



PowerVM Provisioning Toolkit & IBM PowerVC On-premise Cloud for Power Systems

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IBM Advanced PowerVM Toolkit

What problem are we trying to solve:

Managed System,
VIO



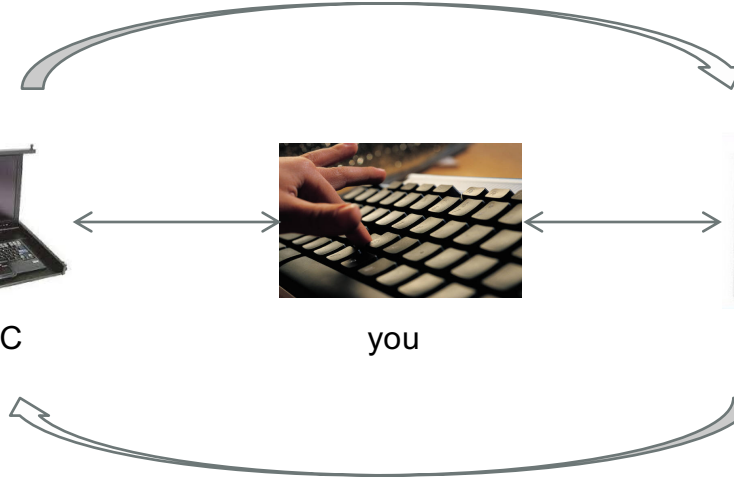
HMC



you



NIM



- Gather system build information:
 - HMC, managed system
 - VIO and client names, IP addresses, VLANs, storage, CPU, memory, virtual switches, shared processor pools, SEA/network designs,...
- Repeat a series of *manual* interactions using that data:
 - HMC GUI or command line execution
 - NIM commands
 - VIO commands
- **Consistency can be a struggle...**

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Business Challenge

- Clients struggle with consistency in the build process when deploying VIO servers/clients.
- Attempts to develop in-house scripts and automation struggle with adding new features and support.
- Issues migrating partitions from one managed system to another.

Solution

- Introduced the Advanced PowerVM Toolkit and process to accelerate the clients transition from Power6 → Power7 → Power8 → Power9 across their infrastructure.
- Provide assessment, planning and on-site execution to implement the Toolkit and provisioning process based on client requirements.
- Work with customers to integrate Toolkit into their existing build process and automation.
- Work with customers to exploit latest Toolkit features: migration and/or DR solution creation.

Key Benefits

- Reduced manual errors associated with current build process.
- Create a repeatable methodology for deploying new VIO servers and client LPARs.
- Assist migrations to new hardware and technologies.
- Facilitate customized DR event response.

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Make up of a collection of KSH scripts

Build Frame:

- ✓ Provisions VIO servers and/or clients from easy-to-create ASCII text files (*'build profiles'*).
- ✓ Can be stand-alone build profiles or created via Capture/Create Frame scripts
- ✓ Can call 'netboot' to build LPARs from NIM

Capture Frame:

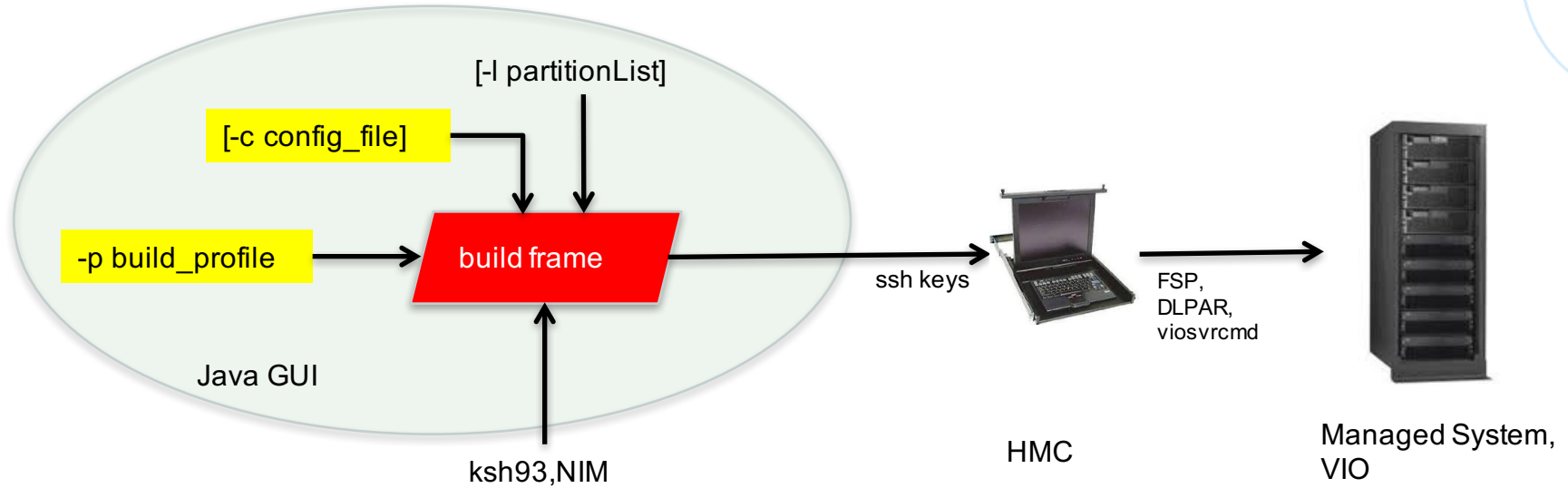
- ✓ Gathers information from existing frames and LPARs

Create Frame:

- ✓ Uses the data collected from the Capture Frame to create build profiles for target frames
- ✓ Build Frame can then be used to build LPAR profiles on new target – Migration or DR

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Build Frame



User inputs

ksh scripts

Generated outputs

HMC cmds (e.g. mkssyscfg,...)

NIM cmds (nim -o bosinst,...)

VIO cmds (mkvdev, vfcmap,...)

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Build Profile Example:

SERVERINFO servername=Server-9117-MMC-SN105C627,buildhmc=mghmc.rchland.ibm.com

VETHMAP clientslot=2,vlan=50

FABRIC name=FabricA,clientadapters=4

FABRIC name=FabricB,clientadapters=7

VIO hostname=tkvios1,profilename=normal

VFCGEN mapping=4:auto

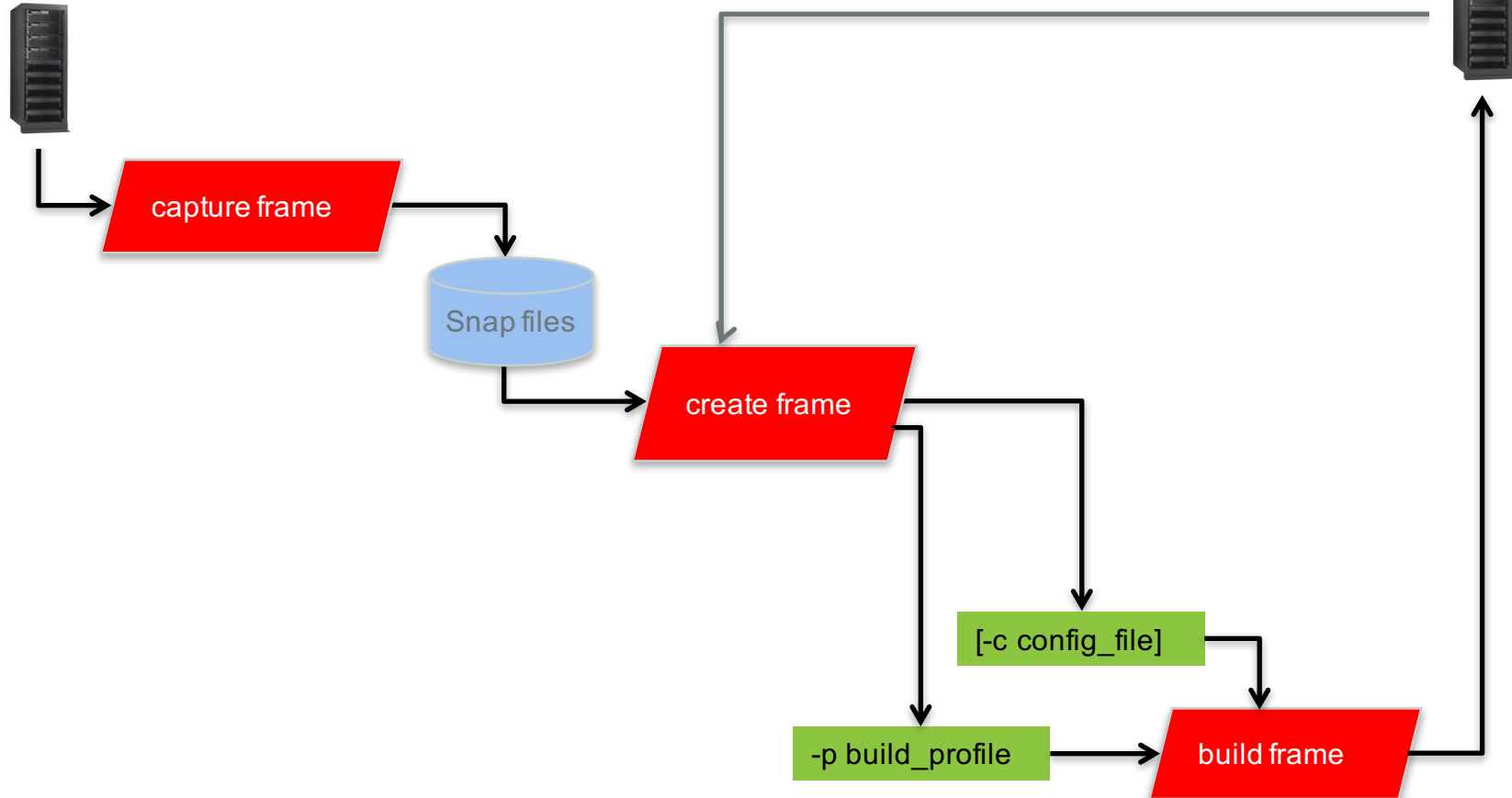
VFCMAP port=DBJF101-P2-C1-T1,clientinfo=4:tk_client1

BOSINST bosinstid=aix71,source=mksysb,mksysb=mksysb_AIX710TL02SP2,
spot=AIX710TL2SP2spot,bosinst_data=bosinst_data_aix,accept_licenses=yes,boot_client=no

PARTITION name=tk_client1,profile_name=normal,min_mem=6144,desired_mem=16384,
max_mem=24576,min_proc_units=0.1,desired_proc_units=0.3,max_proc_units=2.0,min_procs=1,
desired_procs=2,max_procs=3,lpar_env=aixlinux,proc_mode=shared,uncap_weight=128,mem_mode=ded,
allow_perf_collection=1,sharing_mode=uncap,max_virtual_slots=11,all_resources=0,conn_monitoring=1,
redundant_err_path_reporting=0,bosinstid=aix71,lpar_netboot=10.0.0.11,tk_client1,10.0.0.55,
255.255.255.0,10.0.0.1,NA,auto,auto,NA

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We can then combine the Capture, Create and Build Frame:



IBM Advanced PowerVM Toolkit – Engaging with Lab Services

Pre-engagement:

- Obtain an understanding of your current environment and PowerVM setup

On-site:

- Detailed assessment of current environment
- Toolkit installation
- Discuss stand-alone build frame
- Capture frame(s) and build create frame(s) profiles
- Use configuration to build frame(s)
- Skills transfer

Post-engagement:

- Customer is left with vetted build profiles and the skills needed to repeat the process and integrate into their own automation sequence.

IBM Advanced PowerVM Toolkit – Engaging with Lab Services

The following options are available for obtaining IBM Advanced PowerVM Toolkit

- Power2Cloud Program
- Deal Closer Program
- Direct Lab Services Statement of Work
- Business Partner Contract Attachment

For further information please contact your local Lab Services opportunity manager.



IBM PowerVC



PowerVC – What are customers using it for?



1. Deploy VMs in minutes

- ✓ Repeatable deployment of workloads reduces risk
- ✓ Capture and tailor images
- ✓ Self-service portal to allow users to manage their VMs

2. Simplifies the management of IBM Power estate

- ✓ Automated workload balancing
- ✓ System evacuation
- ✓ Automatically restart VMs
- ✓ Create and attach storage/networks

3. Building block for cloud orchestrators

PowerVC – Demonstration of customers use case 1

Self-Service User via PowerVC UI

- ✓ Multiple WW Customers using this method
- ✓ GUI Access required by users



PowerVC – Demonstration of customers use case 2

Self-Service User via API scripting (Openstack SDK Python Modules)



- ✓ European Service Provider
- ✓ WW Financial Institution
- ✓ Ability for user/developers to request LPARs
- ✓ Infrastructure to support development of micro-services
- ✓ Multiple methods inc OpenStack SDK Python Modules

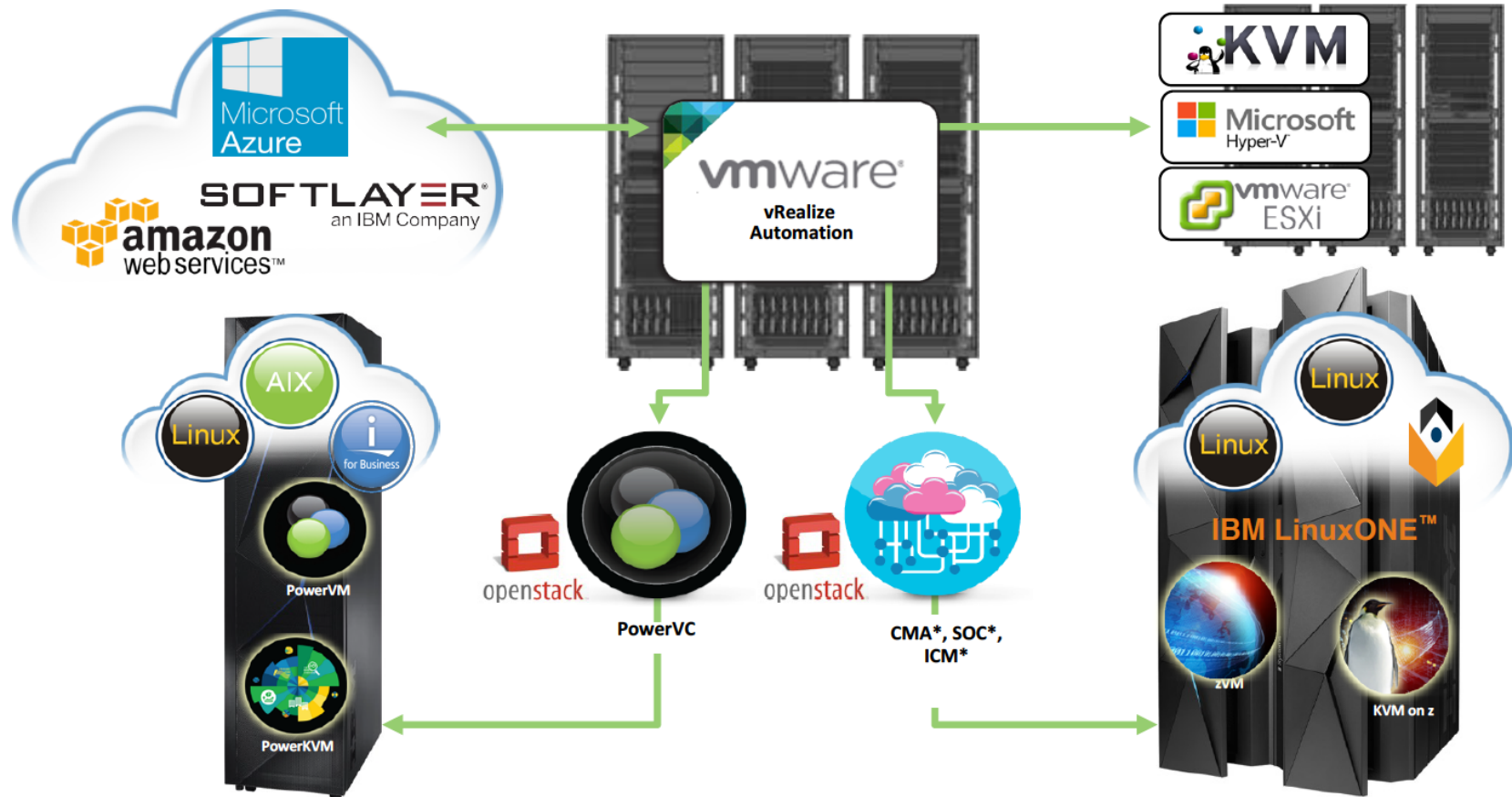
PowerVC – Demonstration of customers use case 3



VMware vRealize Automation Integration

- ✓ Large European retailer using this method to role out their Oracle Application Suite
- ✓ Single Pain of Glass deployments
- ✓ Enables cross-hypervisor deploys
- ✓ For example DB and App servers on IBM Power and Web servers on x86

PowerVC and vRA – Demo 3



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