMAND INPUT ==> _ SCROLL ==> CSR
. Job PSCSPRX Offloaded to host 192.168.26.1 on 31-JAN-2009 at 22:46:16 Back

ICY0205I Ahlsort for Unix, version 8.0a
ICY0215W Ahlsort is commercial software!
ICY0216W Unauthorized use shall result in appropriate legal action!
ICY0001I Copyright (c) 1997-2008 Ahlbrandt Software, Inc.
ICY0206I Little Rock, Arkansas, USA (501) 687-6105, www.ahlsort.com
ICY0212I See www.ahlsort.com for updates
ICY0530I File T2460565.PROXYS, Records In 2
ICY0031I GlobalOption charset=ebcdic
ICY0031I RECORD TYPE=F,LENGTH=00000
ICY0031I SORT FIELDS=(3,9,CH,A,18,10,CH,D)
ICY0208I This software is licensed to:
ICY0209I
ICY0032I This product will expire in 30 days
ICY0530I File T2460565.SORTIN, Records In 1000000
ICY0531I File T2460565.SORTOUT, Records Out 1000000
ICC0004B CPU Time: 5 seconds, Elapsed Time: 6 seconds
F1=HELP F2=SPLIT F3=END F4=RETURN F5=IFIND F6=BOOK
F7=UP F8=DOWN F9=SWAP F10=LEFT F11=RIGHT F12=RETRIEVE
DLU Overwrite 04.21 F3200007 Connected to 192.168.26.160:23
```

. Job PSCSPRX Offloaded to host 192.168.26.1

PRE-RECORDED DEMO AT MAINTEC

Complete your session evaluations online at www.SHARE.org/Seattle-Eval

LIVE DEMO AT WEBER STATE UNIVERSITY

Complete your session evaluations online at www.SHARE.org/Seattle-Eval

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