z/OS Installation Strategy

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Session **BE**

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What does "Installation" Mean?

- Everyone seems to "know what it means," but when asked, they might say:

  - Load the product code into data sets and file systems
  - Load the product code and get the address spaces started
  - Load the product code, get the address spaces started, and run the IVPs (if supplied)
  - …and so on

- What we mean for this presentation:

  Installation means the entire set of tasks you need to do, starting with when you get your product order from the vendor and ending when the products are ready to use in a production environment.

Where We Are Today

Product Ordering Complications

- As anyone can see on Shopz…

  - IBM offers a number of package selections to be considered before you can choose a product:

  - **Two** options in most places:
    – ServerPac
    – CBPDO
    – (Standalone products have been eliminated.

  - **Up to six five** options in parts of Europe
    – Those above, plus:
      ▪ SystemPac
      ▪ FunctionPac
      ▪ ProductPac

➢ **This is part of the problem…**

Shopz > Product catalog >

Product catalog

Catalog view (Products in this view: 0)

Country/Region   Switzerland

Package type   Select one

Select one
KVM for IBM z - Standalone products and fixes
Linux on z - Standalone products and fixes
z/OS - CBPDO (products)
z/OS - ServerPac (system, subsystem, or products)
z/OS - ProductPac (customized products)
z/OS - FunctionPac (customized function replacement)
z/OS - SystemPac (customized system replacement)
z/OS - Standalone products and fixes
z/VM - VM SDO version 6
z/VM - Standalone products and fixes
z/VSE - VSE SIPO version 5
z/VSE - VSE SIPO version 6

Where We Want to Be*

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Shopz*

- We need to get to a single method of product delivery, and then tune it as necessary

- No "packages" to select for z/OS products

- Just pick the products you want

- A package is created with those products in it

- You can select products in:

  - SMP/E format
  - Non-SMP/E format
  - A mix of SMP/E and non-SMP/E formats

Product catalog

Catalog view (Products in this view: 0)

Country/Region United States

Package type Select one

Select one
Show catalog Linux on z - Standalone products and fixes
z/OS Products
z/VM - VM SDO version 6
z/VM - Standalone products and fixes
Fast acc z/VSE - VSE SIPO version 5
z/VSE - VSE SIPO version 6

IBM Customers

z/OSMF*

- In z/OSMF Software Management:

  ✓ Add portable remote software instance and download it
  ✓ Use the "Deployments" function to install it
  - Deployments drive workflows for system and product setup tasks

Welcome ×	Software Manage... ×

Software Management

Use this task to view details about your software inventory, including related products, features, FMIDs, data sets, deployments, and SYSMODs. Learn more...

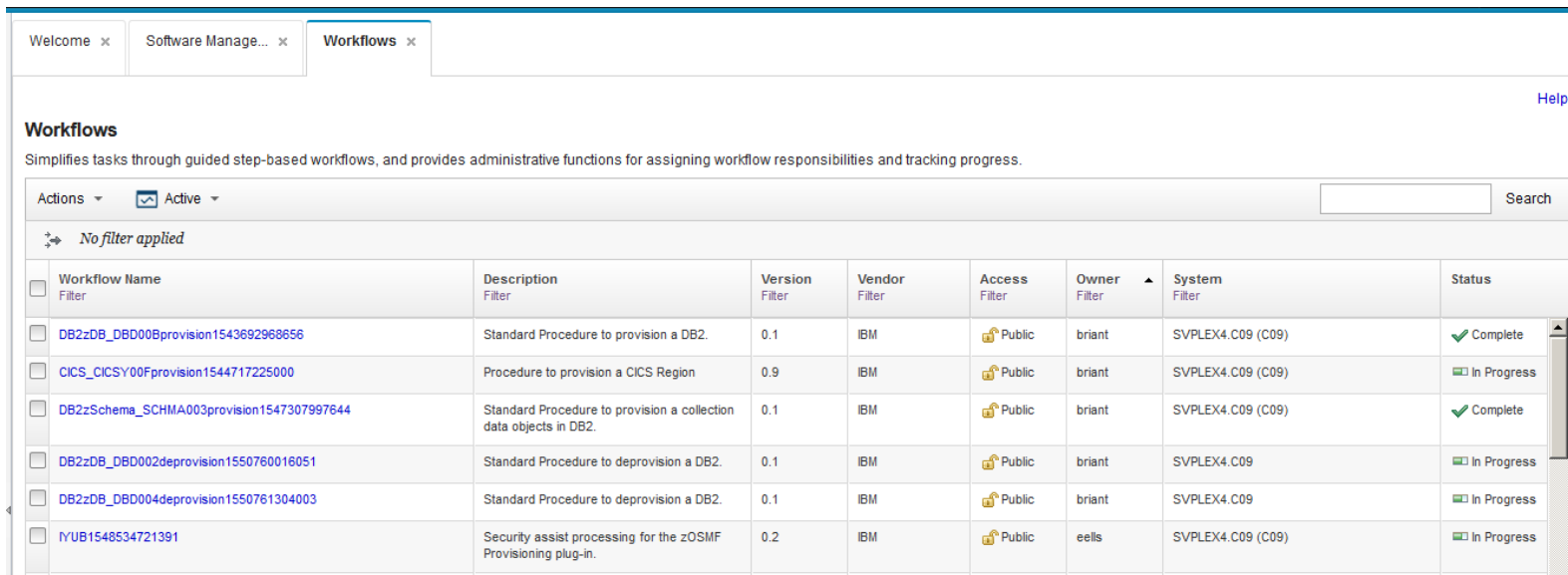|	
Software Instances	Define your software to z/OSMF; deploy software; generate reports about your software.
Portable Software Instances	Define your portable software instances to z/OSMF.
Products	View a consolidated list of the products included in each software instance.
Deployments	Deploy a software instance, and manage existing deployments.
Categories	Create new categories for your software instances and deployments, and manage existing categories.
Settings	Select the time zone in which to display date and time data. Indicate whether to display or suppress information messages.

z/OSMF*

- In Software Management (continued):

- The workflows can be re-driven for every Deployment operation, local or remote, so:

  - They are automatically re-tailored for every environment
  - No need to bring forward and edit ServerPac-supplied setup jobs for this and for that
  - No need to keep a checklist for the things the workflows do

Getting from Here to There*

Where to start?*

- ServerPac is closest to what we want
- We must preserve its good attributes
- Some things are done but we have more to do to make it "the" installer for IBM products:

  - ✓ Remove the need to order a "base" product (z/OS, CICS, DB2, IMS, or WebSphere)
  - ✓ Make it possible for non-SMP/E products to be delivered in ServerPac
  - Get products off the "not separately available in ServerPac" list (in progress)

  - ➢ Intended to let you order the product sets you want, when you want, for deployment into the environments you want

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z/OSMF Software Management (before)

- z/OSMF Software Management needed some work too…

- It required SMP/E packaging

    - Not all products were supported by Deployment
    - It would not create portable versions of software instances
    - It could not be the installer for non-SMP/E products from IBM and other software vendors
    - Deployments did not accept external packages as input

Newer Software Management Functions

✓ SMP/E-agnostic deployment

- Define Software Instances *with or without SMP/E zones*
- Deploy a Software Instance *whether or not* it has SMP/E zones

✓ A built-in, SMP/E-agnostic software packager

- Define and Export a Software Instance with arbitrary content in a portable format, whether SMP/E-managed or not SMP/E-managed

✓ A built-in portable format installer

- Perform a Deployment operation using an exported Software Instance as input, which gives us a built-in, SMP/E-agnostic installer

✓ Package (portable software instance) acquisition

- Get a portable software instance using GIMGTPKG

✓ **This also provides a basis for a <u>common</u> installer, for anyone who wants to play along**

- *Note: All are available on z/OS V2.2 with PTFs (some go back to V2.1)*

IBM.

Product ServerPac Outlook…*

- There are 21 products left that are not separately available in ServerPac

  - 8 are fonts; we added them to the Font collection element in z/OS V2.3 and will withdraw the separate font products*

  - …leaving 13 to go.

Product ServerPac Eligibility

▲	Product is eligible for Product ServerPac
△	Product is not eligible for Product ServerPac

- Goal is to have "all" products separately available in ServerPac by YE2019*

  - Why "2019"…? Hold that thought…

Note: Shopz shows a higher number because it lists many products more than once

From Shopz Product legend page

For 2016, Product ServerPac orders were ~37% of all ServerPac orders

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z/OSMF Software Management

- New in 2017 for z/OSMF Software Management

  ✓To better support non-SMP/E packaged products we added product information for them to Software Management, so we now have:
    – Product content displays for non-SMP/E products that are included in Software Instances
    – Support for end-of-service reporting for these products

- New in 2018:

  ✓Download portable software instances
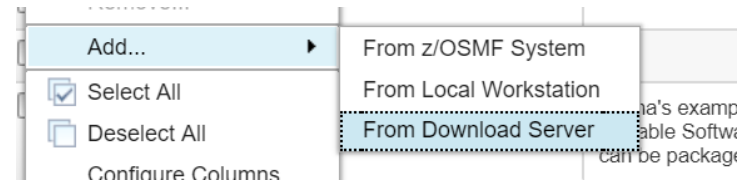
➢2018 Plans for z/OSMF Software Management*

  - Call workflows from deployment operations

The things above are (still) infrastructure in this timeframe…

What's Left?

- Past 2018*

  - z/OS V2.2 is the first release in which z/OSMF is a base element of z/OS, and **therefore z/OS V2.2 is the "base" for our strategy**
  - IBM can begin to transition to z/OSMF Software Management as the installer **once z/OS V2.2 is the *lowest* level driving system** for installing a new z/OS release
    - If we do what we usually do, that would not be before z/OS V2.4
    - That would <u>follow</u> z/OS V2.1's projected end of service in 3Q2018

- 2019+*

  - SMP/E PTF installation and acquisition in Software Management
  - Software instance merge (including ZONEMERGE) in Software Management
  - <u>Possibly</u> SMP/E and Software Management support for software instance merge-with-replace
    - We'll wait to see whether we really need this

Summarization at this point

- We have now or intend to have*:

  - ✓ An SMP/E-agnostic installer built into z/OSMF Software Management
  - ✓ The ability to merge products into existing SMP/E zones
  - ✓ Full content and end-of-service display support for non-SMP/E-packaged products
  - ✓ Package acquisition function in z/OSMF Software Management
  - The ability to drive workflows from the installer (which in turn can drive other workflows)
  - Software instance merge (including ZONEMERGE) support in z/OSMF Software Management
  - SMP/E service installation support in Software Management, as a result of a partnership with CA Technologies ©.
  - "Everything" in ServerPac, whether SMP/E-packaged or not
  - "Everything" available separately in ServerPac, too

But there's more…

ServerPac Transition Directions*

- We want to convert existing generated jobs for product setup (aka "RIMs," or Related Installation Materials") **to** z/OSMF workflows

- We want to begin to create ServerPacs in z/OSMF Software Management Portable Software Instance format

  - To be determined: there might be a transition period during which both ServerPac formats will be available—but it will not be excessively long

- Sometime later, we want to withdraw the old (today's existing) format

- The <u>soonest</u> we can realistically do this is early 2020

Finally…

- It will be time to let go of CBPDO around this time*

- When it was introduced in the 1980's it was a **big** step forward

  - CBPDO got everything in "one box" for the first time!

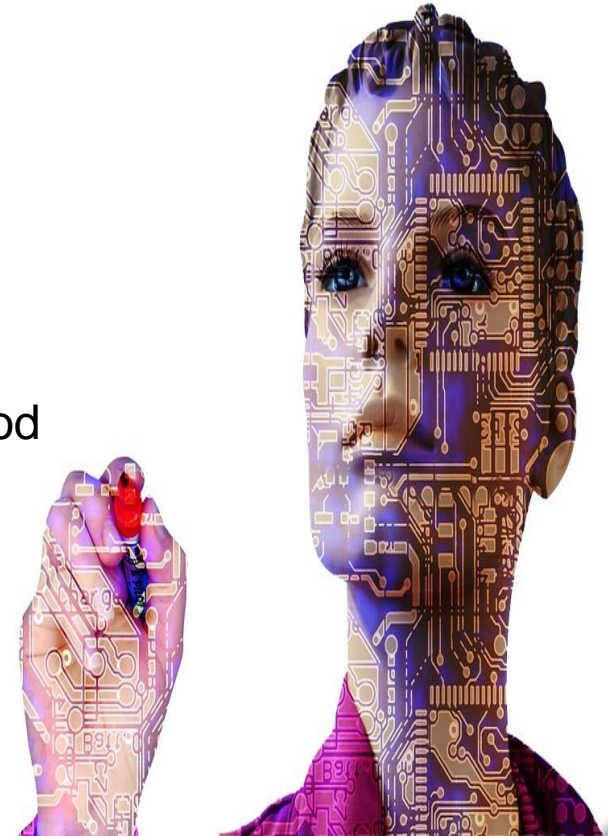- Today, it's the "hard way" to manage system software, and it's had no significant investment in a long time

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What About Other Software Vendors?

Cross-Vendor Meetings

- This z/OS Installation Strategy is an industry-wide effort.

- We have met in person at every SHARE in the USA since August 2015

- We have weekly meetings by phone
  - Hosted by BMC (thank you, Paul Spicer & Becky Parchman)
  - There are approx 32 <u>companies</u> on Paul's distribution list
  - Attendance has been quite good; from the 9 February 2018's web conference call:

Common Vendor Install project

(28 Participants)

Some Other Points

Our Intention*

We want to make the installation path simpler

- Use a modern browser-based installer, part of z/OS
- Use workflow infrastructure support for setup and configuration tasks
- One way to order and install across the IBM product set
- Same process supported for initial installation and deployments across your systems
- Support for all software: SMP/E and non-SMP/E
- Some accommodation for existing processes where possible
- Consistency with other vendors who choose to implement

This is where IBM wants to invest.

The Future of SMP/E*

We *absolutely* <u>do not</u> intend to discontinue the use of SMP/E for packaging IBM products!

- If we ever wanted to, we would need something a lot like it

- Many IBM products require SMP/E packaging, such as those having:

    – Close component and product interdependencies
    – "Atomic level" (vs. file replacement) service capabilities

- But, some products do not need SMP/E; for example:

    – Those with very limited or no inter-product dependencies
    – Products whose service strategy is "replace all the code in the product in every PTF"
    – Products that use different service tools

- Expect to see more products from IBM in non-SMP/E format, and a few of them changed from SMP/E to non-SMP/E, when appropriate

Final Thoughts

IBM's View*:

- The required set of function is currently intended for the z/OS V2.2 base via SPEs as it rolls out; "**nothing else to buy**"*

  - We will see how much we can actually get done.

- **We only win if you win,** too.

  - Vendors and customers, we really want everyone to play!

- Please **make sure we understand** your requirements…we will need your help to:

  - Make this "so easy, a caveman can do it"
  - Define things that should be common for a common look and feel

- We would also be **happy to have your help** with:

  - Prioritization and rollout
  - Discrete things we have not yet built, but need to build
  - Things we have not thought of yet

Summary*

- **GUI-based installer for ServerPac**
  - Part of z/OSMF Software Management
  - ServerPac will look markedly different
  - Support for SMP/E-packaged, non-SMP/E-packaged, and both kinds of products in the same package
- **ServerPac will be <u>the</u> way IBM products are delivered** on the platform
  - The installer will work and play well with z/OSMF workflows
- **z/OSMF Software Management:**
  - Will help with installing SMP/E-based service
- **All vendors can leverage these built-in functions** to play if they choose:
  - Software Management APIs
  - Export and Import capabilities in Software Management
  - Workflows
- **Other futures:**
  - Simplify HOLDDATA management
  - Incremental RESTORE
  - EAV support in Software Management
  - …

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Functional Summary - Available!

What	When
Software Instance Create API (includes list, create, read, update, delete support)	**Available** (z/OSMF V2.1 with a PTF, quite a while back)
Improved ZONEMERGE	**Available** with PTF UO01809

• Non-SMP/E Software Instances
• Export a software instance
• Use a portable format as input for Deployment
	• **Available**
	   • On z/OS V2.2 with the PTF for PI66832
	   • On z/OSMF V2.1 with the PTF for APAR PI67819

Common acquisition process for downloading SMP/E packaged PTFs	**Available** 4Q16, by publishing RECEIVE ORDER interface
Product and Feature information and end-of-service reporting for non-SMP/E products	**Available** July 2017 on z/OS V2.2 and z/OSMF V2.1 with the PTF for APAR PI79666
Software Instance Export REST API	**Available** February 2017 with the PTF for APAR PI72283

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Functional Summary, 2017-2018*

What	When
ServerPac manufacturing support for non-SMP/E products	**Available**
Transfer of products from the standalone path to ServerPac	**Available** November 2017
Portable software instance acquisition (based on GIMGTPKG)	**Available** February 2018 with the PTF for APAR PI80825
Deployment Workflows (software instance-level workflow)	**TBD; current plan is YE2018**
Data Set Attributes support (things such as LPA required, APF required, is an ISPF panel data set, etc.)	**TBD; current plan is YE2018**
Software Instance Merge (including, where applicable ZONEMERGE)	**TBD**

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Functional Summary, the Next Wave*

What	When
Vendor Information Files for vendor-specific data (vendor name, pertinent URLs, etc.)	Under evaluation now
Managing SMP/E-packaged PTFs	Under evaluation now

Note: Not listed in any particular order.

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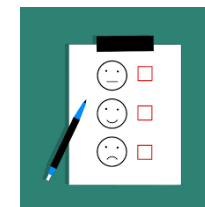
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