

VSE2PDF

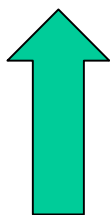
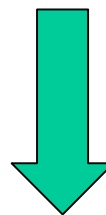
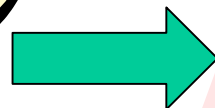
Tony Thigpen

Thigpen Enterprises, Inc

Tony@VSE2PDF.com

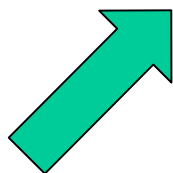
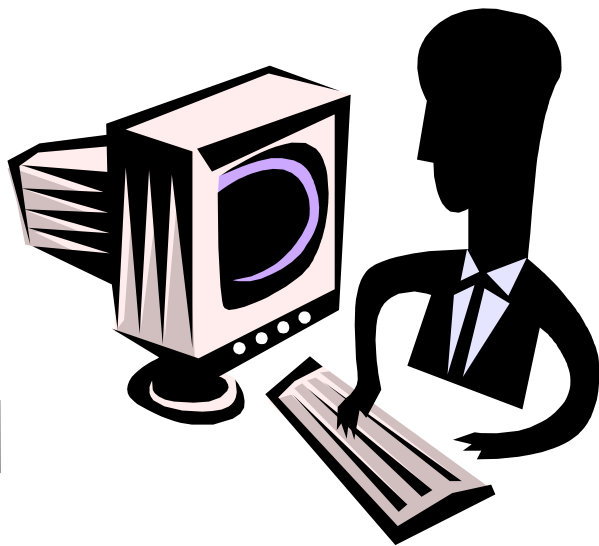
How we used to do it

- MIS runs the job
- MIS prints the report
- MIS bundles and sends the report to the user
- The mailroom staff carries the reports to the user
- The user may review one page or two
- User 'files' the report in the recycling bin



The better way

- MIS runs the job
- The user receives the report immediately via email
- The user reviews the report
- The user prints the pages he needs
- The user archives the report



You Have Mail



How VSE2PDF works

- VSE2PDF registers with POWER as a Device Driver Subsystem
- The operator treats VSE2PDF as a printer device (PSTART, PSTOP)
- POWER sends print output as needed to VSE2PDF

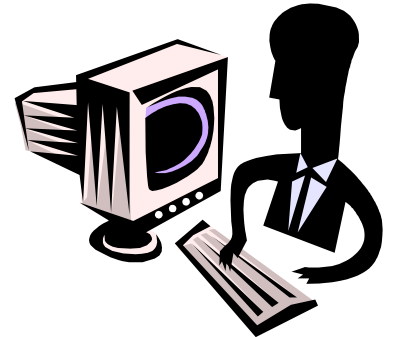
How VSE2PDF works

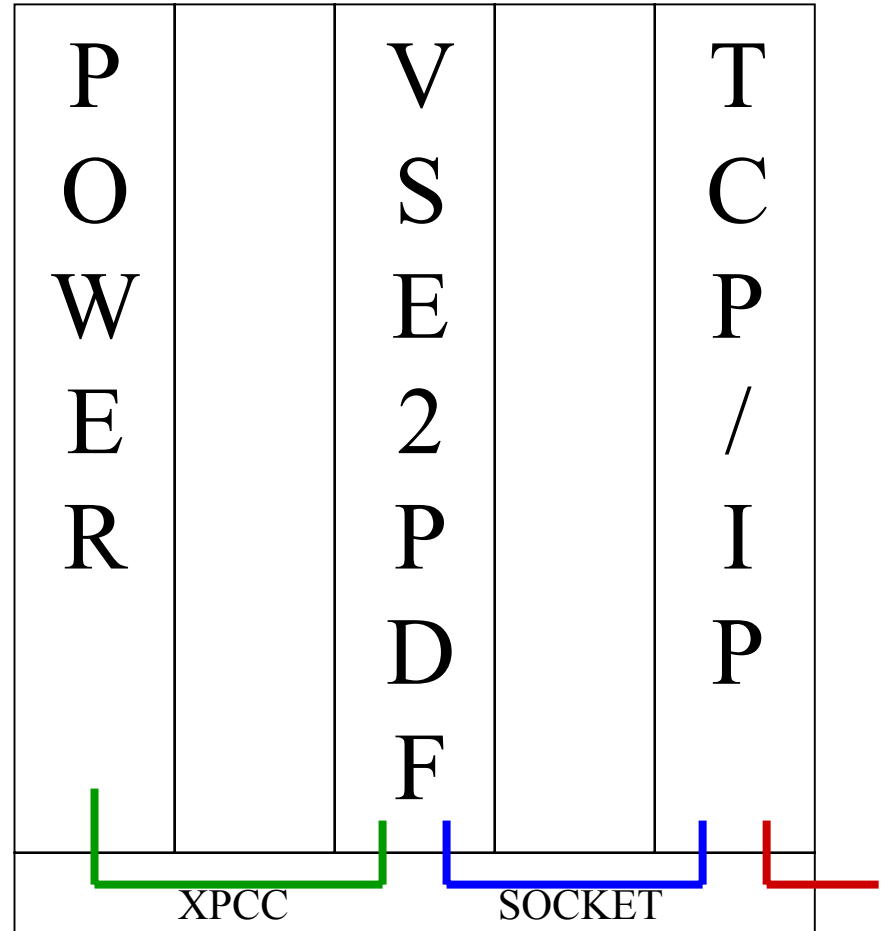
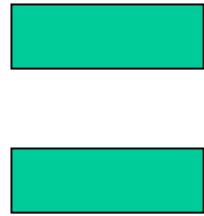
- VSE2PDF reformats the report
- VSE2PDF contacts an external SMTP mail host
- VSE2PDF sends the file to the SMTP mail host
- The SMTP mail host forwards the email to the end-user's email server
- The end-user then receives the report as a PDF formatted email attachment



SMTP
Server

SMTP
Post office





Document Delivery

- Email attachment
 - RFC standard MIME format
 - Multiple recipients (up to 200)
- FTP
 - Delivery to any RFC compliant FTP server
- VSE Librarian
 - Stored in a VSE library.sublibrary in ASCII
- User exit

W2 EXAMPLE - Message (Plain Text)

File Edit View Insert Format Tools Actions Help



From: TTHIGPEN@MAIL.VOLUSIA.K12.FL.US

Sent: None

To: TONY@VSE2PDF.COM

Cc:

Subject: W2 EXAMPLE

Output from Job LIBR9 35089 20001002 111455



W2.PDF
(21KB)

a Control number		OMB No. 1545-0008				
b Employer identification number 12-56789012		1 Wages, tips, other compensation 62,345.98	2 Federal income tax withheld 20,332.12			
c Employer's name, address, and ZIP code JOE GOFER 101 MAIN STREET MUDTOWN, WI 98765-4321		3 Social security wages 62,345.98	4 Social security tax withheld 3,973.76			
		5 Medicare wages and tips 62,345.90	6 Medicare tax withheld 1,674.11			
		7 Social security tips 0.00	8 Allocated tips 0.00			
d Employee's social security number 999-55-4321		9 Advance EIC payment 0.00		10 Dependent care benefits 0.00		
e Employer's name, address, and ZIP code BUBBA'S SWEAT SHOP 9876 COUNTY ROAD G MUDTOWN, WI 98765-1234		11 Nonqualified plans 0.00		12 Benefits included in box 1 0.00		
		13 See instrs. for box 13		14 Other		
		15 Statutory employee <input type="checkbox"/>		Deceased <input type="checkbox"/>		Pension plan <input type="checkbox"/>
				Legal rep. <input type="checkbox"/>		
				Deferred compensation <input type="checkbox"/>		
16 State	Employer's state I.D. no.	17 State wages, tips, etc.	18 State income tax	19 Locality name	20 Local wages, tips, etc.	21 Local income tax
WI	12-56789012	62,345.98	0.00			

Form **W-2 Wage and Tax Statement** 1998
 Copy B To Be Filed With Employee's FEDERAL Tax Return
 Department of the Treasury—Internal Revenue Service
 This information is being furnished to the Internal Revenue Service.

PDF

- Advantages:
 - Free viewer
 - PDF is the de-facto document standard
 - Font is guaranteed
 - Page layout is guaranteed
 - ‘From page’ ‘to page’ printing available
 - Viewed output is fully WYSIWYG

PDF

- Overlays (Form Definitions)
 - Static Data on every page
 - Graphics and Logos
 - Generated from PC PDF documents
 - Available on the Internet (IRS Forms, Invoices, etc.)
 - Using Adobe software
 - Graphic design companies
 - Stored in VSE LIBR members

PDF

- Bookmarks (indexes)
 - Up to 8 levels
 - Based on data from the page
 - Location of the index can be changed due to different page formats

HTML

- Advantages:
 - Free viewer
 - Most know how to use
- Disadvantages:
 - No font guarantee
 - No page layout guarantee
 - No ‘from page’ ‘to page’ print control

TEXT

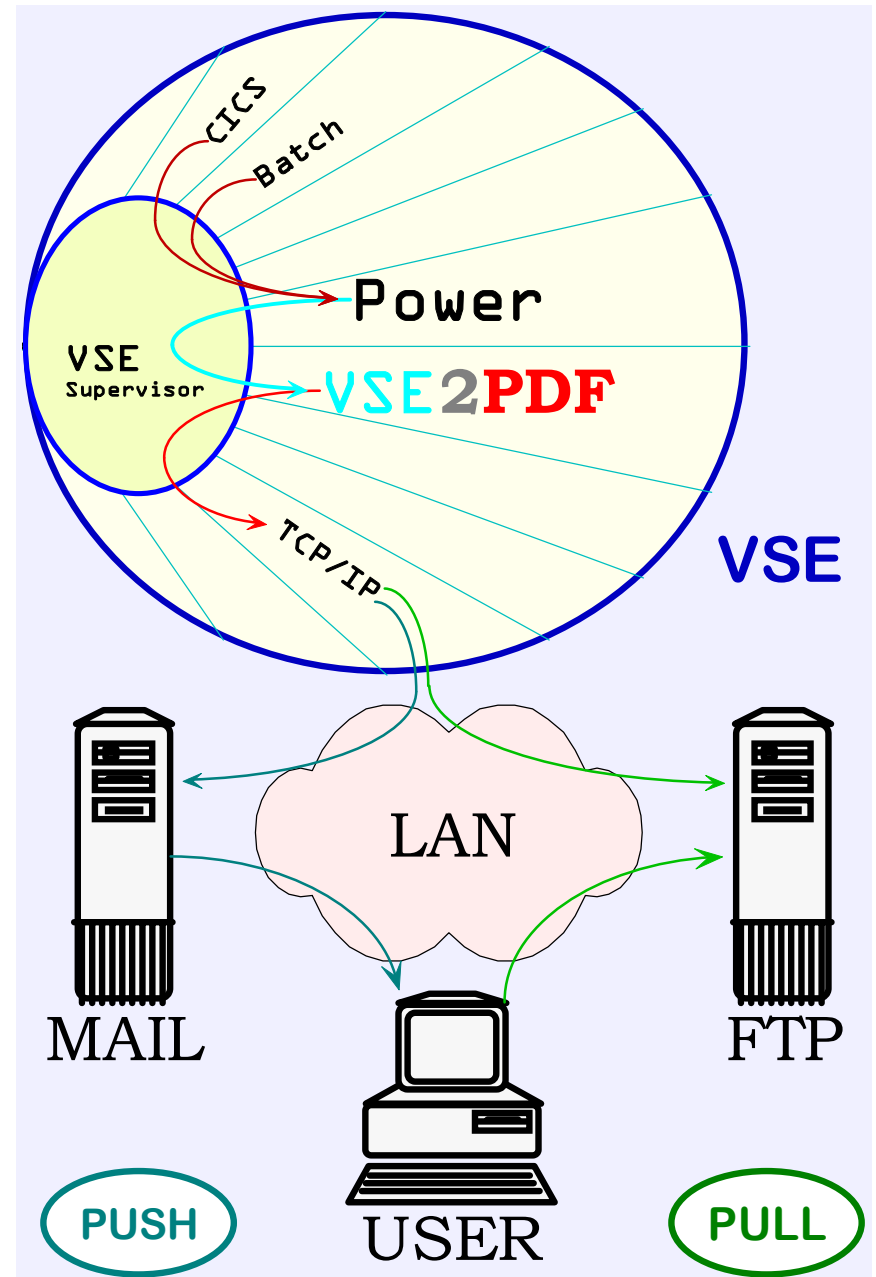
- Advantages:
 - No viewer required
 - Very basic
- Disadvantages:
 - No font guarantee
 - No page layout guarantee
 - Receiver can easily modify/falsify
- Text reports can be the email body

Benefits

- Users receive report as soon as possible without waiting for actual printing
- Users can review for errors before printing
- Users can print only selected pages
- User can print extra copies as needed
- No more ‘Where is my report?’ calls
- User can do their own archiving

Push vs. Pull

- Push
 - Sent all the way to the destination without user interaction
 - DEST=(,EMAIL)
- Pull
 - The user must do something to receive the file
 - DEST=(,FTP)



Push

- EMAIL delivery
 - Quick
 - MS-Outlook
 - “NOW”
 - Pop3
 - May be delayed due to client “refresh time”
 - Painless
 - May generate multiple copies on disk when using a list of recipients (ELIST)

Pull

- FTP delivery
 - Stored centrally
 - Access controlled by server security rules
 - Best option for huge reports (+10,000 pages)
 - Always just one copy
 - The users must be told the report is available
 - May be automated with the NOTIFY option
 - User must “go and get” the report

PULL

- Great for Report Archival
 - Reports are available to additional, occasional users who would not normally get an Email copy
 - Reports can be mass copied to offline storage
 - “Burn” a CD daily of last night’s reports
 - Eliminate the need for an expensive COLD system
 - Eliminate the need for an expensive FICHE system

Return on Investment

- Steel Heddle Manufacturing (WAVV 2000)
 - Modified 133 jobs over a 100 day period
 - Tracked paper costs before conversion
 - Annual savings of 107 boxes (just under 300,000 sheets)
 - \$3,662.11 yearly savings in paper alone
 - Over 10,000 copies no longer handled
 - 42 man weeks of time savings (@10 min/copy)
 - [SteelHeddleVSE2PDF.xls](#)

Technical Discussion

Operation

- PSTART DEV,EMAIL,TEI,A
- PSTOP EMAIL,PDF
- Can be run in multiple partitions simultaneously
- A single instance of VSE2PDF can deliver to multiple destinations.

Sample JCL

- * \$\$ LST CLASS=A,DEST=(,EMAIL),
 - MAILTO=(WILE@ACME.COM),
 - FILENAME=(JOBABC.PDF),
 - TITLE=(A/P CHECK REGISTER)
- * \$\$ LST CLASS=A,DEST=(,FTP),
 - IPADDR=(FTP.ACME.COM),
 - FILENAME=(APJOBS/DAILY,JOBABC.PDF),
 - TITLE=(A/P CHECK REGISTER)
- * \$\$ LST CLASS=A,DEST=(,LIBR),
 - FILENAME=(PRD2.RPTS,JOBABC.PDF),
 - TITLE=(A/P CHECK REGISTER)

VSE Setup Options

VSE2PDF uses the facility of Power that allows for user defined LST and PUN operands (OPTBs)

CICS and PSF also uses this facility

- CICS DATA
- FORMDEF
- PAGEDEF

VSE Setup Options

- DEFINE L,MAILTO,FFD8,2,124,*
- DEFINE L,IPADDR,8005,1,124,C
- DEFINE L,NOTIFY,002F,1,60,C
- DEFINE L,TITLE,002A,1,60,*
- DEFINE L,FILENAME,FFDA,2,255,*
- DEFINE L,FORMDEF,001D,1,6,C
- DEFINE L,PAGEDEF,001F,1,6,C
- DEFINE L,XLATE,FFD9,1,16,C
- DEFINE L,SCRIPT,FFDC,2,17,C

Power Destination

The Power DEST= operand is required

- DEST=(,EMAIL)
- DEST=(,ELIST)
- DEST=(,FTP)
- DEST=(,LIBR)
- DEST=(,USER)

Recipient Information

- MAILTO=(tony@vse2pdf.com)
- IPADDR=(ftp.vse2pdf.com)
- NOTIFY=(tony@vse2pdf.com)
- TITLE=(Outstanding Accounts)

Formatting Information

- FILENAME=(directory,name)
- FILENAME=(,JOB001.PDF)
- FILENAME=(,JOB001.HTML)
- FILENAME=(,JOB001.TXT)
- FORMDEF=IRSW2
- PAGEDEF=IRSW2
- XLATE=(SPAIN_001)

Other Information

- `SCRIPT=(lib.sublib,MYMEMBR.L)`

Directive Variables

- VSE2PDF will substitute variables found within the Power operands or Script operands
- Job name, number, and suffix
- Date (creation or print)
- Time (creation or print)
- Others (Uinf, Title, Filename, Mailto, etc.)

Power JECL Examples

- Send a listing as PDF to the default email address:
 - DEST=(,EMAIL)
- Send a listing as PDF to Tony:
 - DEST=(,EMAIL),
 - MAILTO=(TONY@VSE2PDF.COM)

Script Processing

- LST SCRIPT=() operand
- Any library member in the source search LIBDEF with the member name matching the Power Jobname
- Any library member with a member name and member type matching the Power Jobname and Jobnumber.
- SYSOPT_PSF_FNO=YES
 - Uses the PSF rules to generate a Script name using 'Z1'+ FNO value

Script member options

- Any operand that can be specified in the Power LST card can be used in a script member (except SCRIPT=)
- One operand per line
- Bookmarks are defined within script members
- Conditional scripting can be used to control options based on the contents of the report

Scripts

```
EMAIL FILENAME=(PERSONNEL,&JNAME-&PAGEDATA(1,7,30,B)-&JDATE..PDF)
EMAIL MAILTO=&PAGEDATA(1,9,30,B)
```

```
WHEN PAGEDATA=(2,13,4) CHANGED
    EMAIL FILENAME=(PERSONNEL,&JNAME-&PAGEDATA(1,7,30,B)-&JDATE..PDF)
    EMAIL MAILTO=&PAGEDATA(1,9,30,B)
ENDWHEN
```

```
FTP IPADDR=10.1.2.102
FTP IPSEC=(CENTRAL/S390,VSEFTP)
WHILE PAGEDATA=(2,13,4) EQUAL TEXT=0081
    FTP FILENAME=(PERSONNEL/0081,&JNAME-0081-&JDATE..PDF)
    EXIT
ENDWHILE
WHILE PAGEDATA=(2,13,4) EQUAL TEXT=0091
    FTP FILENAME=(PERSONNEL/0091,&JNAME-0091-&JDATE..PDF)
    EXIT
ENDWHILE
```

Bookmarks

```
WHILE PAGEDATA=(1,1,8) EQUAL TEXT= LD L=
  *   BOOKMARK_1=(1,9,8,T)
  *   BOOKMARK_2=OFF
  *   BOOKMARK_3=OFF
EXIT
ENDWHILE
WHILE PAGEDATA=(1,1,15) EQUAL TEXT=STATUS DISPLAY
  *   BOOKMARK_1=(1,30,8,T)
  *   BOOKMARK_2=(1,1,6,T)
  *   BOOKMARK_3=OFF
EXIT
ENDWHILE
WHILE PAGEDATA=(1,1,17) EQUAL TEXT=DIRECTORY DISPLAY
  *   BOOKMARK_1=OFF
  *   BOOKMARK_2=(1,33,17,T,C)
  *   BOOKMARK_3=(7,1,17,T)
EXIT
ENDWHILE
WHILE PAGEDATA=(1,1,17) NOTEQUAL TEXT=DIRECTORY DISPLAY
  *   BOOKMARK_1=OFF
  *   BOOKMARK_2=(1,1,5,T,C)
  *   BOOKMARK_3=OFF
EXIT
ENDWHILE
```

Sample Bookmark Job

```
// JOB      XMARKS
* $$ LST DISP=K,CLASS=Y,DEST=(,EMAIL),
* $$      FILENAME=(,MARKS.PDF),
* $$      TITLE=(LIBR EXAMPLE WITH BOOKMARKS),
* $$      MAILTO=(TONY@VSE2PDF.COM),
* $$      SCRIPT=(,XMARKS.SCRIPT),
* $$      PRI=3
// EXEC LIBR,SIZE=256K
      LD L=IJSYSRS
      LD L=PRD1
      LD L=PRD2
/*
/ &
```

[MARKS.PDF](#)

FORMDEF & PAGEDEF

- PAGEDEF
 - Size of paper
 - Size of font
 - Top and Bottom of page
- FORMDEF
 - Pre-printed forms
 - Overlays

PAGEDEF

- Uses the PSF naming standard
- LST card has last 6 positions of the name.
- Two position prefix will be added:
 - PP (for PDF formatted reports)
 - PH (for HTML formatted reports)
 - PT (for Text formatted reports)

PAGEDEF

- FONT
 - 12 Predefined fonts
- FONTSIZE
 - In points per inch (72/inch)
- LINES
 - Printable lines per page
- LINESIZE
 - Height of line in points per inch (72/inch)
- MATRIX

FORMDEF

- Uses the PSF naming standard
- LST card has last 6 positions of the name.
- Two position prefix will be added:
 - FP (for PDF formatted reports)
 - FH (for HTML formatted reports)
 - FT (for Text formatted reports)

FORMDEF

- Up to 8 OVERLAY/MATRIX pairs per job
- Can be individually controlled at the page level
- OVERLAY_x
 - The name of a special pre-converted PDF file stored as a VSE library member
- MATRIX_x
 - Controls placement of the overlay on the page

OVERLAYS

- Must be created on a PC in Adobe PDF format (tools NOT provided)
- Must be converted on the PC using the supplied HOSTPREP.EXE program
- Must be uploaded as BINARY to a VSE Library
 - Entry in EXTYPES.L required
- Sample “gray bar” created with Excel provided with product
- [Greenbar land.xls](#)
- [Greenbar land.PDF](#)

Inline Directives

- When VSE2PDF receives a line prefixed by “<TEI> ” it will consider the line as an inline directive
- Inline directives may force the creation of a new EMAIL (or FTP) or just a new PDF attachment
- The full page is inspected for inline directives that control the new segment

Inline Directives

- Directives can be anywhere on the page
- Directives can be unique depending on the destination
 - `<TEI> EMAIL MAILTO=(xxxx)`
 - `<TEI> FTP NOTIFY=(xxxx)`
 - `<TEI> ALL SCRIPT=(xxxx)`
 - `<TEI> * SCRIPT=(xxxx)`
- “`<TEI>`” can be any site defined 5 characters

Inline Directives

- **DROPPAGE**
 - The information on this page does not appear in the output file
 - Added at V02.00.03
- **MSGPAGE**
 - The information on this page appears in the EMAIL body (including the NOTIFY EMAIL)
 - Must use DROPPAGE if you wish to eliminate the message page from the output file
 - Added at V02.00.03
- **USEOVER=(1,3,4)**
 - Only the listed overlays will be used from this point on
 - Added at V02.01.00

Special Environments

- One VSE2PDF partition can handle multiple destination
- Multiple VSE2PDF partitions can handle the same destination
- Multiple VSE2PDF partitions can handle different destinations

Special Environments

- One partition handling EMAIL, ELIST, and FTP destinations for class A listings
 - PSTART DEV,ALL,TEI,A
- Two partitions handling all destinations
 - PSTART DEV,ALLJ1,TEI,A
 - PSTART DEV,ALLJ2,TEI,A

Startup Options

- COMPANY_NAME=ACME Distributors
- PASSWORD=xxxx-xxxx-xxxx-xxxx-xxxx
- TCP_SYSID=??
- SUBSYSTEM_ID=TEI
- BUFFER_SIZE=0003
- SMTP_HOST=010.093.001.053
- SMTP_HOST_PORT=0025
- TYPE_DEFAULT=EMAIL
- SCRIPT_MEMBER_TYPE=L

Startup Options

- FTP_HOST=010.093.103.044
- FTP_HOST_PORT=0021
- FTP_USER=VSE2PDF
- FTP_PASSWORD=VSE2PDF
- TYPE_DEFAULT=EMAIL
- EMAIL_ADDR_DEFAULT=tony@ACME.com
- ELIST_MEMBER_DEFAULT=SENDALL
- ELIST_MEMBER_TYPE=ELIST
- FTP_ADDR_DEFAULT=FTP.ACME.COM
- LIBR_DEFAULT=WRKLIB.VSE2PDF
- FILENAME_DEFAULT=MAINFRAME.PDF

Startup Options

- TITLE_DEFAULT=Your Requested Report
- DOMAIN_DEFAULT=acme.com
- NOTIFY_DEFAULT=tony@acme.com
- FROM_DOMAIN=vse1.acme.com
- FAKE_FROM_ADDRESS=help@acme.com
- SHUTDOWN_VERB=DOWN
- TRANSLATE_MEMBER=IPXLATE
- TRANSLATE_DEFAULT=US_ENG_01

Startup Options Added

- PAGEDEF_DEFAULT
 - Added at V02.00.01
- FORMDEF_DEFAULT
 - Added at V02.00.01
- SYSOPT_PSF_FNO=YES
 - Added at V02.00.02
- SUBSYSTEM_ID=PDF
 - Added at V02.00.02

Startup Options Added

- **DDS_COPIES=NO**
 - Added at V02.00.02
- **TEXT_FORM_FEED=YES**
 - Added at V02.00.03
- **FTP_PATH_DEFAULT=VSE\PDF**
 - Added at V02.00.03
- **SYSOPT_FORCE_RELAY=YES**
 - Added at V02.01.00
- **SYSOPT_FCB_AS_IS=YES**
 - Added at V02.01.00

Startup Options Added

- `SYSOPT_NO_TAGLINE=YES`
 - Added at V02.02.00
- `MAX_PAGES=5000`
 - Old default was 50,000
 - Added at V02.02.00
- `SYSOPT_NO_AUTO_ELIST=YES`
 - Added at V02.02.00
- `PDFFONT = (16,CALIFOFB,'California FB')`
 - Added at V02.02.00

Utilities

- TEIREPRO
 - Copies SYSIN to SYSLST
 - Can be used to create the “MSGPAGE”

```
* $$ LST ...
// EXEC TEIREPRO,SIZE=TEIREPRO
<TEI> * MSGPAGE
<TEI> * DROPPAGE
Attached you will find your report. It is in Adobe PDF format.
If you do not have the Adobe PDF Reader, you may download it from:
    HTTP://www.adobe.com
/*
// EXEC ARB101                << local print program
/*
* $$ LST
```

What's Next?

- Enhancements currently being considered:
 - PDF Compression
 - PDF Encryption
 - User font control at the character level

WAVV 2002

Information

- View all production patches at:
<http://www.vse2pdf.com/patches>
- Download this presentation at:
<http://www.vse2pdf.com/coolstuff>