

Wellness and VSE -

how to maintain the health of your VSE system

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Summary

An Up-to-Date VSE System is the base of a successful IT !

Never touch a running system! - Is this really a good strategy? Even with no intentional changes applied to your system your system changes constantly. Your files will grow, your workload may go up, even your application programs are being changed, there is even more This means that new problems could surface unexpectedly and suddenly which you hadn't seen before. In many cases there are fixes available already and by regular maintenance your system will reward you with lasting health, robustness, and strength - resulting in less downtime, fewer to no unplanned outages, and unpleasant surprises. This session covers the concepts of preventive and corrective service, and how you can make the best use of them to develop a preventive maintenance strategy which works for your shop. The FSU, RSL (Recommended Service Level), PSB-Bucket, etc.. concept will be covered in detail.

Agenda

- Basics for keeping a VSE System up-to-date
- Preventive service - corrective service
- Recommended Service Level and how to make best use of it
- Developing a preventive service strategy
- VSE service information on the internet
- ShopzSeries for VSE users and e-trends
- Hints and tips

For an updated version of this presentation visit the VSE Homepage later:

<http://www-1.ibm.com/servers/eserver/zseries/zvse/>

Priority One: Keep your System on a Supported Level

- to make sure that support is available when you need it!



- Plan sufficient time for release migration well ahead
- 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 2.6 and later upward migration via FSU procedure possible
- Consult your software vendors for upgrades and specific information

Risk of Running Unsupported

Why should my system break, it runs stable?

- Environment changes constantly, even unintended
 - E.g. Application changes, workload, file sizes and locations, hardware, etc....
 - This leads to different code path' being taken system wide

In case of problems:

- IBM support center will not send PMR to L1/L2
- Customers will be redirected to the support web pages
- Existing PTFs can still be downloaded
- But solution might not be there

End of Service Dates

	End of Marketing	End of Service
VSE/ESA 2.3	06-2000	12-2001
VSE/ESA 2.4	09-2000	06-2002
VSE/ESA 2.5	12-2001	12-2003
VSE/ESA 2.6	03-2003	03-2006
VSE/ESA 2.7	09-2005	02/28/2007
z/VSE 3.1 & 4.1	tbd	tbd

All releases of VSE/ESA are out of service already

Migrate to z/VSE NOW ! (preferably 4.1)

Extended Service Contracts

IBM recommends to stay on supported releases always!

However, if you have a need to get defect support beyond the announced end-of-service date ...

then IBM can offer you a service extension contract

- which is completely fee based
- IBM asks for a migration plan (max period is 2 years)
- contracts are offered thru IBM Global Technology Services
 - But fulfilled by the product L1/L2/L3 teams
- some restrictions apply

GTS Sales number in US is
1-888-426-4343, Option 3

Note: existing PTFs can still be downloaded from the IBM website!

Recommended Steps when going to a New Release



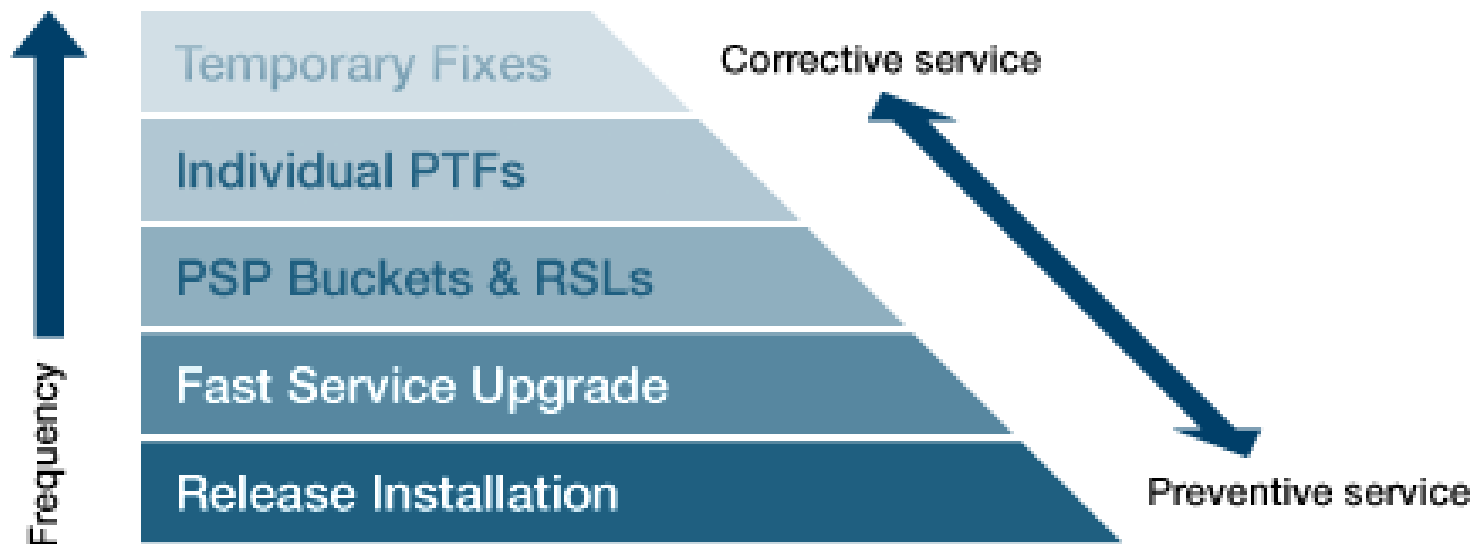
sequence of activities

- Order the current refresh level and install it on your test system
- If there is already an RSL for that refresh then order and install it as well
- Also order and install the latest PSP bucket on top
- Check with third parties for their corresponding service levels
- 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 and check with your software vendors again
- Check out the VSE web pages *) for newest service information
- Regression testing
- Before production cutover have a fallback plan in place
- Production cutover

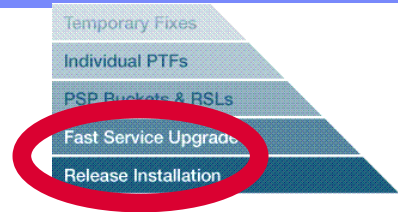


*) <http://www-1.ibm.com/servers/eserver/zseries/zvse/>

Measures to Keep Your System Up-to-Date



VSE Refresh Level



VSE Level	PTF Level	Avail. from	...until
2.7.2.	01-2004	03-2004	11-2004
2.7.3.	09-2004	11-2004	09-2005
3.1.0	12-2004	03-2005	11-2005
3.1.1	09-2005	11-2005	20.07.2006
3.1.2	05-2006	07-2006	tbd.
4.1.0	12-2006	03-2007	tbd.

- execute `splevel.pro` or 'sir' command to display the installed refresh level
- Refresh level `z/VSE 3.1.2` or `z/VSE 4.1.0` are current at this point in time
- always apply newest PTF bucket (PSP) and/or RSL 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 Processor and VM Prerequisites



VSE Release	Processor Req.	Minimum z/VM Release Req. (if VM is being used)
z/VSE 3.1	<ul style="list-style-type: none"> •S/390 Multiprise 3000 •S/390 Par. ES G5/G6 •IBM z Series 900 / 800 •IBM z Series 990 / 890 •IBM System z BC / EC 	z/VM V4
z/VSE 4.1	<ul style="list-style-type: none"> •IBM z Series 900 / 800 •IBM z Series 990 / 890 •IBM System z BC / EC 	z/VM 5.2

An additional PTF is required to run z/VSE V3.1, on zSeries 990, 890 or z9 EC/BC.

Processor and PTF requirements do apply also when running z/VSE under z/VM

VSE Refreshes ...

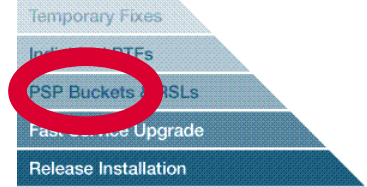


- are a complete set of installation tapes including base and optional products
- are to be used for
 - ▶ base installation (from scratch)
 - ▶ Fast Service Uppgrade (FSU) of an existing system
 - from a previous release (limitations) to a new release
 - or to move to a higher refresh level within a given release
- have applied **all** PTFs available until cut off date
- have undergone a basic regression test by IBM
- are orderable until a new refresh level or new release becomes available

Use ShopzSeries to order a z/VSE refresh

<https://www14.software.ibm.com/webapp/ShopzSeries/ShopzSeries.jsp>

z/VSE 4.1 will become available on ShopzSeries later. Please check out or website from time to time.



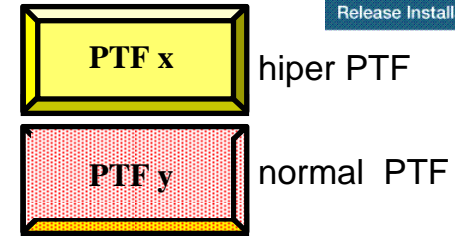
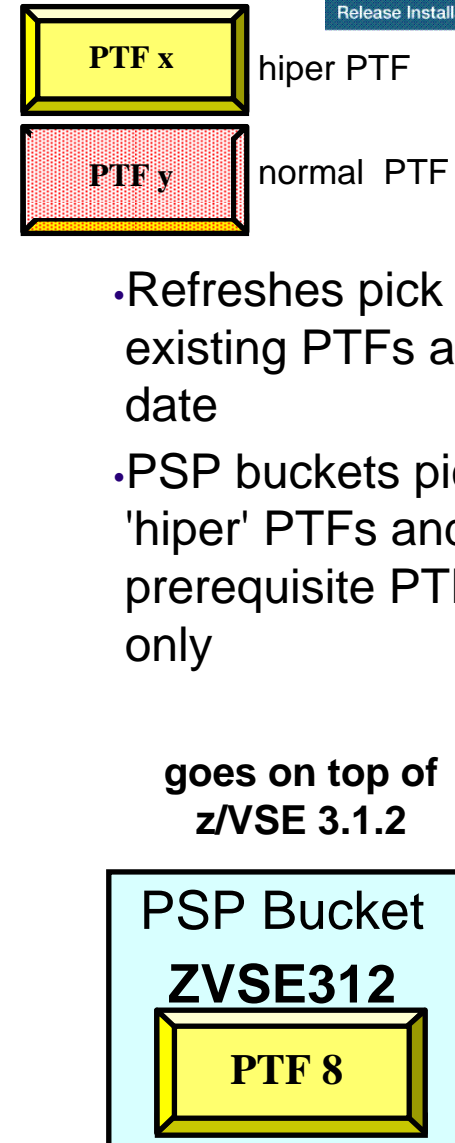
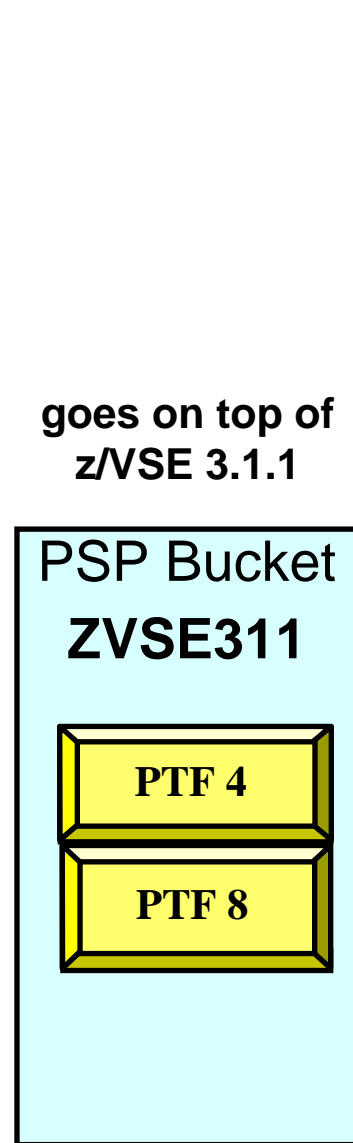
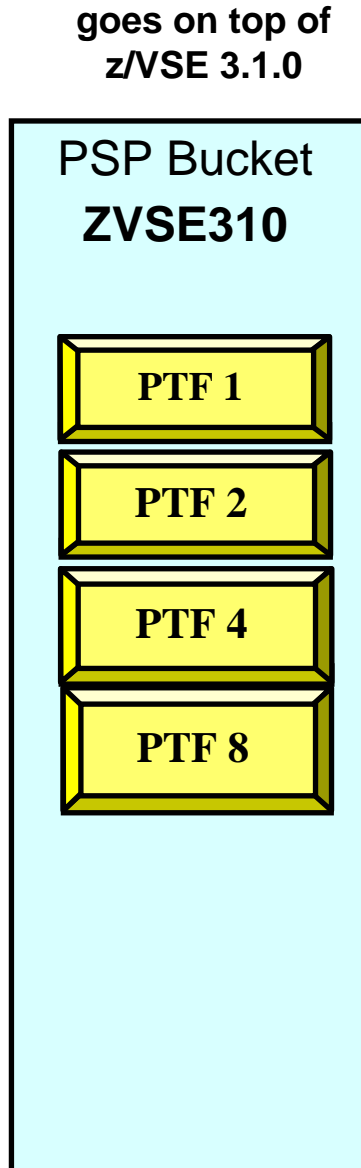
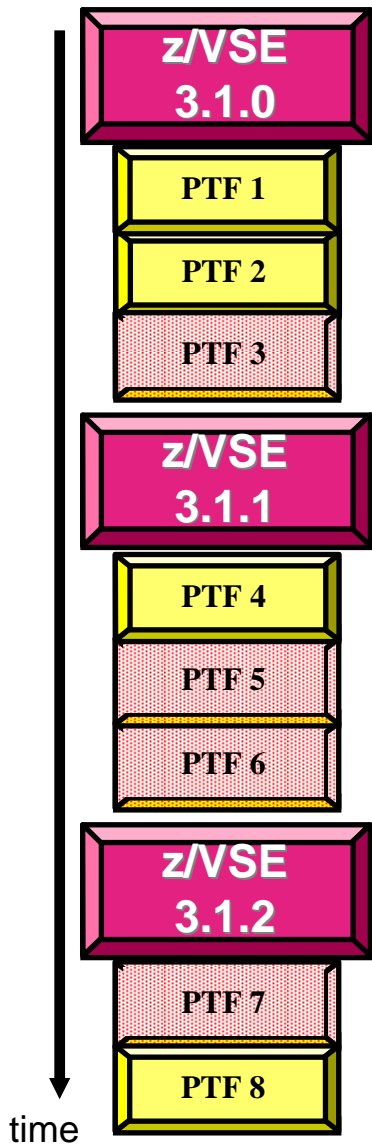
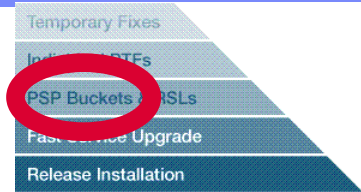
PSP Buckets

- are a list of PTFs solving High Impact or **PER**vasive (HIPER) APARs
- are available for each refresh level
- are permanently maintained and kept up to date by the product change teams
- are divided into subsets for the individual components
- can be ordered thru IBM service or via the Internet (see later in this pres.)
- are delivered as cumulative PTF tape(s) or file
- should be installed with the interactive user interface (IUI dialogs)

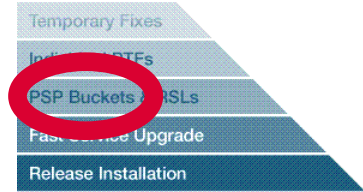
PSP bucket names (called UPGRADE) are related to the release and refresh level they are based on: e.g. ..., [VSEESA273,ZVSE310, ZVSE312,ZVSE410](#)

PSP = Preventive Service Planning

PSP Buckets and Refreshes – how they relate



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



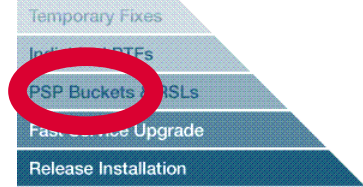
Structure of a PSP Bucket

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

 Select the subset you want to view.

UPGRADE	SUBSETS	ABSTRACT
zVSE310	chg/index	V. 3, R. 1, M. LEVEL 0 of z/VSE
zVSE310	HLASM/589	HLASM V. 1, R. 5, M. 0
zVSE310	ACCNTRL/H06	VSE/ACCESS CONTROL V. 1, R. 2, M. 1
...		
...		
...		
zVSE310	IBMLANG/81K	LE/VSE BASE V. 1, R. 4, M. 4
zVSE310	CICS/TS/B0P	CICS/VSE V. 4, R. 1, M. 1
zVSE310	ZVSE/81C	VSE Central Functions V. 7, R. 1
zVSE310	DB2/4NN	DB2/VSE V. 7, R. 4
zVSE310	VTAM/FE6	ACF/VTAM V. 4, R. 2
zVSE310	BASESERVICE	<i>a list of all PTFs already applied to the base products</i>
zVSE310	OPTPSERVICE	<i>a list of all PTFs already applied to the optional products</i>





Sample: PSP Subset for 'IBMLANG/81K' of ZVSE310

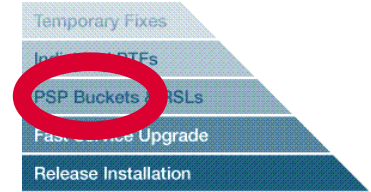
	DATE	APAR	PTF	VOLID	COMMENTS
16	07/03/21	PK29054	UK17091	1000	HIPER ABEND0C2 IN CEEVREL WHEN
15	07/03/21	PK30428	UK18100	1000	HIPER POSSIBLE HEAP DAMAGE WHEN
14	06/06/21	PK25616	UK15022	1000	HIPER MSGCEE3200S AFTER LE/CICS
13	06/05/29	PK24733	UK14718	1000	HIPER USING STRNCPY() CAUSES
12	06/04/03	PK19351	UK11699	1000	HIPER C PROGRAM FREAD RETURNS
11	05/11/24	PK12695	UK07897	1000	HIPER CEEPIPI STORAGE LEAK
10	05/11/24	PK14309	UK08715	1000	HIPER SOS PROGRAM-CHECK LOOP
9	05/08/25	PK08993	UK05438	1000	HIPER MSGIGZ0027W "THE SORT
8	05/08/25	PK09837	UK06260	1000	HIPER AMODE PROBLEM WITH LE'S
7	05/06/21	PK01947	UK01734	1000	HIPER UPDATES FOR LE/VSE 1.4.4
.....					
.....					
2	05/04/05	PK01833	UK01854	1000	HIPER UPDATES FOR LE/VSE 1.4.4

In PSP ZVSE311 this subset contains these 7 PTF only, because PTFs 1-9 are already applied to the 3.1.1 base. Subsequently bucket ZVSE312 contains PTFs in lines 13 to 16 only.

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

see: <https://techsupport.services.ibm.com/server/390.psp390> (requires an id to sign in)

PSP Buckets for Hardware Support



Select the subset you want to view.

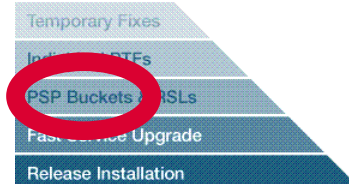
UPGRADE	SUBSETS	ABSTRACT
1750DEVICE	chg/index	Upgrade 1750DEVICE
1750DEVICE	1750MVS/ESA	DEVICE 1750
1750DEVICE	1750VSE/ESA	DEVICE 1750
1750DEVICE	1750VM/ESA	DEVICE 1750
1750DEVICE	1750TPF	DEVICE 1750



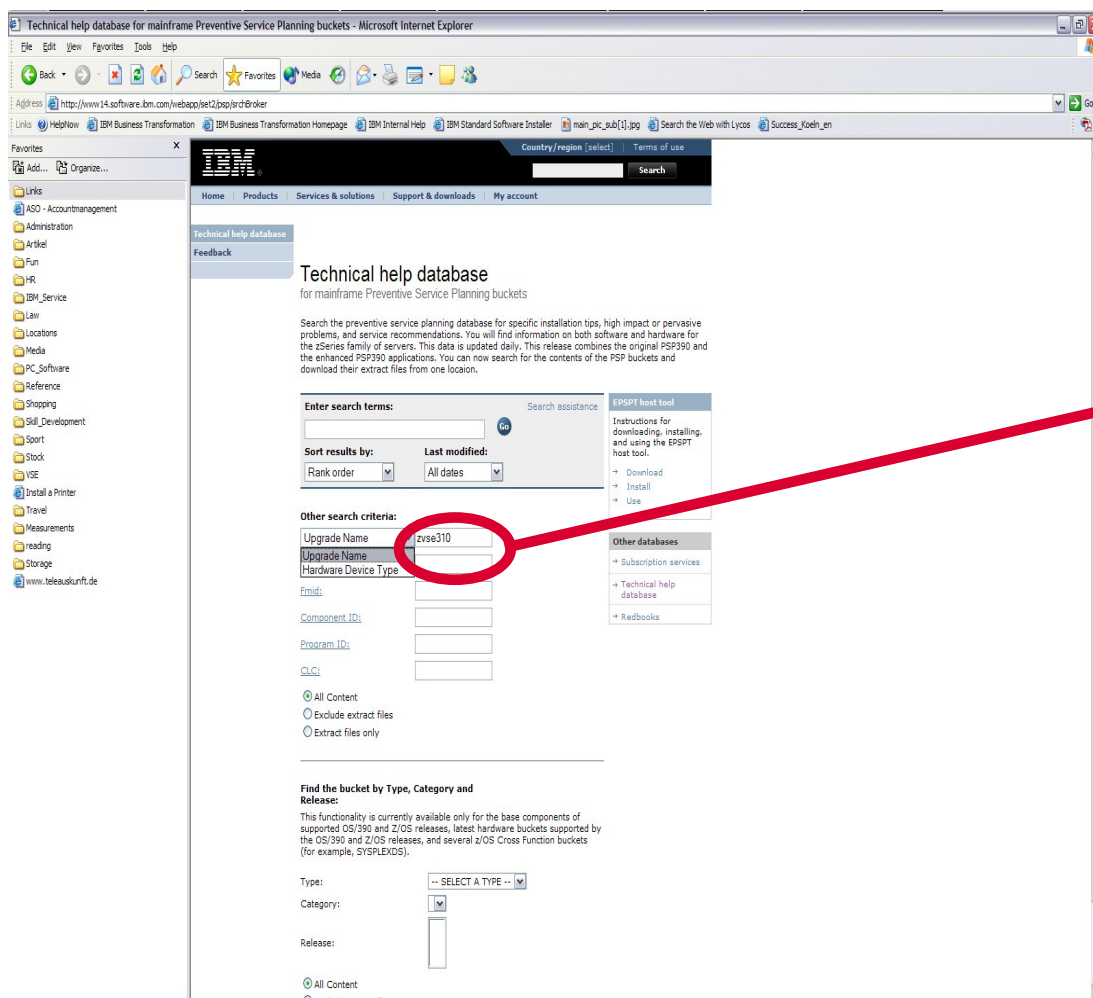
Sample for DS6000

Service Recommendation Summary

DATE	APAR	PTF	VOLID	COMMENTS
14	07/04/27	PK32505	UK19024 0610	MSGICK31054I FC QUERY INCREMENTS
13.	06/11/24	DY46524	UD53023 1000	HIPER FAILBACK IMPROVEMENT
12.	06/11/24	DY46525	UD53030 1000	HIPER PATH INFORMATION AFTER
11	06/06/23	PK23164	UK15425 1000	CMD REJ (OR RC0) ON FLASH COPY W
.....				
.....				
5	05/07/06	DY46388	UD52860 1000	POTENTIAL PERFORMANCE DEGRADATIO
4.	05/05/18	PQ95319	UQ95185 1000	NEW FUNCTION
3.	05/05/09	DY46208	UD52668 1000	1.SUPPORT FOR D/TDS6000 AND
2	05/03/11	PQ96706	UK00781 1000	NEW FUNCTION
1	04/12/10	DY46284	UD52744 1000	NEW FUNCTION

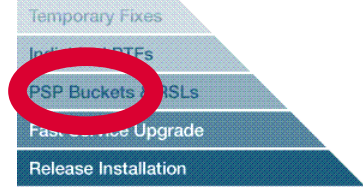


View PSP Buckets on the Internet



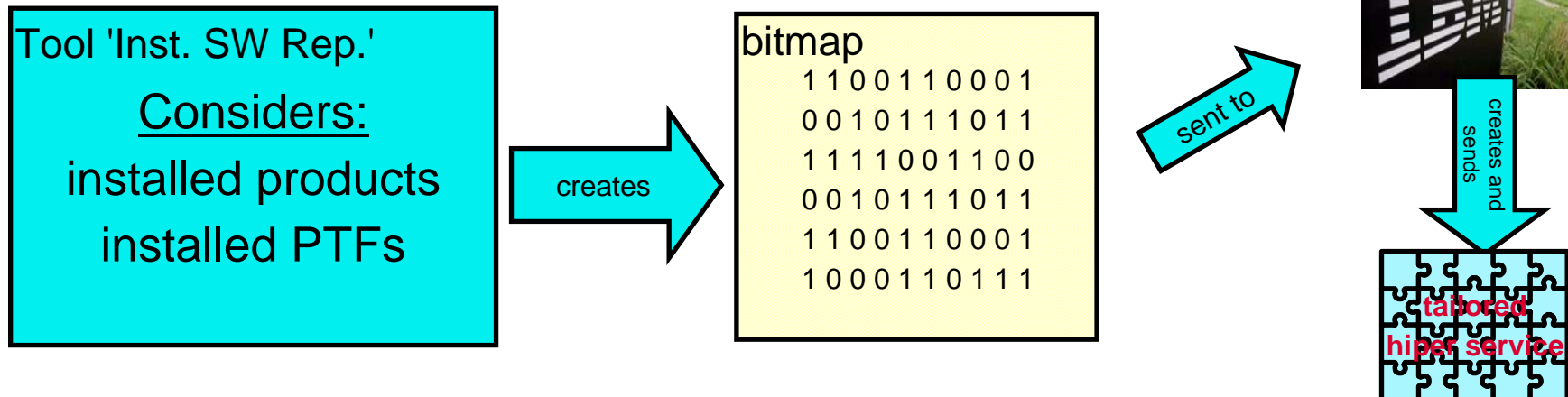
enter the Upgrade name here, or use for device name

see: <https://techsupport.services.ibm.com/server/390.psp390> (requires an id to sign in)



Ordering Hiper Service exactly Tailored to your System

- to create a bucket of all hiper PTFs applicable to your current service level
- Download tool "**Installed Software Report**" from:
<http://www-1.ibm.com/servers/eserver/zseries/zvse/support/preventive.html>
- The tool creates a bitmap from the contents of your MSHP history file
- The bitmap is sent to the IBM distribution center via ShopzSeries
- The tailored PTF bucket will be retrieved via ShopzSeries



RSL*) for z/VSE

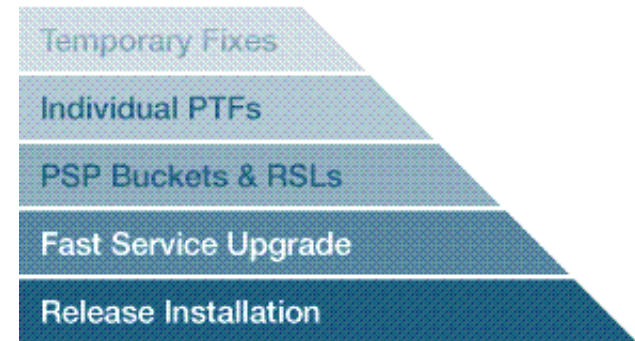
What is it?

Recommended Service Level for VSE

- ◆ all available PTFs at specified cutoff date
- ◆ cutoff date describes a defined APAR/PTF level
- ◆ monitored 6-8 weeks for PE (PTF in Error)
- ◆ a list of PTFs kept in PSP and on VSE Home Page
- ◆ standard PTF installation process

Why is it done?

- ◆ easy way to stay on current & reliable service level
- ◆ reduces re-discoveries of known defects
- ◆ helps IBM service personnel to serve customers faster



*) not to be confused with
the RSU concept of z/OS

Temporary Fixes

Individual PTFs

PSP Buckets & RSLs

Fast Service Updates

Release Installation

RSL for z/VSE

RSL - Rules

- Define cutoff date **every 2-3 month**
 - In sync with a cutoff for a refresh when applicable
- Create RSL **for all releases in service** on latest refresh level
- Next refresh level = last RSL of previous refresh
- Create 'final' RSL at EOS of a given release

RSL - Ordering

- Order like a PSP from the IBM support center
- Order electronically via Internet,
==> **get PTF list via VSE Home Page**

RSL for VSE/ESA or z/VSE

Currently available RSLs:



RSL-Name	Subsets
VSERSL312	RSLBASExxx
VSERSL311	RSLADxxx
VSERSL310	RSLAFPxxx
VSERSL273	RSLDBxxx
VSERSL272	RSLLANGxxx
VSERSL271	RSLNCPxxx
VSERSL270	RSLOTHERxxx
VSERSL263	RSLDxxx (if applicable)
VSERSL262	
VSERSL261	
VSERSL260	

xxx stands for 2.7.3, 3.1.0, ..., 3.1.2, etc...

The first RSL for z/VSE 4.1.0 is targeted for May 2007

For releases still orderable we recommend to upgrade via FSU instead of 2 or more RSLs

RSL Subsets

Temporary Fixes
 Individual PTFs
PSP Buckets & RSLs
 Fast Service Updates
 Release Installation

<p><u>RSLBASExxx</u> <u>VSE Base Products</u></p> <p>ACF/VTAM, CICS/TS, CICS/VSE, DITTO, EREP, HLASM, ICKDSF, LE/VSE, TCP/IP, VSE Central Functions</p>	<p><u>RSLDBxxx</u> <u>Database Products</u></p> <p>DB2 Server, Data Restore VSE, Control Center VSE, DLI/VSE, DB2 VSAM Transparency, QMF /VSE</p>
<p><u>RSLADxxx</u> <u>Application Development</u></p> <p>MQSeries for VSE, SDF/CICS, SDF II VSE Base</p>	<p><u>RSLLANGxxx</u> <u>Language & Compiler</u></p> <p>VAGen Server VSE, IBM C for VSE, IBM PL/I VSE, IBM COBOL VSE, RPG II, CCCA VSE, High Level Language Assembler Toolkit VSE</p>
<p><u>RSLAFPxxx</u> <u>Adv. Function Printing</u></p> <p>PSF/VSE V2 Compatibility Fonts Base, AFP Font Coll. for VSE, PPFA/370, OGL/370</p>	<p><u>RSLNCPxxx</u> <u>Network Control</u></p> <p>ACF/NCP VSE, ACF/SSP VSE, x.25 NPSI, EP V1 for ACF/NCP</p>
<p><u>RSLOTHERxxx</u> <u>Other opt. Products</u></p> <p>IXFP/Snapshot VSE, DFSORT/VSE, GDDM/VSE, CICSVR/VSE, DITTO/ESA for VSE Japanese, ACLR/VSE</p>	<p><u>RSLOLDxxx</u></p> <p>Products or product releases no longer distributed in the next higher refresh level (x.x.x+1)</p>

RSL for VSE on the Homepage

The VSE home page contains a table like this one with links to the individual listings.

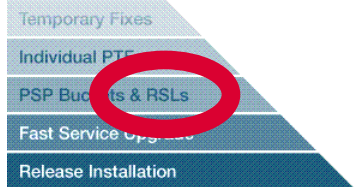
Service recommended for	PTF Order List	Cutoff Date
z/VSE 3.1.2	Base Products Optional Prod.	PTFs 312B
z/VSE 3.1.1	Base Products Optional Prod.	PTFs 311B PTFs 311Q
z/VSE 3.1.0	Base Products Optional Prod.	PTFs 310B PTFs 310Q
VSE/ESA 2.7.3	Base Products Optional Prod.	PTFs 273B PTFs 273Q
VSE/ESA 2.7.2	Base Products Optional Prod.	PTFs 272B PTFs 272Q
VSE/ESA 2.7.1	Base Products Optional Prod.	PTFs 271B PTFs 271Q
VSE/ESA 2.7.0	Base Products Optional Prod.	PTFs 270B PTFs 270Q
Out of Service releases		
VSE/ESA 2.6.3	Base Products Optional Prod.	PTFs 263B PTFs 263Q
VSE/ESA 2.6.2	Base Products Optional Prod.	PTFs 262B PTFs 262Q
VSE/ESA 2.6.1	Base Products Optional Prod.	PTFs 261B PTFs 261Q
VSE/ESA 2.6.0	Base Products Optional Prod.	PTFs 260B PTFs 260Q
VSE/ESA 2.5.2	Base Products Optional Prod.	PTFs 252B PTFs 252Q

see next page

APAR lists (pdf files)

see: <http://www-1.ibm.com/servers/eserver/zseries/zvse/support/preventive.html#rsl>

Sample: Subset for Base Products of VSERSL312



z/VSE 3.1.2 Base Products

PTF numbers January 31, 2007: **(total size of RSL: 59.2 MB)**

CICS Transaction Server for VSE/ESA 1.1.1

UK15924 UK16475 UK17054 UK17162 UK17995 UK18129 UK18279 UK20567

Size information,
if > 10 MB

ACF/VTAM VERSION 4.2.0

UD53056 UD53070 UD53071 UD53072 UD53073 UD53120 UD53127 UD53129

VSE Central Functions 7.1.0 **(total size of PTFs: 24.4MB)**

VSE/SP UNIQUE CODE

UK14212 UK15825 UK16411 UK16727 UK18593 UK19662 UK19659 UK20356 UK21003

VSE/POWER

UD53028 UD53040 UD53093

VSE/VSAM

UD52961 UD52962 UD53138 UD53145

VSE/AF

UD53002 UD53004 UD53014 UD53027 UD53030 UD53031 UD53032 UD53033 UD53034 UD53035 UD53036 UD53037 UD53038 UD53039 UD53040 UD53041 UD53042 UD53043 UD53044 UD53045 UD53046 UD53047 UD53048 UD53049 UD53050 UD53051 UD53052 UD53053 UD53054 UD53055 UD53056 UD53057 UD53058 UD53059 UD53060 UD53061 UD53062 UD53063 UD53064 UD53065 UD53066 UD53067 UD53068 UD53069 UD53070 UD53071 UD53072 UD53073 UD53074 UD53075 UD53076 UD53077 UD53078 UD53079 UD53080 UD53081 UD53082 UD53083 UD53084 UD53085 UD53086 UD53087 UD53088 UD53089 UD53090 UD53091 UD53092 UD53093 UD53094 UD53095 UD53096 UD53097 UD53098 UD53099 UD53100 UD53101 UD53102 UD53103 UD53104 UD53105 UD53106 UD53107 UD53108 UD53109 UD53110 UD53111 UD53112 UD53113 UD53114 UD53115 UD53116 UD53117 UD53118 UD53119 UD53120 UD53121 UD53122 UD53123 UD53124 UD53125 UD53126 UD53127 UD53128 UD53129 UD53130 UD53131 UD53132 UD53133 UD53134 UD53135 UD53136 UD53137 UD53138 UD53139 UD53140 UD53141 UD53142 UD53143 UD53144 UD53145 UD53146 UD53147 UD53148 UD53149 UD53150 UD53151 UD53152 UD53153 UD53154 UD53155 UD53156 UD53157 UD53158 UD53159 UD53160 UD53161 UD53162 UD53163 UD53164 UD53165 UD53166 UD53167 UD53168 UD53169 UD53170 UD53171 UD53172 UD53173 UD53174 UD53175 UD53176 UD53177 UD53178 UD53179 UD53180 UD53181 UD53182 UD53183 UD53184 UD53185 UD53186 UD53187 UD53188 UD53189 UD53190 UD53191 UD53192 UD53193 UD53194 UD53195 UD53196 UD53197 UD53198 UD53199 UD53200

Copy the PTF numbers *) from this page and paste it into the electronic ordering page.
<https://techsupport.services.ibm.com/server/390.electpforder>
*) other text is being ignored by order process

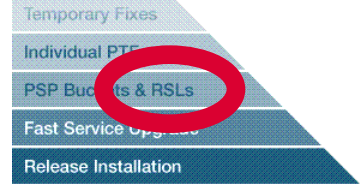
OSA/SF

UK14608 UK19436

VSE Connector

UK14888 UK15946 UK17908 UK18624 UK20385 UK21180

RSL Update Dates



RSL	PTF Cutoff	RSL available	Comments
2.7.3, 3.1.2, 4.1.0	2007-03-31	2007-05-16	
2.7.3, 3.1.2	2007-01-31	2007-03-16	GA 4.1.0
2.7.3, 3.1.2	2006-11-30	2007-01-17	
2.7.3, 3.1.2	2006-09-30	2006-11-17	
2.7.3, 3.1.2	2006-07-31	2006-09-15	
2.6.3, 2.7.3, 3.1.1	2006-05-12	2006-07-21	GA 3.1.2
2.6.3, 2.7.3, 3.1.1	2006-03-31	2006-05-15	
2.6.3, 2.7.3, 3.1.1	2006-01-31	2006-03-17	
2.6.3, 2.7.3, 3.1.1	2005-11-30	2006-01-13	
2.6.3, 2.7.3, 3.1.0	2005-09-20	2005-11-25	GA 3.1.1
2.6.3, 2.7.3, 3.1.0	2005-07-31	2005-09-16	
2.6.3, 2.7.3, 3.1.0	2005-05-31	2005-07-15	
2.6.3, 2.7.3, 3.1.0	2005-03-31	2005-05-13	
2.6.3, 2.7.3	2005-01-31	2005-03-04	GA 3.1.0
2.6.3, 2.7.3	2004-11-30	2005-01-14	
2.6.3, 2.7.2	2004-09-20	2004-11-19	GA 2.7.3

Single PTFs as Corrective Service

■ Single PTFs....

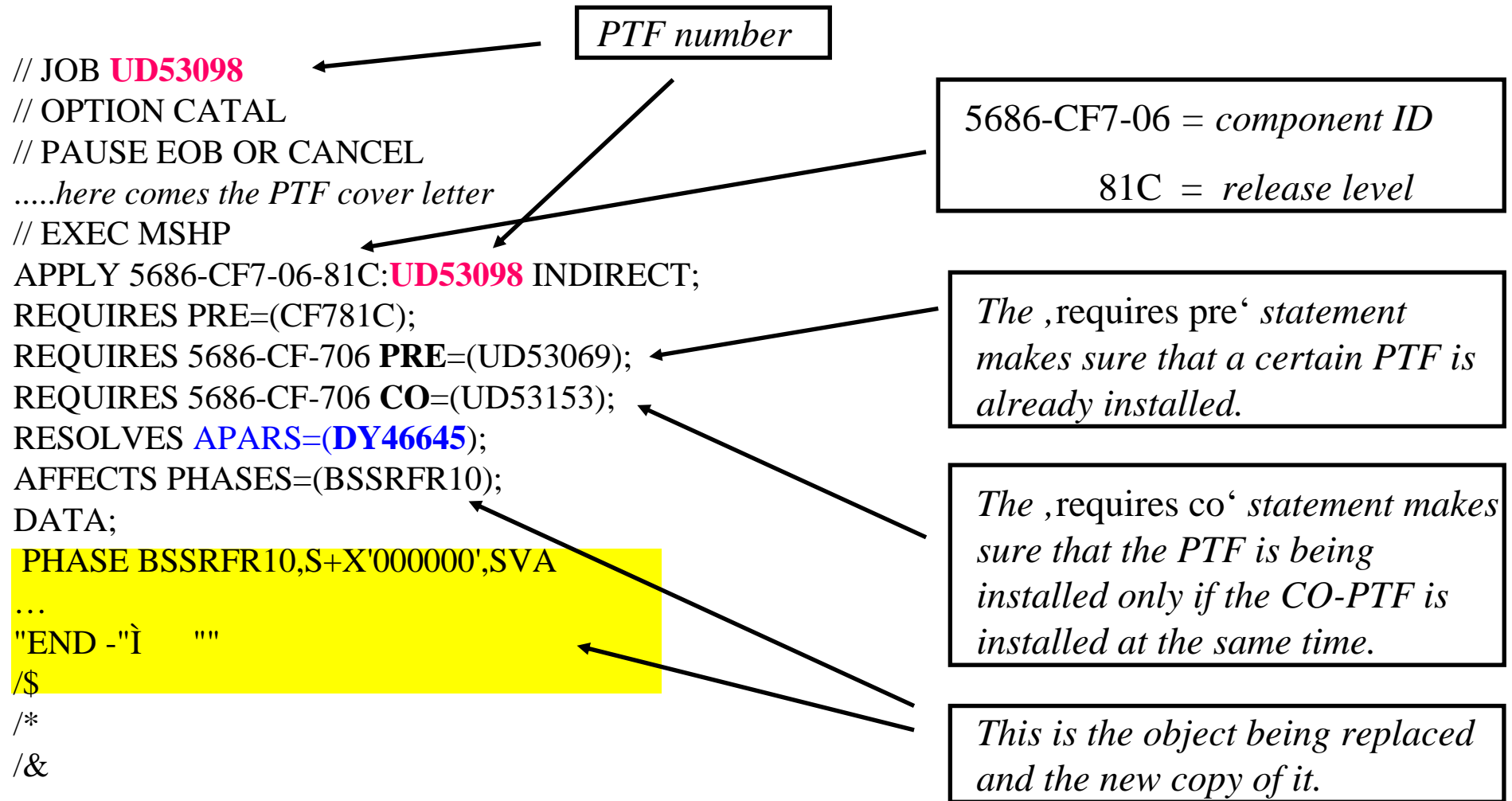
- ▶ correct an actual defect or problem permanently
- ▶ solve one or multiple APARs
- ▶ PTF numbers are unique for each applicable release
- ▶ order via Internet or by opening a PMR with IBM
- ▶ come on a tape or electronically
- ▶ could require pre/co-requisite PTFs as well
- ▶ Installation via MSHP/IUI



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

PTF = Program Trouble Fix (solution to an APAR consisting of one or more module or phase replacements unique for an individual release)

PTF Control Information and their Purpose



PTF Application always via IUI

New in
z/VSE 4.1

- Print coverletters Dialog 1421
- Print action statements only – option on 1421
- Recommended is mass application, IUI Dialog 1423. Dialog allows to
 - Apply from real tape, virtual tape or disk
 - To include specific PTFs or exclude
 - Force indirect application
- To use with a few PTFs: Analyze and Apply PTFs, dialog 1422
 - Same options as mass application, dialog provides an overview on the contents of the service tape
 - Dialog needs much storage depending on the number of PTFs and affected parts. ICCF pseudo partition may get too small.
- Remove PTFs, dialog 1424

Direct versus Indirect PTF Application

- PTF installation process takes care of pre- and co-requisite PTF requirements
- Do **not** modify the PTF control information, results could cause non-running system.
- Direct application if no PTF is flagged indirect and if in dialogue indirect application was not specified. Work history file is used anyhow.
- Direct application may require activation of the new changed code, e.g. CEMT SET PRO(...) NEW for CICS or SET SDL for SVA phases, etc...

Temporary Fixes

PSP Buckets & RSLs

Fast Service Upgrade

Release Installation

APAR Fixes - Corrective Service

■ APAR fixes

- ▶ temporary correction of a defect
- ▶ provided by an IBM support ctr while a PTF is not available
- ▶ 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 levels



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

APAR Fixes / Patches

- MSHP allows direct code changes in executable code, so called patches or APAR fixes (also available for source type members and object code)
- Most fixes require a patch area in the phase where additional machine code can be stored.

```
// JOB CORRECT PHASE
// EXEC MSHP
CORRECT 5686-06-606-75C : DY49234
AFFECTS PHASES=$$A$$SUPX
ALTER 5978C 58500710:45A00380 /* BAL PATCH AREA */
ALTER 380 40404040:58500710 /* REINSTALL INSTRUCTION */
ALTER 384 40404040:900F0F0C /* DISPMAC */
ALTER 388 40404040:41F000C0 /* FUNC=PTLB */
ALTER 38C 40404040:58D008A4 /* */
ALTER 390 4040:0CED /* */
ALTER 392 40404040:980F0F0C /* */
ALTER 396 4040:07FA /* RETURN */
RESOLVES 'DY49234 DY49358'
/*
/ &
```

Area at x'380' is used as patch area

- Can easily be removed

```
// EXEC MSHP
UNDO 5686-066-06-75C : DY49234
/*
```

Comparison of VSE Service Deliverables

	Refresh	RSL	PSP	PTF
What is it	complete product with integrated PTFs; level documented in the system	List of all PTFs available at cutoff date; monitored 6-8 weeks for PE, level identified by date of list	selected PTFs mainly for HIPER APARs; changes continuously	'official' fix for a code defect documented in an APAR
Availability frequency	every 6-12 month; usually for the newest release	every 2-3 month	continuously	continuously
When to order/install	for base install or level upgrade (FSU)	preventively to stay current between refreshes, avoid known problems	after refresh installation and preventively to avoid HIPER problems	to fix a certain problem

Samples for Selecting Preventive Maintenance

with Release Migration



Installed: VSE/ESA 2.6.x or 2.7.x and moving to z/VSE 3.1.2

- Install Refresh 3.1.2 → VSE/ESA 3.1.2 (FSU)
- + RSL 3.1.2 → latest RSL
- + PSP 3.1.2 → latest hiper service



Installed: VSE/ESA 2.7.x or z/VSE 3.1.x and moving to z/VSE 4.1.0

- Install Refresh 4.1.0 → z/VSE 4.1.0 (FSU)
- + RSL 4.1.0 → latest RSL
- + PSP 4.1.0 → latest hiper service




Installed: VSE/ESA 2.6.x and moving to z/VSE 4.1.0

- Install Refresh 3.1.2 → z/VSE 3.1.2 (FSU)
- Install Refresh 4.1.0 → z/VSE 4.1.0 (FSU)
- + RSL 4.1.0 → latest RSL
- + PSP 4.1.0 → latest hiper service

Samples for Selecting Preventive Maintenance¹

- Temporary Fixes
- Individual PTFs
- PSP Buckets & RSLs
- Fast Service Upgrade
- Release Installation


by staying on the same VSE Release

 Installed: z/VSE 3.1.0


Install Refresh 3.1.2	→	z/VSE 3.1.2
+ RSL 3.1.2	→	latest RSL
+ PSB 3.1.2	→	latest hiper service

----- or -----


Install RSL 3.1.0	→	z/VSE 3.1.1 level
Install RSL 3.1.1	→	z/VSE 3.1.2 level
+ RSL 3.1.2	→	latest RSL level
+ PSB 3.1.2	→	latest hiper service

 Installed: z/VSE 3.1.1

Install RSL 3.1.1	→	z/VSE 3.1.2
RSL 3.1.2	→	latest RSL
+ PSB 3.1.2	→	latest hiper srv


 Installed: VSE/ESA 2.7.1 + PTFs

Install Refresh 2.7.3	→	VSE/ESA 2.7.3 ¹⁾
+ RSL 2.7.3	→	latest RSL
+ PSB 2.7.3	→	latest hiper service

 Installed: VSE/ESA 2.7.1

Install RSL 2.7.1	→	VSE/ESA 2.7.2
+ RSL 2.7.2	→	VSE/ESA 2.7.3
+ RSL 2.7.3	→	current RSL
+ PSP 2.7.3	→	latest hiper srv

1) if you have a kept refresh tape
if not, then install RSL271, RSL272 and RSL273 instead

 Installed: z/VSE 3.1.2 + PTFs

Install RSL 3.1.2	→	latest RSL
+ PSB 3.1.2	→	latest hiper service

Preventive Service Recommendation

- It is essential to have a preventive maintenance strategy
- Develop it according to your own needs
- Consider these aspects:
 - ▶ overall system complexity
 - ▶ workload and size of your system
 - ▶ growth of transaction rates, batch workload, file sizes
 - ▶ change activities
 - ▶ new hardware coming in
 - ▶ new applications, or changes to current ones

Suggestions for a healthy system:

- regular maintenance reduces the risk for rediscoveries of defects
- plan the time for maintenance cycles well ahead

and the benefit is:

- ➔ makes sure that the number of PTFs to apply is kept small to solve a sudden and unexpected defect
- ➔ avoids that an extensive upgrade has to be done under pressure

Preventive Service Recommendations

Temporary Fixes

Individual PTFs

PSP Buckets & RSLs

Fast Service Upgrade

Release Installation

Install the latest **REFRESH**

- every 12 month
- but not later than 24 month

if you are on the latest Refresh Level

Install the latest **RSL**

- every 6 month
- but not later than 12 month
- in addition order the newest PSP bucket shortly before upgrading to get the hottest fixes as well.

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

*) or better: use the tailored hiper service ordering via ShopzSeries as outlined before.

Always check out the VSE web page before installation!

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

What can VSE Customers use ShopzSeries for?

- **Order z/VSE Operating System Package**
 - ▶ for Base install
 - ▶ Fast Service Upgrade (FSU)
 - ▶ ShopzSeries will check for existing Licenses
- **Order Optional Products for z/VSE**
 - ▶ choose from a large product catalog
- **Order z/VSE Service Packages**
 - ▶ Individual PTFs (list of PTFs e.g. RSL)
 - ▶ PTFs for individual APARs
 - ▶ Critical service (Hiper/PE Fixes)
- **View your License Inventory**

z/VSE 4.1 will become available on ShopzSeries later. Please check out our website from time to time.

Register for ShopzSeries usage well ahead !

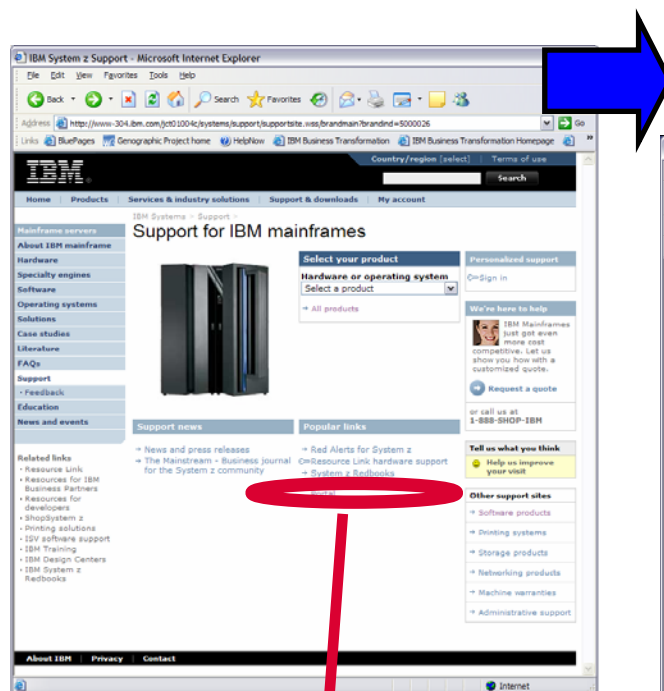
(about 1 week)

Visit the ShopzSeries Web site at: <http://www.ibm.com/software/shopzseries>
(Requires an ID to sign in)

Retrieving APARs/PTFs over the Internet

<http://www-1.ibm.com/servers/eserver/support/zseries/index.html>

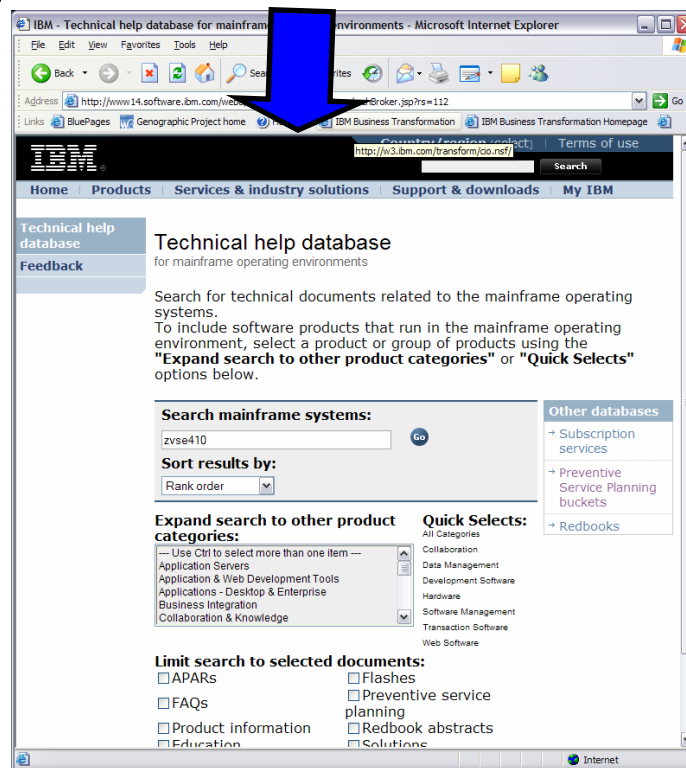
or via: www.ibm.com >> Support & downloads >> Support by product - Servers >> Mainframe servers



System z System Programmer Portal

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

>> Resolving Problems
>> APAR with PTF ordering



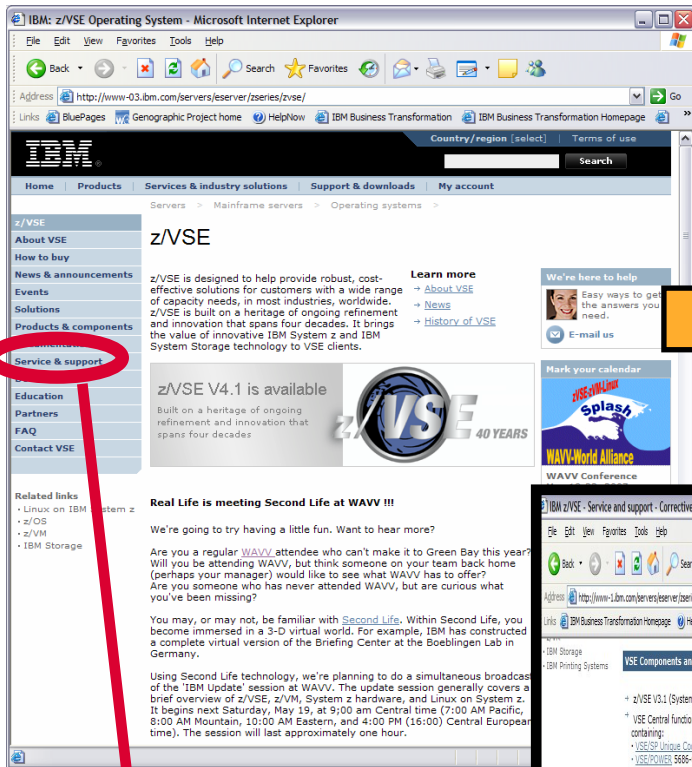
Searches in complete IBM APAR database.

Once the APAR is found:

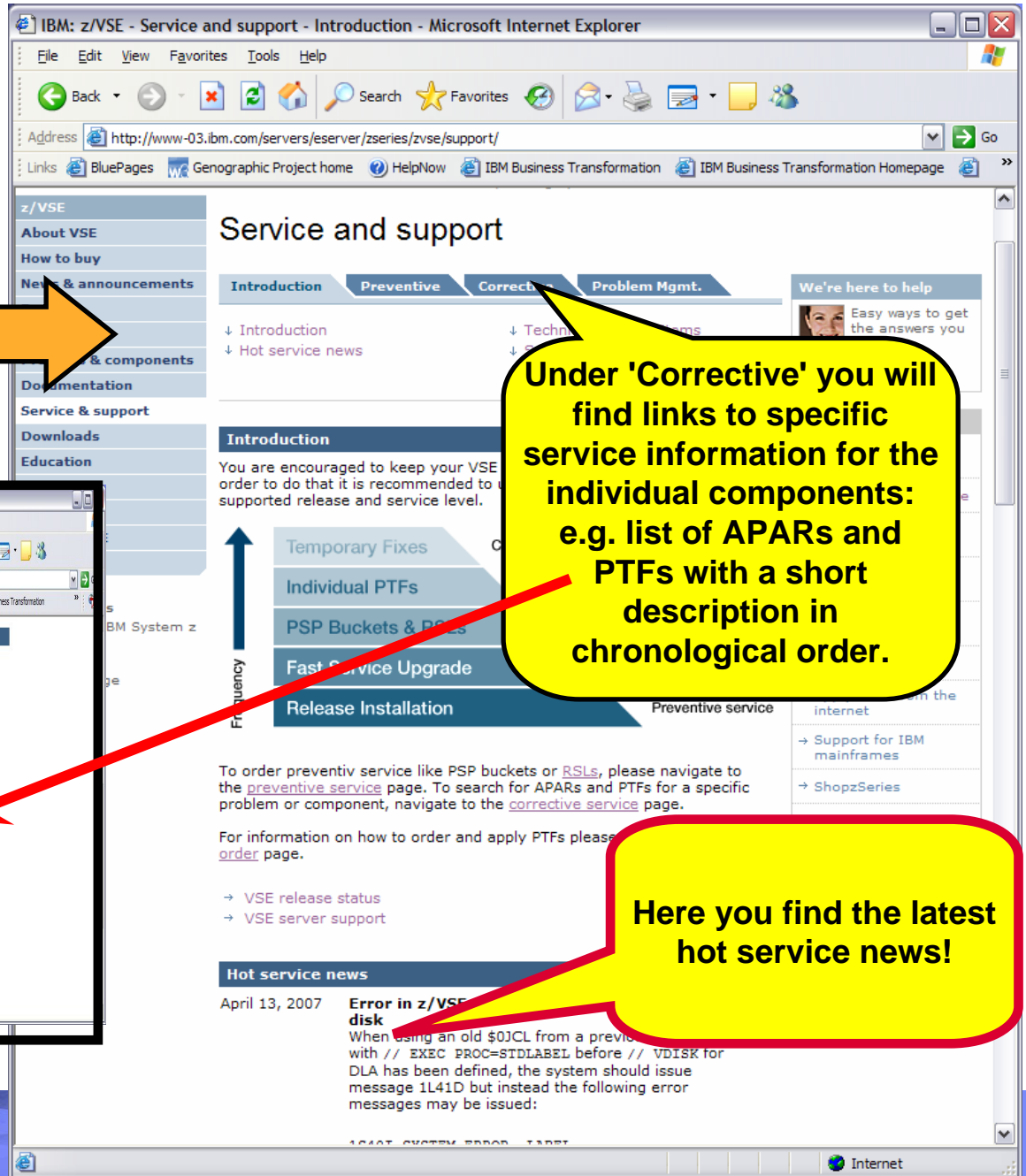
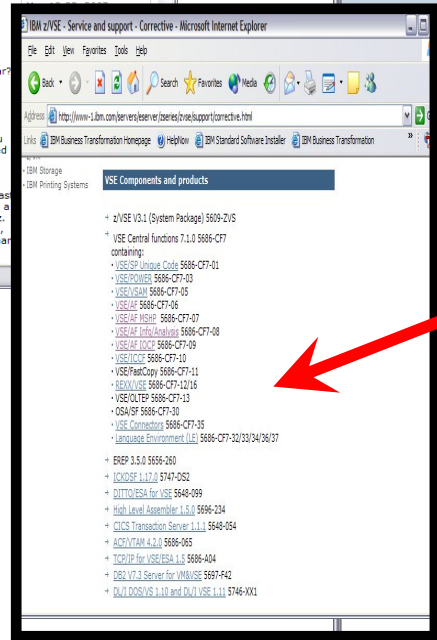
- select the PTF for your release and submit the order
- You will be informed via e-mail about status and how to retrieve the package from an ftp server
- ordering and download available 24x7
- Installation instructions are available via the VSE

Use also for ordering RSLs or PSBs

Viewing the Latest Service Related Information



Service and Support

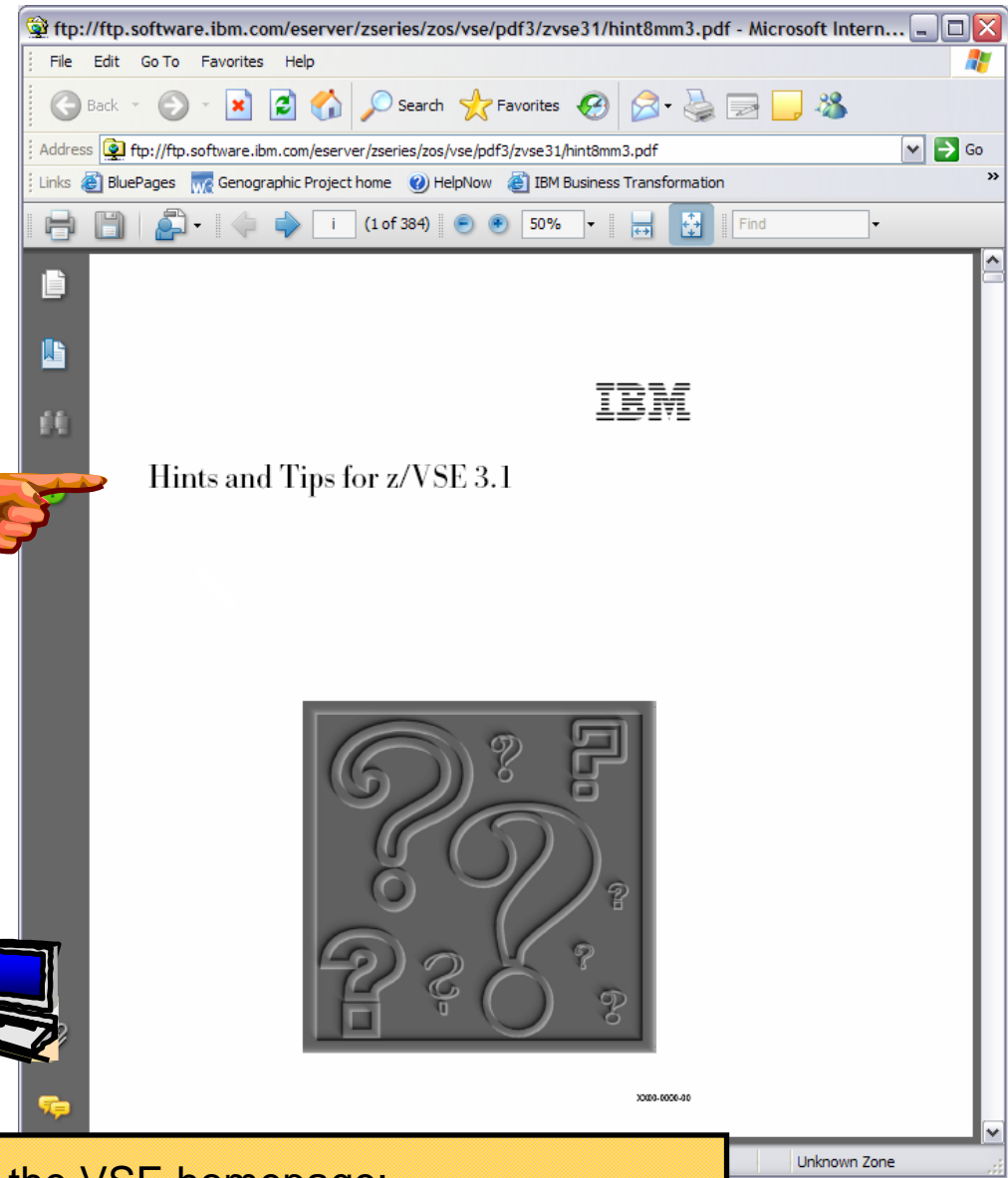


Under 'Corrective' you will find links to specific service information for the individual components: e.g. list of APARs and PTFs with a short description in chronological order.

Here you find the latest hot service news!

... more useful Information ...

- ▶ see our issue of
- ▶ ***VSE Hints & Tips***
- ▶ (Edition September 2006)



download the PDF file from the VSE homepage:

<ftp://ftp.software.ibm.com/eserver/zseries/zos/vse/pdf3/zvse31/hint8mm3.pdf>

Thanks for listening!

Questions?



now ... or anytime to zierl@de.ibm.com