IBM

E60

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What's New in VSE Service

VSE Technical Conference

Content

- Ways to keep a VSE System up-to-date
- Preventive service - corrective service
- New: Recommended Service Level
- Applying maintenance over the internet
- VSE service information on the internet
- ShopzSeries for VSE users
- Working with the IBM VSE remote support
- Frequently observed migration and other problems
- Hints and tips

Keep your System Current

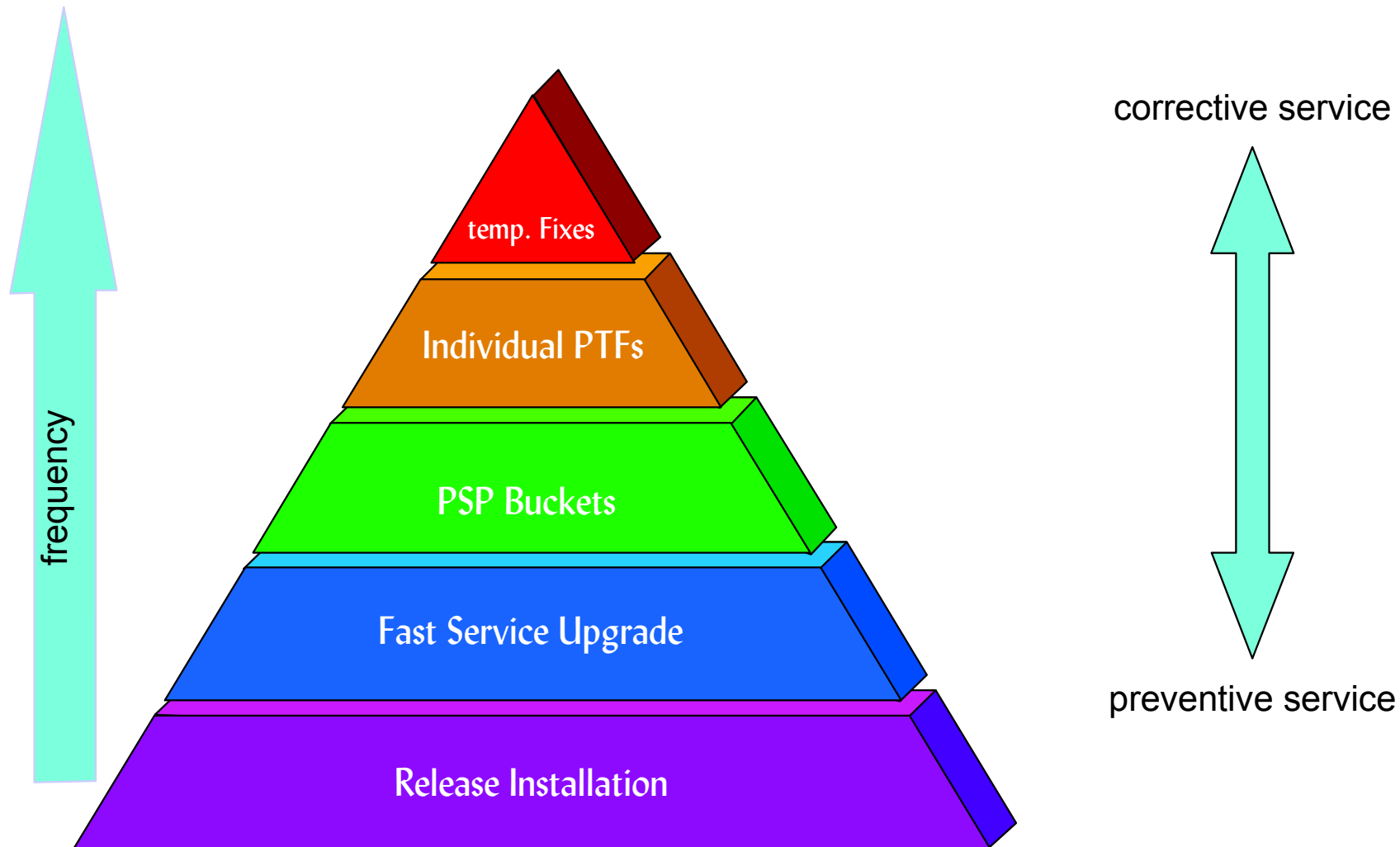- **<u>to make sure that support is available when you need it!</u>**
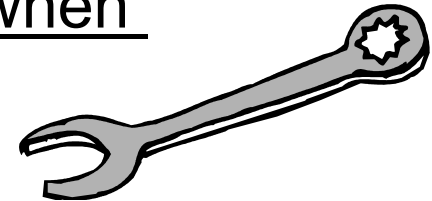
- Plan ahead time for release migration
- IBM announces end-of-service dates at least 12 month ahead
- customers are informed by letter, and please check out the VSE home page
- from VSE/ESA 2.5 upward migration via FSU procedure possible
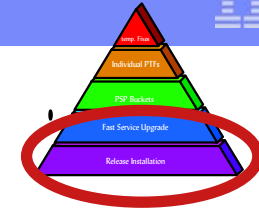- talk to your software vendors for upgrades and specific information

End of Service Dates

	End of Marketing	End of Service
VSE/ESA 1.4	12/1999	01/31/2001
VSE/ESA 2.1/2.2	12/1997	01/31/2001
VSE/ESA 2.3	06/2000	12/31/2001
VSE/ESA 2.4	09/30/2000	06/30/2002
VSE/ESA 2.5	12/13/2001	12/31/2003
VSE/ESA 2.6	03/13/2002 *)	tbd
VSE/ESA 2.7	tbd	tbd

*) VSE/ESA 2.6.x orderable as service option of VSE/ESA 2.7

# Measures to Keep Your System Up-to-Date

corrective service

preventive service

frequency

temp. Fixes

Individual PTFs

PSP Buckets

Fast Service Upgrade

Release Installation

Recent VSE/ESA Refresh Levels

VSE/ESA	PTF level (gen.)	Available from	...until
2.5.1.	01/23/2001	03/16/2001	08/09/2001
2.5.2.	06/18/2001	08/10/2001	12/11/2001
2.6.0.	10/13/2001	12/14/2001	06/13/2002
2.6.1.	03/12/2002	06/14/2002	12/12/2002
2.6.2.	10/21/2002	12/13/2002	03/13/2003 *)
2.6.3.	06/30/2003	09/12/2003 *)	tbd.
2.7.0.	12/13/2002	03/14/2003	09/11/2003
2.7.1.	06/30/2003	09/12/2003	tbd.

***) After GA of VSE/ESA 2.7. refreshes VSE/ESA 2.6.x have to be ordered as service option of VSE/ESA 2.7**

▸ execute splevel.proc or 'sir' command to find out the installed refresh level

▸ Refesh level VSE/ESA 2.7.1 is current at this point in time
  ▸ always apply newest PTF bucket (PSP) on top
  ▸ check out the VSE home page for up to date service related news
  ▸ download the Program Directory from the VSE home page

VSE Refreshes
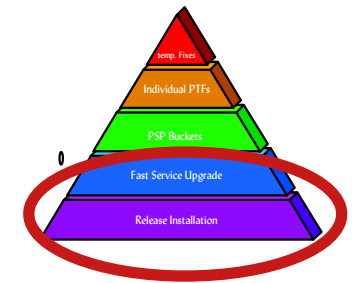
- are a complete set of install VSE tapes including base and optional products
- can be used for
    - base installation (from scratch)
    - Fast Service Upgrade (FSU)
        - from a previous release (limitations) to a new release
        - or to go from to a higher refresh level within a release
- contains **all** PTFs available until a certain cut off date
- have undergone a basic regression test by IBM
- are orderable until a new refresh level or release becomes available

## Use Shop zSeries to order a VSE refresh
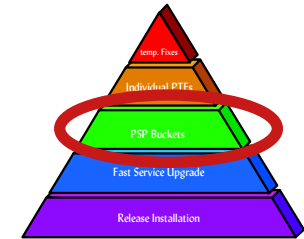
PSP Buckets

- are a list of important (hiper) PTFs based on a defined refresh level
- are permanently maintained and kept up to date by the product change teams
- are divided into subsets for the base components and the optional products
- are available for each refresh level, content is different
- can be ordered thru IBM service or via the Internet (see later in this pres.)
- are delivered as a cumulative PTF tape
- should be installed with the intercative user interface (IUI dialogs)

PSP bucket names (called UPGRADE) are related to the refresh level they are based on: e.g. VSEESA260, VSEESA261...,VSEESA270,....

PSP = Preventive Service Planning
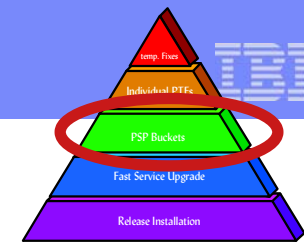
PSP Buckets and Refreshes - the Difference

VSE/ESA 2.7.0

PTF 1

PTF 2

PTF 3

VSE/ESA 2.7.1

PTF 4

PTF 5

PTF 6

VSE/ESA 2.7.2

PTF 7

PTF 8
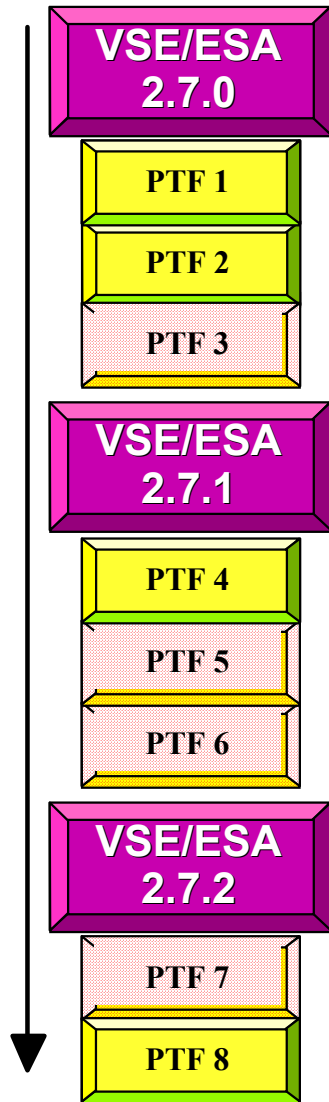
goes on top of VSE/ESA 2.7.0

PSP Bucket
VSEESA270

PTF 1

PTF 2

PTF 4

PTF 8

goes on top of VSE/ESA 2.7.1

PSP Bucket
VSEESA271

PTF 4

PTF 8

goes on top of VSE/ESA 2.7.2[*]

PSP Bucket
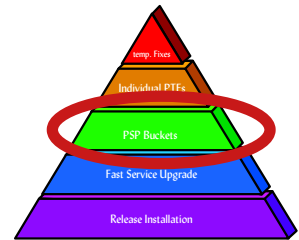**VSEESA272**

PTF 8
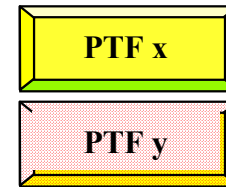
PTF x — high pervasive PTF

PTF y — normal PTF

- Refreshes pick up all existing PTFs at build date
- PSP buckets pick up 'hiper' PTFs and their prerequisite PTFs only

VSE/ESA 2.7.2 hypothetical

Structure of a PSP Bucket

- There is a subset for each base- and optional product

```
-------------------------------------------------------------------------------
Select the subset you want to view.
-------------------------------------------------------------------------------
```

UPGRADE	SUBSETS	ABSTRACT
VSEESA270	chg/index	V. 2, R. 7, M. LEVEL 0 of VSE/ESA
VSEESA270	HLASM/489	HLASM V. 1, R. 4, M. 0
VSEESA270	ACCNTRL/H06	VSE/ACCESS CONTROL V. 1, R. 2, M. 1
...		
...		
...		
VSEESA270	IBMLANG/75K	LE/VSE BASE V. 1, R. 4, M. 3
VSEESA270	CICS/B0P	CICS/VSE V. 4, R. 1, M. 1
VSEESA270	VSEESA/75C	VSE Central Functions V. 6, R. 7, M. 0
VSEESA270	DB2/2NN	DB2/VSE V. 7, R. 0, M. 0
VSEESA270	VTAM/FE6	ACF/VTAM V. 4, R. 2, M. 0
VSEESA270	BASESERVICE	*a list of all PTFs already applied to the base products*
VSEESA270	OPTPSERVICE	*a list of all PTFs already applied to the optional products*

Sample: PSP Subset for 'IBMLANG/75K'
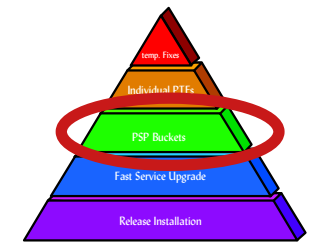
```
DATE    APAR     PTF      VOLID   COMMENTS

8  03/08/05 PQ73951  UQ76619  1000     HIPER CEECAACRENT IS NOT BEING
7  03/08/05 PQ74901  UQ78502  1000     HIPER CORRECT ABENDU4088 RSN99
6  03/08/05 PQ75732  UQ78076  1000     HIPER INCORROUT FOR GRAPHIC
5  03/05/06 PQ71107  UQ74689  1000     HIPER UPDATES FOR LE/VSE 1.4.3
4  03/05/06 PQ71109  UQ74847  1000     HIPER UPDATES FOR LE/VSE 1.4.3
3  03/05/06 PQ72056  UQ75640  1000     HIPER LOOPS IN CEECICS AND CICS
2  03/05/06 PQ72252  UQ75842  1000     HIPER 0S03I PROGCK PROTECTION
1  03/05/06 PQ72713  UQ75964  1000     HIPER PLI MAIN ROUTINE MAKING
```

Order your PSP bucket via the Internet, or call the IBM support center.

PSP Buckets for Hardware Support - Sample for z800

```
Select the subset you want to view.

------------------------------------------------------------------------------
UPGRADE       SUBSETS        ABSTRACT
2066DEVICE    chg/index      Upgrade 2066DEVICE
2066DEVICE    2066/ZOS       THE zSeries z800 PROCESSOR (MODEL TYPE 2066)
2066DEVICE    2066/OS390     THE zSeries z800 PROCESSOR (MODEL TYPE 2066)
2066DEVICE    2066VSE/ESA    DEVICE 2066
2066DEVICE    2066Z/VM       DEVICE 2066 RUNNING z/VM
2066DEVICE    2066VM/ESA     DEVICE 2066 RUNNING VM/ESA
2066DEVICE    2066/ZOS/1     THE zSeries z800 PROCESSOR (MODEL TYPE 2066)
2066DEVICE    2066/OSA       DEVICE 2066
2066DEVICE    2066/OS390A    THE zSeries z800 PROCESSOR (MODEL TYPE 2066)
2066DEVICE    2066/IRD       DEVICE 2066
```
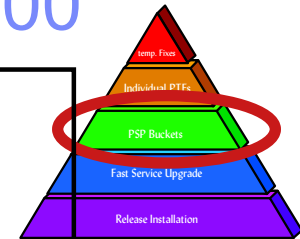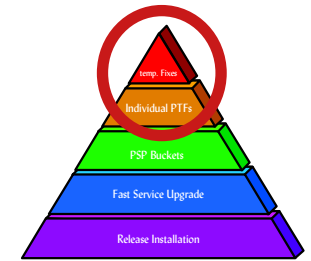
```
Service Recommendation Summary

   DATE     APAR      PTF      VOLID    COMMENTS

4  03/04/29 DY46081  UD52400  1000     NEW FUNCTION FOR D/T2066 EREP SU
3  02/07/19 PQ59028  UQ66564  1000      GET DEBUG W/O PROMPTING DOES NOT
2  02/05/28 DY45923  UD52184  1000     OSA EXPRESS ADAPTER DOES NOT WOR
1. 02/03/25 DY45805  UD52037  1000     NEW FUNCTION
```

Single PTFs and APAR Fixes - Corrective Service

- **Single PTFs....**
  - ► to correct an actual defect or problem permanently
  - ► solves one or multiple APARs
  - ► PTF numbers are for one release only
  - ► order via Internet or by opening a PMR with IBM
  - ► come on a tape or electronic
  - ► could require prerequisite PTFs as well
  - ► Installation via MSHP/IUI

- **APAR fixes**
  - ► temporary correction of a defect
  - ► provided by an IBM support ctr
  - ► usually being replaced by a PTF at a later time.
  - ► format is zap or user module
  - ► installed by use of MSHP/IUI
  - ► are customised for individual PTF level

APAR = Authorized Problem Analysis Report (description of an individual defect)

PTF   = Program Trouble Fix (solution to an APAR consisting of a module or phase replacement unique for an individual release)
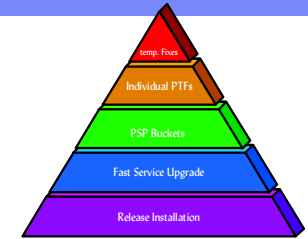
Comparison of the Different Service Options

	Refresh	PSP Bucket	Individual PTF
Type	preventive	prev. / corrective	corrective
Frequency	6 month, usually for newest release	continuously updated with each hiper or PE PTF	continuously
Installation process	FSU	IUI generated MSHP job stream	IUI generated MSHP job stream
Resulting mod. level	mod. level update V.R.M -> V.R.M+n	same mod. level	same mod. level
Pre Req's	none, self contained	none, all prereq's are resolved	yes (PTFs)
resulting service level	well defined level	all hiper PTFs at order date - not defined	individual level - not defined

Preventive Service Recommendations
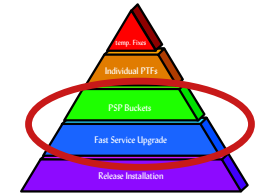
Install the latest **Refresh** ...

- every 6 month
- but not later than 12 month
- always before upgrading to new hardware
- or before deploying new applications or other changes
- in addition order the newest bucket shortly before upgrading.

Install the **PSP bucket** ...

- every 3 month
- but not later than 6 month
- order the hardware bucket when installing new hardware
- as an alternative to solve an encountered software defect

Always check out the VSE web page before installation!

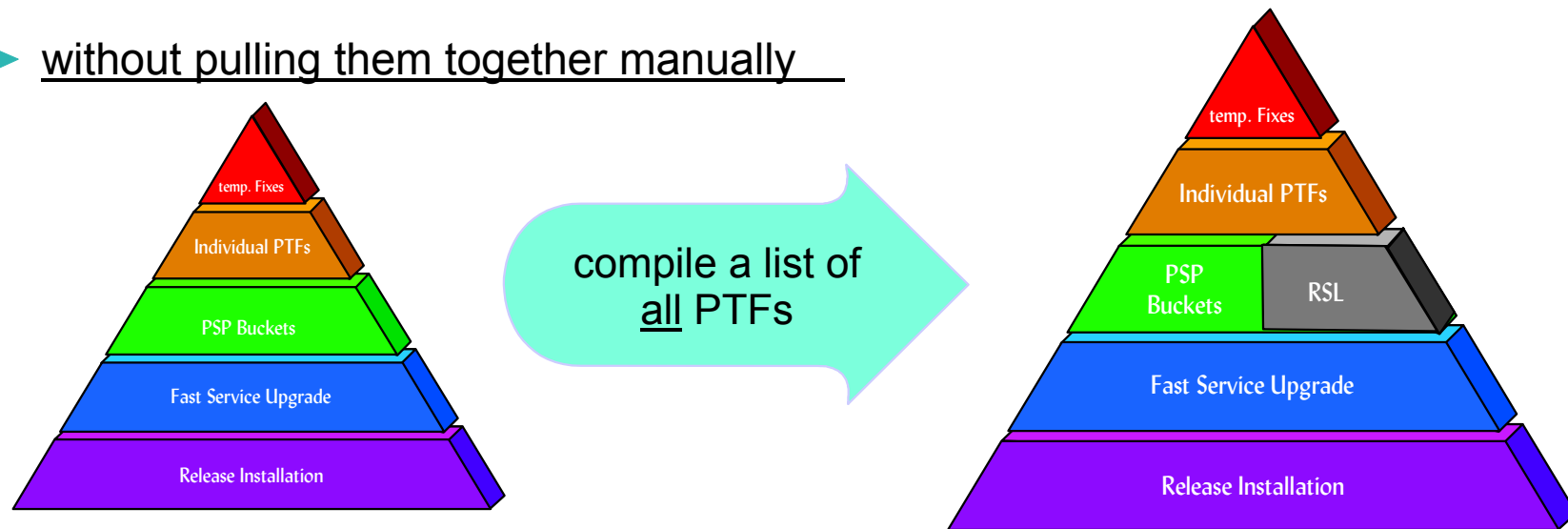Before upgrading, also check with your third parties for their corresponding service levels, please!

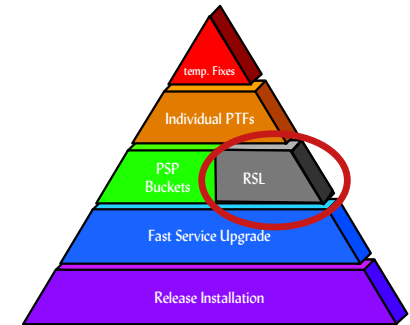# Something Missing?

No, not really because ...

Refresh and PSP together give you an up to date system!

...but ...

- desireable could be an easy way to order all available PTFs (not just hiper)
    - ► if you have reasons to do so
    - ► e.g. if there is no new refresh anymore
    - ► or if you feel that the date of the latest refresh is too old for your demands

    - ► <u>without pulling them together manually</u>

temp. Fixes

Individual PTFs

PSP Buckets

Fast Service Upgrade

Release Installation

compile a list of <u>all</u> PTFs

temp. Fixes

Individual PTFs

PSP Buckets

RSL

Fast Service Upgrade

Release Installation

What is RSL? *)

- stands for Recommed Service Level
- a list of <u>all</u> PTFs for the VSE/ESA base products (and extended base)
  - ► updated quarterly
  - ► contains
    - – all PTFs from the previous quarter
    - – all hipers and PEs from the current quarter
  - ► order thru the Internet

- <u>not inteded to replace the Refresh and FSU for corrective service</u>

- not yet available, will be provided in 1Q/2004
- ordering and other details will be communicated later

*) not to be confused with the RSU concept of zOS

# Recommended Steps when going to a New Release

sequence of activities

- Order the current refresh level plus the PSP bucket
- Install them on your test system
- Have a testing period to make sure everything runs well as it did before
- Order and install the newest PSP bucket again 2-3 weeks before production cutover (check with your software vendors as well)
- Check out the VSE web pages for newest service information
- Regression testing
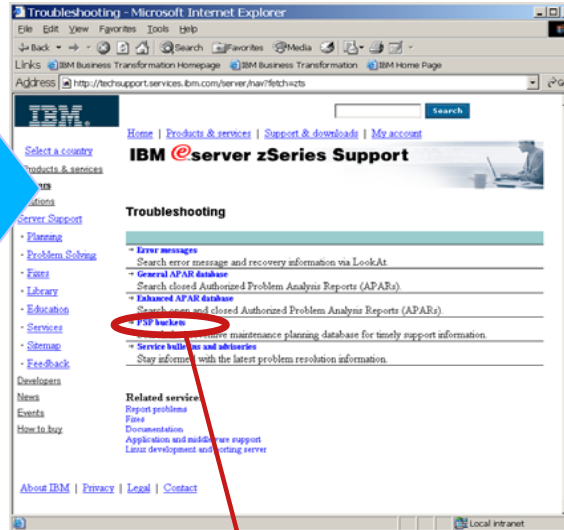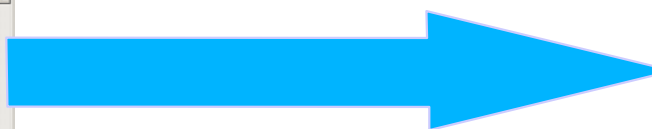- Before production cutover have a fallback in place
- production cutover

Retrieving APARs/PTFs over the Internet

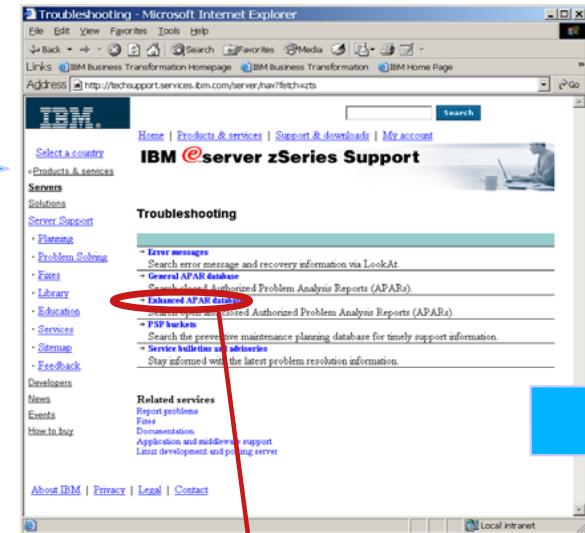http://www.ibm.com/servers/eserver/support/zseries/index.html
or via: www.ibm.com >> Support & downloads >> Get product support for Servers >> Mainframe servers
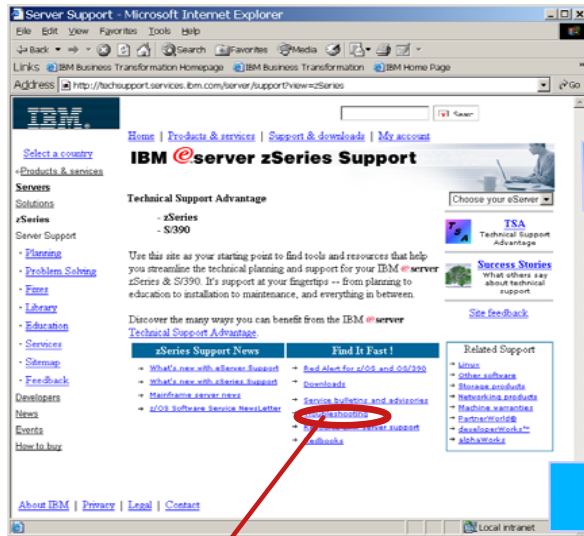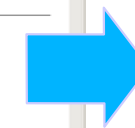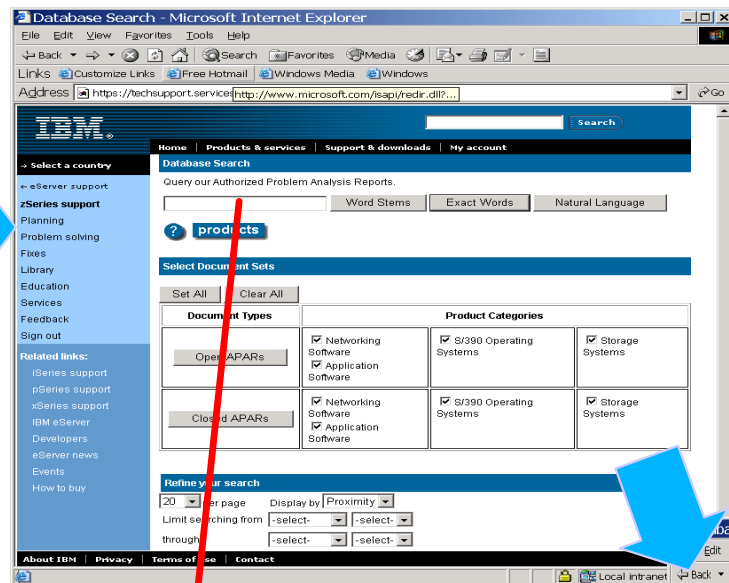

Troubleshooting

view PSP Buckets

Enhanced APAR Database

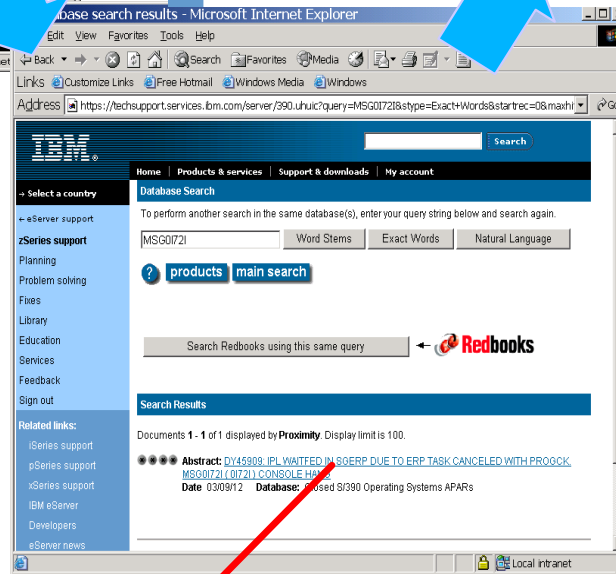For most functions a log-in is required. The id can be created online.

search argument:
e.g. MSG0I72I

returns:

- Select the PTFs for your release
- click 'Add to shopping cart'
- after a few more panels you can specify if you want prerequisites, superseded, PE shipped as well.
- You will be informed via e-mail about status and how to retrieve the package from an ftp server

Abstract: DY45909: IPL WAITFED IN SGERP DUE TO ERP TASK CANCELED WITH PROGCK. MSG0I72I (0I72I) CONSOLE HANG

Date: 03/09/12   Database: Closed S/390 Operating Systems APARs

```
COERVER = 30-STATUS
SOURCE  = EMAIL
COERNBR = 390273308
CNTYNBR = 000
FRMNODE = BLDISDMC
FRMUSER = R370ACK
TO_NODE = NONE
TO_USER = NONE
SHPDATE = 20031102163013
TEXT    = SDF Order# B5330422 was Shipped at 16:30:13 11/02/2003
TEXT    = Data sent via "INET". To retrieve your service:
TEXT    =   FTP to: ptf.boulder.ibm.com
TEXT    =   Log on using userid "owrkvn" and password "xxxxxx"
TEXT    =   Enter the following FTP commands:
TEXT    =     cd /390273308/c568606606
TEXT    =     ascii f 80
TEXT    =     get ftp3308.txt
TEXT    =     get elst3308.txt
TEXT    =     binary f 80
TEXT    =     get eptf3308.bin
TEXT    =           --or--
TEXT    = To retrieve your service using a web browser:
TEXT    =   Enter the following URL:
TEXT    =   ftp://owrkvn:xxxxxx@ptf.boulder.ibm.com/390273308/c568606606
TEXT    =   Click on: ftp3308.txt to view the FTP count file.
TEXT    =   Click on: elst3308.txt to view the Packing List file.
TEXT    =   Click on: eptf3308.bin to download the PTF file.
TEXT    =   To save the FTP count file or Packing List file to your
TEXT    =   workstation, view the file and use the commands supported
TEXT    =   by your browser to save the file to disk.
TEXT    =   You may copy the files to a floppy and/or upload the files
TEXT    =   to your host. Upload files with a '.txt' extension in text
TEXT    =   mode and files with a '.bin' extension in binary mode. The
TEXT    =   same modes should be used when transferring files through
TEXT    =   intermediate computer systems.
TEXT    =   Note: The ftp3308.txt file contains byte counts to
TEXT    =        match against the FTP byte count for each file.
TEXT    =
TEXT    = Package contained 2 fixes with 2,061 Kilo-bytes of data
TEXT    = Total amount of data shipped was 2,061 Kilo-bytes
TEXT    =
TEXT    = PTF#    Reason Listed      Status        CLC
TEXT    = -------  ------------------  ----------------  ----
TEXT    = UD52279  ORDERED          <<< Shipped >>>  75J
TEXT    = UD52262  ORDERED          <<< Shipped >>>  75C
NBRDATA = 0046
```

You receive such an e-mail with detailed instructions how to download the PTF file.

File ftpxxxx.txt contains the exact byte count
File elstxxx.txt contains the PF cover letter
File eptfxxx.bin contains the PTFs

```
Command Prompt - ftp ptf.boulder.ibm.com                    _ □ ×
(C) Copyright 1985-2000 Microsoft Corp.

C:\>ftp ptf.boulder.ibm.com
Connected to inetsd01.boulder.ibm.com.
220 inetsd01.boulder.ibm.com FTP server (Version wu-2.6.2(1) Mon Aug 11 15:21:34
 MDT 2003) ready.
User (inetsd01.boulder.ibm.com:(none)): owrkvn
331 Password required for owrkvn.
Password:
230 User owrkvn logged in.  Access restrictions apply.
ftp> cd /390273308/c568606606
250 CWD command successful.
ftp> ascii f 80
200 Type set to A.
ftp> get ftp3308.txt
200 PORT command successful.
150 Opening ASCII mode data connection for ftp3308.txt (2268 bytes).
226 Transfer complete.
ftp: 2296 bytes received in 0.36Seconds 6.38Kbytes/sec.
ftp> get elst3308.txt
200 PORT command successful.
150 Opening ASCII mode data connection for elst3308.txt (13608 bytes).
226 Transfer complete.
ftp: 13776 bytes received in 0.69Seconds 19.94Kbytes/sec.
ftp> binary f 80
200 Type set to I.
ftp> get ept3308.bin
200 PORT command successful.
550 ept3308.bin: No such file or directory.
ftp> get eptf3308.bin
200 PORT command successful.
150 Opening BINARY mode data connection for eptf3308.bin (2060240 bytes).
226 Transfer complete.
ftp: 2060240 bytes received in 6.56Seconds 314.06Kbytes/sec.
ftp>
```

Check the Byte-Count of the downloaded PTF-File!

Transfering and Installing the PTF into the VSE System

via TCP/IP (recommended)

- from the PC via TCP/IP ftp to VSE into a VSAM file
  - the VSAM file has to be defined in TCP/IP:
    - DEFINE FILE, TYPE=ESDS,IJSYSPF,PUBLIC='IJSYSPF'
  - transfer using parameters 'binary', 'quote site recfm f' and 'quote site lrecl 80'
- install the PTFs via the IUI dialogs
  - service medium is 'disk'

alternatively via Host Transfer File (HTF) or into library member

never:

- ☞ loading PTF files directly into the POWER reader gives fatal results:
  - PRE and CO requirements are not necessarily fulfilled due to sequence
  - POWER-JECL as data within PTFs will be interpreted by POWER
  - indirect installation not possible

find detailed instructions in:
        http://www.ibm.com/servers/eserver/zseries/os/vse/support/ptfappl.htmb

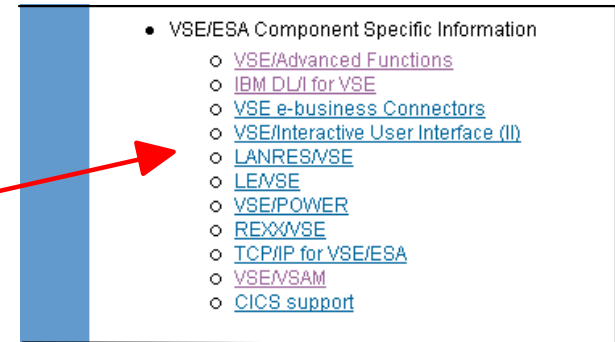# Viewing the Latest Service Related Information
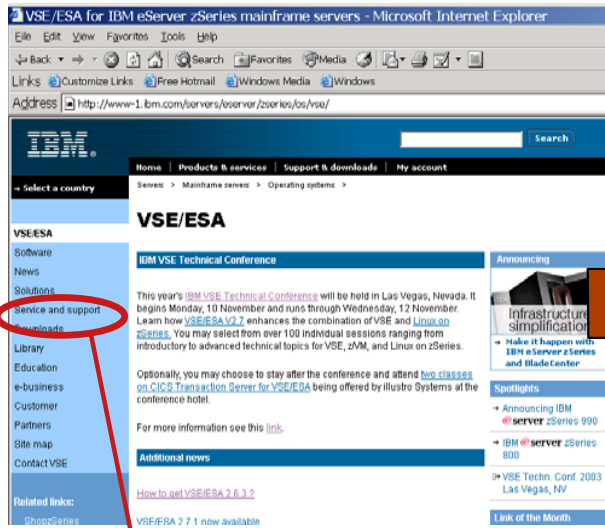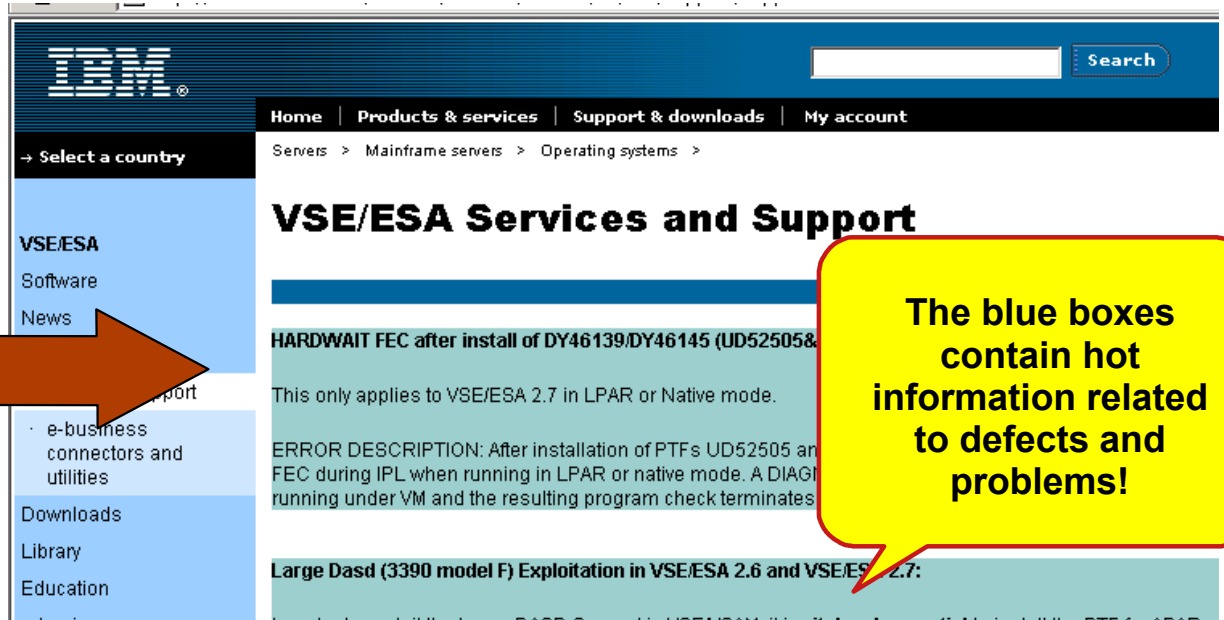
The blue boxes contain hot information related to defects and problems!

Service and Support

Further down this page find links to specific service information for the individual components: e.g. list of APARs and PTFs with a short description.

ShopzSeries Overview

- Easy and fast way for customers to plan and order zSeries Software via the Web
  - ► Product Upgrades
  - ► System Upgrades
  - ► Service Upgrades (for VM and VSE not yet available)
- Supports all z/OS and OS/390 products offered in CBPDO and ServerPac
- Supports product ordering for VM/VSE - all products offered in z/VM and VSE
- Handles both Entitled and Priced Transactions
- For entitled transactions, offers the customer a fully automated process
- Priced transactions currently are routed via e-mail thru the IBM Order Center b

Visit the ShopzSeries Web site at:
   http://www.ibm.com/software/shopzseries

 Review the User's Guide (including watching new audio/video demos! Just "click" on the movie icon in each
 section of the User's Guide)
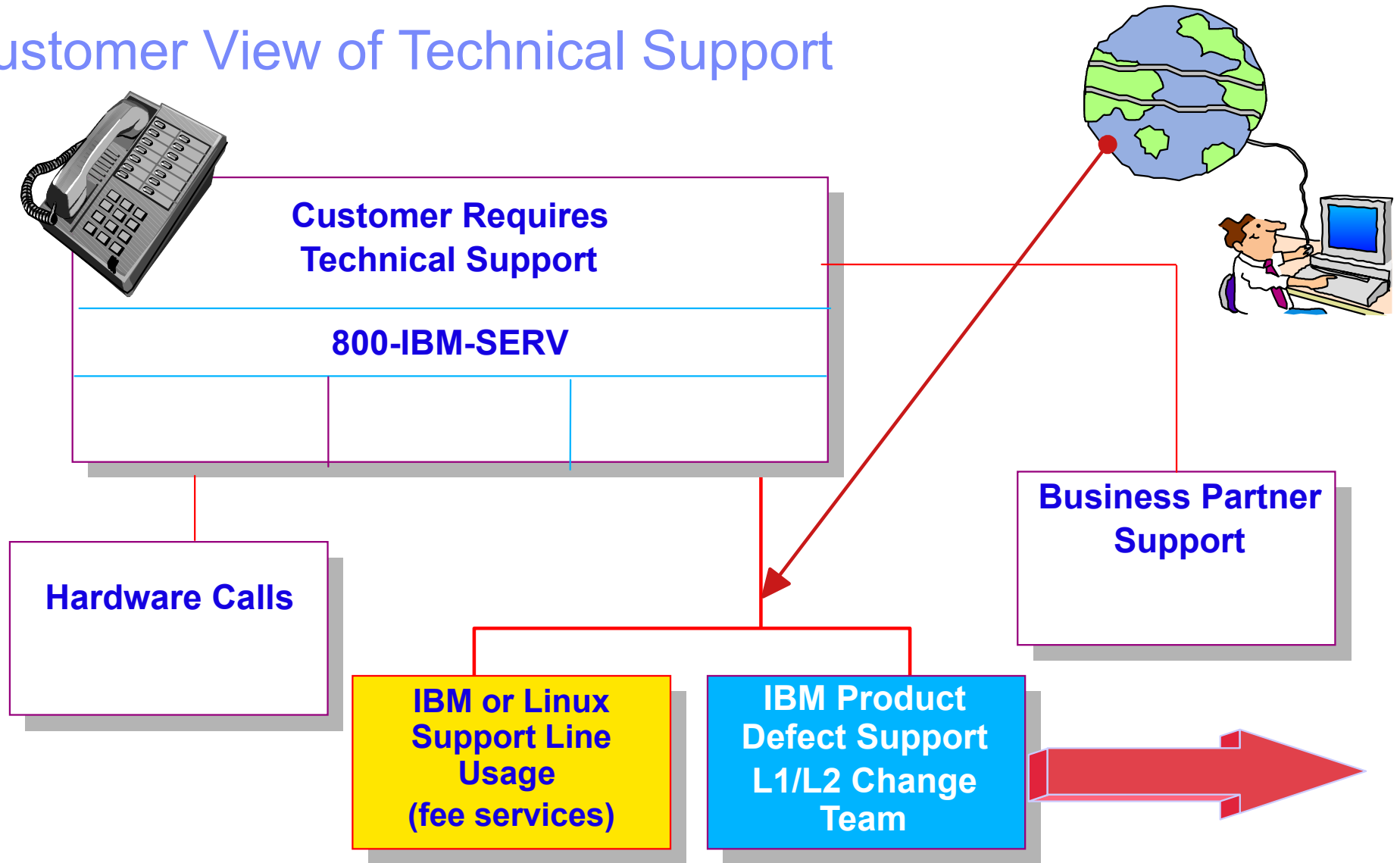
ShopzSeries - VM & VSE Support

- Customers can use ShopzSeries to create and submit software orders for VM and VSE!
- Specific capabilities available for VM and VSE customers:
  - ► View entitlement based on the catalog of products offered in the sytem package (base & optional).
  - ► Create and submit orders including performing technical requisite and incompatibility checking.
  - ► Order new releases or refreshes.
  - ► Starting Nov. 21, the VSE/ESA 2.6.3 Service Option can be ordered as well.
  - ► Both entitled and priced upgrades are supported:
    - – For entitled orders, ShopzSeries offers fully automated order placement (i.e. no IBM intervention required).
    - – All priced transactions (and legacy entitled orders) will be handled through existing ShopzSeries rip 'n read process with IBM Order Center.
  - ► Monitor order status thru link to the software order tracking page.
- Ordering of Service (e.g. PSP buckets) will be added to ShopzSeries later.!

Trends to e-ordering and e-delivery

- Reduce/eliminate hardcopy shipments, <u>go e-books</u>
  - ► VSE shipments will contain a CD with documentation
  - ► manuals on website are up to date

- move away from tape shipments to e-delivery
  - ► order zSeries software products and product updates online
  - ► get service (corrective/preventive) as e-service without delay
  - ► ShopzSeries is the strategic way of ordering zSeries Software

Customer View of Technical Support

Customer Requires Technical Support

800-IBM-SERV

Hardware Calls

IBM or Linux Support Line Usage (fee services)

IBM Product Defect Support L1/L2 Change Team

Business Partner Support

Both the Defect Support and Supportline are provided by the VSE lab team!
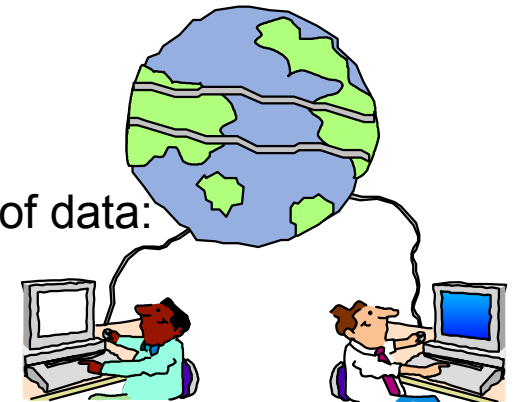
Working with the VSE Level 2 Team

Before Calling IBM please have the following information ready:

- ► define the problem as specifically as you can
- ► identify the failing product/component as close as possible
- ► the version/release/APAR level you have installed
- ► steps which led to the failure if applicable
- ► any changes you have made before
- ► any messages or other symptoms
- ► a list of vendor products installed on the system
- ► the phone number (time) where you can be reached
- ► a feeling for the business impact or severity of the problem

Please use electronic means to send debugging documentation:

- ► E-mail for problem logs and small files
  - – binary data could be clobbered due to translation
- ► use the IBM ftp server for dumps and larger amount of data:
  - – ftp testcase.software.ibm.com
  - – the L2 rep will give you instructions how to do it

It will speed up the resolution time of your problem!

IBM Defect Support Statement and more ....

Exploring the "wonder" in IBM's Software Support

IBM

IBM Software Support Handbook

Version 3.2.1

Program Services support for most zSeries (S/390) products includes problem support for suspected defects in IBM code and publications via telephone (voice), and electronic access. This support is available until such time as it is withdrawn with at least 12 months notice via an IBM announcement letter. IBM will provide remote technical specialists necessary to resolve defects in the majority of our mainframe products at no additional cost to you. Support for high severity problems is available 24 hours a day, 7 days a week.

Download from:

http://techsupport.services.ibm.com/guides/handbook.html

Problems Related to Third Party Software

► Why is it crucial in the VSE environment:

- third party system management products often
  - place hooks in IBMs code to intercept IBM functions
  - intercept supervisor calls to gain control
  - modify IBM internal control blocks
  - replace IBM provided program phases with their own and rename the IBM phase to something else
  - force bypass of checks or lock mechanisms
- IBM usually does not know about these 'non-interfaces' and cannot do much about it
- in numerous cases the sensitivity of these modifications is not always completely understood
- even tested by the third party up front, in several cases the code breaks e.g.
  - when system is under stress, or in multiprocessing environments
  - when third party products from different sources try to intercept or place hooks at the same place
  - when IBM supplied PTFs unintentionally remove or change such 'interfaces' (e.g. sometimes just fixes, or new development)
  - when a condition occurs which can't be handled by the third party code
- often the error appears like IBM code is broken (hard/ soft waits, loops, program abends)

IBM has spent a lot of effort placing vendor exit into the VSE code. This has reduced (but not eliminated) the potential of problems like described above!

Frequent Observations by the L2 Team

- PTF application jobstreams are not generated on the current system
  - ▶ PTF could be installed incomplete or even erroneous
  - ▶ system could be inconsistent

- Indirect PTFs installed directly by circumventing the IUI
  - ▶ no fallback anymore in case of a PTF error

- FSU process used from a thirdparty source - IBM cannot support you.

- When running out of Getvis it is usually a fact and not a defect of the operating system. Use the SDAID Getivs trace to find the source.

- Backup tapes are seldomly tested
  - ▶ try to restore your backup tapes on regular base
  - ▶ make sure they are usable when you need it

...... wrong usage of SDAID

SDAID seems to be in a loop, but is not!

Sample 1

```
SDAID
Outdev .....
TRACE INST=*       AREA=F5   ADDRESS=600100:600108
```
Trace range is 8 bytes

Sample 2

```
SDAID
Outdev .....
TRACE INST=0A04  AREA=F5   ADDRESS=700000 :700004
```
Trace range is 4 bytes

Both traces combined ....

```
TRACE INST=*       AREA=F5   ADDRESS=600100:600108
TRACE INST=0A04  AREA=F5   ADDRESS=700000 :700004
```

Traced range 1.048.324 bytes !!!!!!

....lead to catastrophic results, looking like a loop!

Reason:

The zSeries (/390) hardware has one Program Event Recording (PER) feature and one set of Control Registers (CR) per CPU or LPAR. Instruction- , Address-, and Register traces have to be traced by turning PER on. The trace limits are specified in CR 10 and 11.

Software terms like SVC, phase, Getvis, etc... are being traced internal to the software.

better

Use instead:

```
TRACE INST=*   AREA=F5   ADDRESS=600100:600108
TRACE SVC=4   AREA=F5   ADDRESS=700000:700004
```

Trace range is 8 bytes only !!!!!!

.... and a new SDAID Goodie

The Time of Day Clock values in SDAID output have been increased to micro-seconds. See this sample:
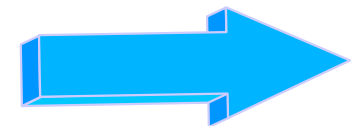
before: **TOD = 2003.307 13.49.36.441**

new: **TOD = 2003.307 13.49.36.441692**

very helpful if fractions of milliseconds want to be measured: e.g. I/O times
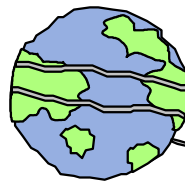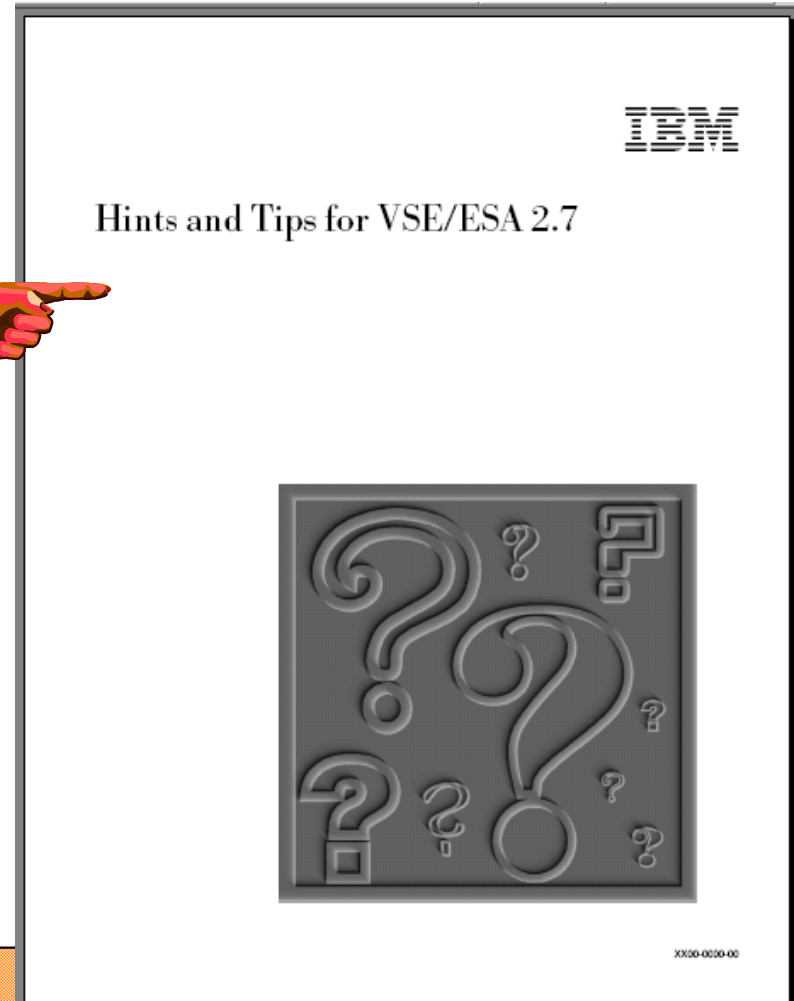
- Shipped via PTFs resolving APARs <u>DY46055</u> & <u>DY46140</u> in Oct-2003
- For VSE/ESA 2.5, 2.6 and 2.7

For this and for.....

... more useful Information ...

► see our newest issue of

► *VSE Hints & Tips* (Edition October 2003)

Hints and Tips for VSE/ESA 2.7

download as PDF file from the VSE homepage: (
http://www.ibm.com/servers/eserver/zseries/os/vse/support/hintshp.htm