

## [zPCR News](#)

Processor Capacity Reference for IBM Z  
zPCR for IBM Customers

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**zPCR** is a product of Capacity Planning Support (CPS), part of IBM's Washington Systems Center (WSC). The tool is available to IBM employees, IBM Business-Partners, and IBM customers. IBM customers can obtain zSoftCap from the following website:

[www.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/PRS1381](http://www.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/PRS1381)

### **Support Contact**

Support concerning zPCR function, usability, satisfaction, etc. is available as follows:

- Email: [zPCR@us.ibm.com](mailto:zPCR@us.ibm.com)

### **Registration**

Registration is necessary before using zPCR. You will be prompted the first time that zPCR (or another CPS tool) is initialized. A single registration serves for all of the Java-based CPS tools. The purpose of registration is:

1. Maintain an email contact should important information relative to zPCR need to be disseminated
2. Understand usage for the purpose of justifying resources to maintain these tools.

Registration via internet requires access to an IP address. In certain instances, installation firewalls would need to be updated to allow internet access, per the table below. Alternatively, an email registration process is available.

	IP Address	Port
CPS Registration	63.90.229.134	5316

### **Java Runtime**

**zPCR** requires the IBM Java runtime environment (another CPS tool. The IBM JRE supporting this tool is independent of any other installed Java environment. There is no way to configure this tool to use any Java other than the IBM JRE.

**IBM Customers** obtain the necessary IBM JRE (Java 1.8; 64-bit) by downloading/installing the **zPCR** package. **zPCR** is available as **zPCRInstallWithJava.exe** (~160MB) on the IBM internet website specified above.

Each CPS Java-based tool now includes its own Java. When installing a tool update, if the appropriate IBM JRE is already installed, the Java install will be skipped.

**Note:** When other Java runtime environments have been installed and configured with Java security enabled, a fresh install of CPS Java may fail to execute properly. This has been observed in a very small number of CPS Java installations. Should this situation occur, one possible solution is to: 1) uninstall the other Java, 2) uninstall CPS Java, 3) re-install CPS Java, and 4) re-install the other Java.

### Installation Tips, Usage Notes, and Problem Solutions

1. The current development environment for **zPCR** is Windows 7. **zPCR** has been successfully installed and run under both Windows 8 and 10. However, reported problems can be addressed only if they can be recreated under Windows 7.
1. Users no longer require Windows's **Administrator** authority to install or run CPS tools. However, when installing an updated package, you will be prompted for an Administrator password. This prompt can be avoided by uninstalling zPCR, and then reinstalling it. **zPCR** can only be run on the userID to which it was installed.
2. For the IBM Java runtime environment, a minimum 1 GB of memory is recommended in order to run smoothly.
3. A monitor resolution of at least 1280x1024 is required; higher is extremely desirable. At the minimum resolution, some windows may require the entire vertical or horizontal dimension (see next item).
4. The Windows task bar may prevent some windows from being entirely visible. This situation can be corrected by going to Windows task bar properties and checking **Auto hide the taskbar**.
5. Windows desktop configured to use large fonts (i.e., **Display Text size 150%**) may cause certain zPCR windows to render poorly. We believe that the problem windows have been corrected. Please inform the owners at the zPCR support ID if any such problem persists.
6. Erratic Behavior and Abend Situations: Most of the reported execution problems have been traced to outdated graphics drivers and Java activities that invoke "Hardware acceleration". To identify this as the problem, you should turn "Hardware acceleration" off (go to **Desktop properties**, click on the **Settings** tab, click the **Advanced** button, click the **Troubleshoot** tab, and move the slider to "**None**"). If this solves the problem, you can try to find a more current graphics adapter driver version, or continue to run with the accelerator slider at a reduced setting.

### Documentation and Education

Available from your CPS tools distribution site:

- **zPCR User's Guide** (PDF)
- **zPCR Demonstration** (3 short videos)
- **zPCR Familiarization Exercise** (PDF)
- **LPAR Concepts** (video)
- **Introduction to IBM's LSPR** (PDF visuals and voice recording)

Included with the zPCR package distribution materials:

- **zPCR Online Help** (User's Guide without screen captures)
- **LSPR FAQ** (PDF) discusses assumptions for the current LSPR tables
- **LSPR Workloads** (PDF) discusses LSPR workload categories and how to choose
- **QuickStart Guide** (PDF) provides step-by-step instructions for defining LPAR configurations and making capacity comparisons thereof.

### Disclaimer

The performance data contained in this tool was derived by IBM in a controlled environment. A customer's actual performance results may vary significantly. Accordingly, IBM provides no representations or assurances that a customer will obtain the same or similar results.

**Current Version / Recent Change History**

**V9.2e (12/07/2018)**

**C9.2e (12/07/2018) Customer version**

- **z/VM-7.1** is now supported as a partition's SCP on zEC12, zBC12, z13, z13s, z14, and z14-ZR1 LPAR hosts. It is also supported on the equivalent LinuxONE models.
- **Advanced-Mode** and **zPCR Study Files**: Formerly, a study file could only be loaded into the 1<sup>st</sup> LPAR configuration. Now a study file can be loaded into any LPAR configuration that has not already been defined, making it consistent with the way EDF and RMF can be loaded.
- **EDF / RMF Input**:
  - The CEC ID, interval #, date, and time are now transferred to the description field on zPCR's **LPAR Host and Partition Configuration** window. Doing so makes the information user modifiable. Formerly, it only appeared on the **Partition Detail Report** window as part of the configuration description.
  - A revised "Estimating Parked LCPs" window dialog now remains on the screen while the **Create LPAR Configuration** window is open, thus improving visibility for this capability.
  - **Estimated Parked LCP** values are now displayed in black. To make the estimates more apparent, "Est:" will appear just to the left of the estimated value.
- **RMF Input**: Fixed problem when LPAR host is a z14 ZR1. The MaxN parameter was not being set; Max30 will now be assumed. If a different MaxN setting is needed, it must be changed manually.
- **Parked LCP Estimate**: (EDF or RMF input): The logic has been adjusted slightly to more accurately represent reality. As a result most partitions with estimates will realize one less parked LCP than resulted with previous versions of zPCR.
- **zAAP/zIIP Loading**:
  - When an LPAR configuration is obtained from EDF or RMF, actual zAAP and zIIP LCP utilizations are known. These utilizations may now be applied by the user on the **zAAP/zIIP Loading** window using the **Apply Actual zAAP/zIIP Utilizations** button. Otherwise, the default values of 100% utilization will apply.
  - zAAP/zIIP loading values, whether from EDF/RMF or manually defined, are retained in a study file. When loading such a study, these values will be restored to the window.
  - The **Explain zAAP/zIIP Loading** dialog has been updated to reflect this change.
- **External Study File**
  - Corrected problem when loading an **External Study File** into zPCR.
  - Added documentation in support of the z14 ZR1 and z14 LR1, where a MaxN parameter is required.
- **Check for Updates**: This capability has been enhanced to allow automatic verification of your zPCR version relative to that currently available on the network. Under **Help** on the **Advanced-Mode** or **Function Selection** window menu bar, click **Check for Updates**. A newer version, if available, is identified, which can then be downloaded. A checkbox is provided to automatically check for updates whenever zPCR is started. This function can also be controlled via the **Preferences** window.
- **LSPR Workloads** document has been updated concerning the addition of z/VM-7.1.
- **zPCR User's Guide** and **Online Help** updated.

## zPCR News

### V9.2d (08/31/2018)

#### C9.2d (08/31/2018) Customer version

- **RMF Input** enhancement: Changes have been made concerning RMF input to be consistent with those made for EDF in zPCR v9.2c for estimating parked LCPs.
- **EDF Input** enhancement: The CEC ID, interval #, date, and time are now be transferred to zPCR. The information will appear on the **Partition Detail Report** window as part of the configuration description.
- **EDF Input** and **RMF Input**:
  - The SCP field for unassociated GP and IFL partitions may now be changed before porting the configuration into zPCR. This allows the user to modify z/OS or z/VM default to be any of the other valid SCPs. When this action occurs, **Parked LCP** estimates will be revised so as to represent only the z/OS and z/VM partitions that remain.
  - zAAP and zIIP LCPs associated with a GP partition will have the same z/OS SCP and workload assignment as for the GP.
  - IFL partitions associated with a GP partition will have the same z/VM SCP assignment. Their workload assignments may differ.
  - Parked LCP estimates are now driven off the **Copy LP** checkbox rather than the **LP is Active** checkmark.
- **SSC logical CP** limit has been increased, primarily to accommodate IDAA configurations.
- **zPCR User's Guide** and **Online Help** updated.

### V9.2c (07/13/2018)

#### C9.2c (07/13/2018) Customer version

- **EDF Input** enhancement
  - For processors running with Hiperdispatch (z10 and later), each EDF or RMF input will report the number of parked LCPs for that partition. In zPCR, parked LCPs should normally be removed from the total LCP count in order for zPCR to accurately project capacity
  - For partitions where parked LCPs is unknown, a value can now be estimated. This can be done for GP partitions running z/OS and any associated zAAP or zIIP partition. It can also be done for IFL partitions running z/VM. On the **Create Partitions from EDF** window, checkboxes can be used to add (or remove) estimated parked LCP values.
  - When the configuration is copied into zPCR, a checkbox offers the opportunity to remove parked LCPs from total LCPs (result is viewed as **Active LCPs**). If estimated values are being displayed, they will be included with the transfer.
- **EDF Interval Selection** problem corrected: When operating in various national languages, sorting on the GP, zAAP, zIIP, IFL, or ICF pool utilization was producing inconsistent results.
- Partition **LCPs** terminology: Changed **LCPs** in the table header on most windows to say **Active LCPs**. zPCR capacity results assume that all the partition LCPs specified are active. If z/OS and/or z/VM partitions have parked LCPs, such should be removed from the total LCP count to obtain the most reliable capacity results. If parked LCPs are not removed, capacity results will be reduced somewhat.
- **zPCR User's Guide** and **Online Help** updated.

## zPCR News

### V9.2b (05/31/2018)

#### C9.2b (05/31/2018) Customer version

- **z14-ZR1** and **Rockhopper II (z14-LR1) MaxNN** support
  - The LPAR host definition for these models now includes a new metric, **MaxNN**. There are 4 settings, **Max30**, **Max24**, **Max12**, and **Max4**, which limits the number of real CPs that can be configured. Each will be included in the list when selecting the model.
  - When **Max4** is selected, all CPs must share both the 3<sup>rd</sup> and 4<sup>th</sup> level HSB, thus inducing a slight performance penalty (now zPCR supported). Previously, **Max30** was always assumed. As a result, **capacity results for Max4 configurations will change**.
  - Once support is completed, the z14-ZR1 **MaxNN** setting will be determined by zPCR using EDF or RMF input.
- **z800**, **z900**, **z890**, and **z990** processor families are no longer supported by zPCR as an LPAR host. These were 2-pool machines (GP pool and zAAP/IFL/ICF pool). As such, they needed to be treated as exception, making algorithms complex.  
The 2-pool families will still appear in the LSPR ITRR Table windows when **All Families** is selected.
- **CFCC Capacity** z13 and z14 only: Capacity results may change somewhat, depending on the ICF real CP configuration and the relationship of each partition's logical CPs to those real CPs. The change also applies to CFCC when run on General Purpose CPs. This change is a result of performance validations done for actual LPAR host configurations.
- **Corrections**
  - **LSPR Table** window: Fixed pop-up problem where z14 failed to appear in the list,
- **zPCR User's Guide** and **Online Help** updated.

### V9.2a (04/23/2018)

#### C9.2a (04/23/2018) Customer version

- The **IBM z14 (3907-ZR1)** processor family has been added, with 156 General Purpose models (26 speed settings) and 30 IFL models. It is a single drawer configuration providing a maximum of 30 real CPs. CPs may be configured as General Purpose (maximum of 6), zIIP, IFL, or ICF.
- The **LinuxONE Rockhopper II (3907-LR1)** processor family has been added. It is a single drawer configuration providing a maximum of 30 real CPs. CPs may be configured as 30 IFLs and optionally 1 General Purpose.
- **LSPR data is based on z/OS-2.2**
  - The **LSPR Multi-Image Table** includes all IBM Z processor families and models. The **LSPR Single-Image Table** includes all IBM Z processor families and models for up to 30 CPs (only reasonable single-image configurations are displayed).
  - For z14, z13, z13s, zEC12, zBC12, z196, z114, and z10 processors, z/OS LSPR data is represented with HiperDispatch turned on. This means that capacity results for defined LPAR configurations on these processor families also are assumed to represent HiperDispatch turned on.
  - z14, z13, zEC12, and z196 processors can be sized at **Full Capacity** (default) or in **Power Saving Mode**. In the LSPR tables, capacity values and MSU ratings for either setting can be displayed.
  - z14, z13 and z13s **Symmetrical Multi-Threading (SMT)**: LSPR table IFL capacity table can be displayed with an estimated **SMT Benefit**. The **SMT Benefit** for IFLs can be set by the user (default is 20%).
  - CFCC data is not displayed in any LSPR table, but is included for the purpose of sizing partitions running it. CFCC Level 22 is assumed for z14 processor models.
- **LPAR Configuration Capacity Planning** function:
  - The **z14 3907-ZR1** may be defined as the LPAR host processor. Real GP (limited to 6), zIIP, IFL, and ICF CPs may be configured up to the maximum allowed (30).
  - **SMT Benefit - Symmetrical Multi Threading (SMT)** is supported on zIIP and IFL logical CPs on the z14, z13 and z13s. SMT is supported only by z/OS-2.1 (or later) and z/VM-6.3 (or later).
  - **Secure Service Container: SSC** may be defined as the SCP (and workload) for IFL and GP partitions. SSC is intended to replace zAware and zACI.
- **SMT Benefit**: The SMT benefit is considered reliable when the partition's utilization is between 20% and 70%. When such a SMT benefit is found, it will be transferred to zPCR as a **Measured SMT Benefit**. When an unreliable benefit is found, dialogs offer alternative actions (discussed in User's Guide under **Get Partitions from EDF/RMF**).
- **Capacity change from zPCR v9.1b and prior**
  - **z14-Mxx CFCC ITRs** have been adjusted based on recent experience. As a result, z14 CFCC partition capacity will change slightly from that of previous zPCR versions.
- **Corrections**
  - **LSPR Table** window: Occasionally, when certain **Selected Families** were unchecked, after exiting the window and returning to it, the processors displayed would not be consistent with those checked.
  - The **EDF Interval Selection** window was reporting ICF utilization in the zAAP column. Regardless, the LPAR configuration got transferred into zPCR without problem.
  - **CSV Output**: zPCR now checks what character is used to indicate decimal places. If a comma, then a semicolon will be as the CSV separator character.
- **zPCR User's Guide** and **Online Help** updated.
- **LSPR Workloads** document updated.

### V9.1b (12/04/2017)

#### C9.1b (12/04/2017) Customer version

- **Advanced-Mode Control Panel** window changes.
  - Menu-bar is now consistent with that of the **Function Selection** window.
  - **Preferences** may now be set directly from this window.
  - **Registration** may now be updated or deleted (affects all of your installed CPS tools)
  - When **Start in Advanced-Mode** is set in **Preferences**, zPCR will open with the **Advanced-Mode** window.
  - For the **Reference-CPU**, the Multi-Image Scaling-Factor is now displayed as well as that for Single-Image.
  - Information concerning the **Manage/Compare/Copy & Move Partitions** icons can be obtained by selecting **LPAR Configuration Toolbar ICONs** under **Help** on the menu bar.
- **Reference-CPU**: The default scaling-metric has been changed from **{ITR Ratio}** to simply **ITRR**.
- The **LCP:RCP** ratios limits that trigger an excessive warning or result cut offs have been raised slightly to better accommodate the z14, with up to 170 RCPs.
- **z13** and **z14**: Updated the algorithm that flags any partition that exceeds the number of CPs in a drawer. The drawer with the least number of RCPs is now used for this test. The warning will be issued when the partition LCP count exceeds that RCP count plus 4. When zIIP LCPs are associated with a GP partition, the sum of the two LCP types is used for the comparison.
- **SMT Benefit** (z13/z14 zIIP and IFL partitions): The rules for enabling SMT have been strengthened. SMT on zIIP LCPs may only be enabled when the SCP is z/OS v2.1 or later. For z/VM, SMT on IFLs may only be enabled when the number of logical CPs is 32 or less.
- **Measured SMT Benefit** from EDF or RMF (z13 and z14, zIIP and IFL partitions): Often, excessive values appear when partition utilization is low, thus making the measured SMT metrics unreliable. SMT values that appear excessive (>95%) are flagged. A dialog offers the option to either enable SMT with the default estimated value for the CP type, or to disable SMT.
- Corrected problems
  - **Partition Definition** window: Eliminated problem in Advanced-Mode where the bottom of the partition J-table was being clipped.
  - When adding partitions to an LPAR configuration using **Copy Partitions From EDF, RMF, or zPCR Study**, the ability to save the modified study was not functional.
  - When loading a zPCR study where an SMT benefit had been set and subsequently disabled, SMT was being enabled.
- **zPCR User's Guide** and **Online Help** updated.

## zPCR News

### V9.1a (09/12/2017)

#### C9.1a (09/12/2017) Customer version

- The **IBM LinuxONE Emperor (3906)** processor family has been added. Five drawer configurations can be configured. The **3906-LM1** can be configured with up to 33 CPs; **LM2**, 69 CPs; **LM3**, 105 CPs; **LM4**, 141 CPs; and **LM5**, 170 CPs. A single General Purpose CP may be defined as a 3906-401. Remaining CPs may only be configured as IFLs. Capacity data is based on LSPR for z14 models.
- Mainframe branding has been changed to **IBM Z** from **IBM z Systems**. Affected are various zPCR windows, **User's Guide**, **Online Help**, **LSPR Workloads Document**, **QuickStart Guide**, and **LSPR FAQ**.
- **Measured SMT Benefit** values from EDF or RMF (zIIP and IFL partitions)
  - Corrected problem where zPCR would freeze if an SMT benefit value was 100%.
  - SMT values that appear excessive (>95%) are now flagged with a dialog. The benefit may be set to the default estimated value or SMT may be disabled. Often, excessive values appear when partition utilization is low, thus making the measured SMT metrics unreliable.
- The **zPCR User's Guide** and **LSPR Workloads** document, and their related online help have been updated to reflect changes for the **LinuxONE Emperor (3906)**.
- The **zPCR Familiarization Exercise** (found on your zPCR download site) has been updated to assume migration from a zEC12 to a z14. The EDF needed for the exercise is now packaged with zPCR.



### V9.1 (07/17/2017)

#### C9.1 (07/31/2017) Customer version

- The **IBM z Systems (z14)** processor family has been added, with 269 General Purpose models (170 full-speed and 99 slugged) and 170 IFL models. Various drawer configurations provide up to 170 real CPs, which can be configured as General Purpose, zIIP, IFL, or ICF engines. The processor designation is 3906-7xx for full speed models, and 3906-4xx, -5xx, or 6xx for slugged models.
  - The **IBM z14** models can be viewed in the **Multi-Image LSPR tables** (GPs or IFLs, up to 170 CPs) and in the **Single-Image LSPR tables** (GPs or IFLs, up to 30 CPs).
  - The **IBM z14** capacity and MSU **Power-Save mode** values are 80% of full power.
  - The **IBM z14** models can be defined as the LPAR host processor using the **LPAR Configuration Capacity Planning** function. The z14 can only be IPL'd in z/Architecture mode. Therefore, older versions of SCPs cannot be run. zPCR supports the specification of versions for both z/OS and z/VM. z/OS support for the z14 is limited to z/OS-2.3, 2.2, 2.1, and 1.13. z/VM support for the z14 is limited to z/VM-6.4 and 6.3. When migrating to a z14 host, old versions of these SCPs will be converted to a default version that will IPL. For other SCPs that are considered generically, zPCR assumes that a supported version will be used.

A new partition type, **SSC** (Secure Service Container) is intended to replace **zAware** and **zACI** on both the z13 and z14 families. zPCR will tolerate zAware, zACI, and SSC in an IFL or GP partition on the z13. However, only SSC will be allowed for the z14. When migrating to a z14 host, zACI and zAware partitions will be excluded, and must manually be switched to SSC.

The **default SMT Benefit** for IFL CPs on the z14 is 25% (for z13, it remains 20%). For zIIP CPs, the default is 25% for both z14 and z13.

- **LSPR ITR data is now based on z/OS-2.2.** LSPR capacity data for all previous processor families remains unchanged.
- Metrics concerning **z13 and z14 multi-drawer configurations** have been updated: Due to the way PR/SM assigns memory, there is no added penalty for "extra" unused drawers beyond the 1<sup>st</sup> unused drawer. As a result, such configurations previously defined in zPCR will see a slight capacity shift (~ -0.3% to +0.8%).
- **EDF input**
  - Eliminated problem that prevented EDF acceptance when no GP CPs are configured (i.e., LinuxONE configurations).
  - Improved messaging when EDF input could not be accepted.
- The **zPCR User's Guide** and **LSPR Workloads** document, and their related online help have been updated to reflect changes for the z14.
- Function, algorithms, and documentation (except for this NEWS file and the User's Guide) remain consistent to that of zPCR v9.0e. There are a few minor improvements to various windows and function.

## zPCR News

### V9.0e (03/03/2017)

#### C9.0e (03/03/2017) Customer version

- **Drag & Drop** study file to the zPCR desktop icon: Corrected problem that prevented Advanced-Mode studies from being loaded correctly.
- Information to better distinguish between the **z Systems** and **LinuxONE** brands has been added to several windows.
- The **Distribution of RCPs** chart for z13/z13s configurations has been restored (available via the **Partition Detail Report** window). Since the location of real CP types is managed dynamically by PR/SM, the allocation layout cannot be portrayed. However, the maximum number or of CPs in each drawer and an estimate of the number of GP/zIIP CPs and IFL/ICF CPs in contention are revealed.
- The **z13/z13s RNI formula** has been adjusted slightly per recommendation from development. The new RNI formulas have been updated in the **LSPR Workloads** PDF, included in the **Documentation** folder provided with zPCR. The RNI calculations for all other processor families are unaffected.
- **Usability Improvements**
  - Improved readability of text describing the host configuration and partition types defined on the **Partition Detail Report** window and others.
  - **Windows that present J-Tables** have been modified to autosize each time a change is made. This helps to minimize the desktop geography consumed, while assuring that all applicable data is displayed without being truncated.
  - **SMT check boxes** for z13/z13s configurations, were previously defined as inactive when they were not applicable. Now, check boxes will appear only for zIIP and IFL LCPs. Check boxes for all other LCP types will not appear. This concept was also applied for a few other window situations.
  - **Advanced-Mode: Move/Copy Partitions** windows: The internal management and formatting of these windows has been improved. A **Close** toolbar icon has been added to the **Contributing Configuration** window.
- **Problems Corrected**
  - In **Advanced-Mode**, any open **Margin-of-Error** windows were failing to close when the parent window was closed.
- **zPCR User's Guide** and **Online Help** updated.

### V9.0d (01/10/2017)

#### C9.0d (01/10/2017) Customer version

Note: **For certain z13 processor configurations z13 capacity projections may be affected.**

- Corrected N-way cost consideration for partitions configured on a z13. For z13 CP pool configurations of 25-way to 47-way, the N-way cost metrics were slightly understated. As a result, capacity projections for such configurations erred high. A 25-way configuration was only affected slightly; the affect increased as the pool N-way is raised to 47. This problem has been corrected with zPCR v9.0d.  
For z13 CP pool configurations of 1 to 24-way, and 48-way and higher, capacity results were correct.

## zPCR News

- Various formatting and usability enhancements.

### V9.0c (12/16/2016)

#### C9.0c (12/16/2016) Customer version

- **Multiple Monitor Support** has been implemented in zPCR. zPCR will initially open on the primary monitor. Any zPCR window can be dragged to the secondary display. Each child window will display on the monitor of the parent window, using the same relative positioning as in previous zPCR versions.

Note: zPCR PDF documentation windows will always open on the primary monitor.

- **Capping information from RMF**

z/OS has made a PTF available that restructures RMF's **Partition Data Report**. The new report format is concerned with **LPAR Absolute Group Capping** limits on the IBM z13 and z13s. Changes were made in zPCR-v9.0 in order to tolerate the new format as input.

zPCR-v9.0c now exposes the capping method used for partitions when the RMF PTF has been applied. zPCR supports both **Hard Capping** and **Absolute Capping**. However, for **Absolute Capping** partitions, the capping value must be manually entered in zPCR (no value is available for transfer from RMF). zPCR does not support **Absolute Group Capping**.

- **Advanced-Mode** window: The LPAR configuration area at bottom of the window has been updated to reflect the status of the selected LPAR configuration when the host has not been defined or no partitions are defined.
- **Advanced-Mode: Move/Copy Partitions** windows have been updated to include columns for **Absolute Capping** and **SMT Benefit** (z13/z13s only). These metrics were actually carried internally and were transferred when copying or moving partitions. The final status could always be seen on the **Partition Detail Report** window.

In addition, the internal management and formatting of these windows has been improved.

- A **LinuxONE LPAR configuration** can now be switched to a **z Systems configuration** from the **LPAR Host** window. IFL CPs and partitions will be transferred automatically. If a GP CP was defined, it and any defined GP partitions will also be transferred automatically.  
There is no automated capability to transfer a z Systems LPAR configuration to LinuxONE. This is because of the limited CP types supported by LinuxONE.
- **zVM-6.4** may now be defined as the SCP for a partition. Both **zVM-6.4** and **zVM-6.3** can support SMT when run in a z13/z13s IFL partition.
- **KVM 1.1.2** has been announced. Both KVM-1.1.1 and KVM-1.1.2 can support SMT when run in a z13/z13s IFL partition. KVM-1.1.0 does not support SMT. In zPCR, **KVM** is specified generically (without a specific version).
- **Linux**: Most current versions of now support SMT when run in a z13/z13s IFL partition. In zPCR, **Linux** is specified generically (without a specific version).
- Various formatting and usability enhancements.
- **LSPR Workloads** document has been revised. Text that related **RNI** with the workload categories has been reworded. The **RNI** can result in any LSPR workload category, depending on the level 1 cache miss rate. A similar change was made to zPCR's **LSPR Workload Categories** window.
- **zPCR User's Guide** and **Online Help** updated.

## zPCR News

### V9.0b (10/28/2016)

#### C9.0b (10/28/2016) Customer version

- Problems corrected:
  - On the **Partition Detail Report** window, the **SMT Benefit**, **LCP Alternatives**, and **zAAP/zIIP Loading** buttons were disabled.
  - When reading multiple EDFs from a z13 or z13s processor, zIIP or IFL **Measured SMT Benefit** was only being captured for the partition identified in the 1<sup>st</sup> EDF. Now, for every EDF processed, detected zIIP or IFL **Measured SMT Benefit** will be captured.

### V9.0a (09/30/2016)

#### C9.0a (09/30/2016) Customer version

- The **Modify SCP/Workload** capability has been moved to **Edit** on the **Partition Detail Report** window's menu bar.
- **EDF input:** A problem was found when reading multiple EDF and the interval times did not align. This has been corrected. EDF Intervals are now rounded to the closest 5 minutes, allowing the formerly mismatched intervals to be processed.
- Problems corrected:
  - The z114, zBC 10, zBC 9, z890 and certain z800 models could not be assigned as the **Reference-CPU**.
  - zIIP CPs could not be defined to zBC 9 models.
- Various corrections and enhancements
  - **LSPR IFL table:** "**Scroll to ...**" function corrected to show only full-speed models.
  - Problem with EDF input from z13/z13s: When SMT was enabled for zIIP or IFL partitions, the number of parked logical CPs was incorrect.
  - zAAP Estimator improvements
  - Loaded study is now identified on title bar
  - Dropdown selections have been modified to position at the current setting rather than the 1<sup>st</sup>.
  - Improved window presentation: Ensuring that fields on certain windows are wide enough to display the maximum text that might ever be needed.
  - Improved fly-over text to describe use of buttons.
  - Corrected problems when loading saved zAAP Estimator studies.
- **zPCR User's Guide** and **Online Help** updated.

## zPCR News

### V9.0 (06/24/2016)

#### C9.0 (07/08/2016) Customer version

- **zPCR** has been updated to use the new IBM Java v1.8 (64-bit) runtime (this change applies to all CPS Java-based tools). To obtain the CPS Java8 upgrade **IBM Customers** must install **zPCR C9.0**. The package includes CPS Java8 (a zPCR package without Java is no longer distributed). When Installshield detects that the proper Java version is already installed, that portion of the install will be skipped. The new **zBNA** and **zSoftCap** tool versions are also similarly packaged with their own CPS Java8.
- The underlying Java code for zPCR has been restructured and simplified. EC and BC processors were formerly modelled with separate processes, making the code more complex than was necessary. Now they are modelled using a single process. Other internal code simplifications have also been applied.

The **Reference-CPU**, **LPAR Host**, and **zAAP Estimator Input** windows are affected. The **Family** dropdown for EC models no longer includes a speed indicator (BC models never did). A new dropdown, **Speed Class** is now used to select the speed for both EC and BC models. The **Model** dropdown is used to select the number of books or drawers, which defines the maximum number of CPs that can be configured.

While this is a rather significant change, capacity results will not be affected. Study files are unaffected meaning that old study files can still be read. Minor changes to the format of information on the on the **Host Summary Report** window were made to improve consistency with how the LPAR host is defined.

- **LPAR Host** window: Radio buttons have been added for **z Systems** and **LinuxONE** to choose the brand presented in the selections below.
- **zPCR Study File** change: The study file <Name> tag pertaining to BC models and processors prior to z9 has changed. These definitions are now similar to that of EC models. When an older study file is read into zPCR v9.0, this tag will be automatically converted to the new format. As a result, zPCR v9.0 study files for the affected processor models will not be compatible with older versions of zPCR.
- **External Study File** change: The <Name> tag pertaining to the definition of BC models in external study files to be read by zPCR v9.0 has changed. These definitions are now similar to that of EC models. Programs generating **External Study Files** will need to be updated accordingly if zPCR v9.0 or later is to be used. The **zPCR External Study File Layout** document has been updated accordingly.
- **LCP Alternatives** window and **Optimize LCPs** window (Advanced-Mode Compare): Function to optimize partition logical CPs based on relative weights has been updated. GP and IFL N-way partitions will now optimize to no less than 2 logical CPs. Partitions already defined with 1 logical CP are unaffected unless the relative weight would indicate more.
- z/OS has made a PTF available that can restructure RMF's **Partition Data Report**. The new report format is concerned with **LPAR Absolute Group Capping** limits on the IBM z13 and z13s. Changes were necessary to zPCR in order to tolerate the new format as input. A future version of zPCR is expected to exploit some of the new capping information.
- Various minor improvements to windows and function.
- **zPCR User's Guide** and **Online Help** updated.