IBM Education Assistance for z/OS Capacity Provisioning V2R3

Agenda

- Session Objectives
- Overview SET BASE
- Usage & Invocation SET BASE
- Overview Java 8
- Configuration Java 8
- Migration & Coexistence Considerations - Java 8
- Session Summary
- Appendix

Session Objectives

- Introduction of new function **SETBASE DEFINEDCAPACITY**
  - In which situation the new function is needed
  - How can the new function be used

- Changed dependency to **Java 8** runtime environment
  - CPM no longer supports Java runtime environments prior to Java 8
  - Understand which error messages appear if a different than the supported runtime environment is used

Overview – SET BASE

- Problem Statement / Need Addressed
  - Capacity Provisioning tolerates manually activated Defined Capacity. In some situations the Defined Capacity may be too low, so that an increase of Defined Capacity is necessary. The manually increased Defined Capacity is not managed by the Provisioning Manager
- Solution
  - New command to hand over manually activated Defined Capacity
  - New command to activate Defined Capacity and simultaneously set the management base to a new Defined Capacity value
- Benefit / Value
  - More comfortable management of Defined Capacity

Usage & Invocation - SET BASE 1

- `SETBASE DEFINEDCAPACITY`

  Set the Management Base, to which the Provisioning Manager is allowed to manage the Defined Capacity

  Parameters

  - PLEX/SYS or *CPC/LPAR*
    *S*pecifies the LPAR you want to adjust the base level of Defined Capacity
  - MSU
    The new base level of Defined Capacity for the specified LPAR
  - Keeptime
    The minimum time for which the Defined Capacity should be held active

Syntax

```
                                                          +-KEEPTIME=MINACT--+
>>-+-SETBASE DEFINEDCAPACITY-+---+-PLEX=name SYS=name-+--MSU=limit--+------------------+- ><
   |                         |   |                     |            +-KEEPTIME=time----+
   +-SB-DC-------------------+   +-CPC=name LPAR=name-+            +-KEEPTIME=CURRENT-+
```

Usage & Invocation - SET BASE 2

- `SETBASE GROUPCAPACITY`

Set the Management Base, to which the Provisioning Manager is allowed to manage the Group Capacity

Parameters

- PLEX/SYS or *CPC/GROUP*
  *S*pecifies the Group you want to adjust the base level of Group Capacity
- MSU
  The new base level of Group Capacity for the specified Group
- Keeptime
  The minimum time for which the Group Capacity should be held active

Syntax

```
                                                          +-KEEPTIME=MINACT--+
>>-+-SETBASE GROUPCAPACITY--+---+-PLEX=name SYS=name--+--MSU=limit--+------------------+- ><
   |                       |   |                      |             +-KEEPTIME =time----+
   +-SB-GC-----------------+   +-CPC=name GROUP=name-+             +-KEEPTIME=CURRENT-+
```

Usage & Invocation - SET BASE 3

Possibilities to use the commands

- Limit < current Management Base
  → Hand over manual activated Defined Capacity
- Limit > current Management Base and
  Limit <= current Defined Capacity
  → Take away Defined Capacity managed by CPM
- Limit > current
  → Initiate increase of Defined Capacity and
  set Management Base to new increased Defined Capacity Value
- Keeptime
  specify a minimum for how long Defined Capacity should be held active

Usage & Invocation - SET BASE 4

Sample 1:

- Limit < current Management Base
  → Hand over manual activated Defined Capacity

```
CPO1095I Defined capacity report generated at 11/10/2016 12:05:26
Defined capacity for system IRD6 in sysplex IRD4PLEX
  CPC.LPAR:                          P35.IRD5
  Sysplex.System:                    IRD4PLEX.IRD5
  Management state:                  increased
  Policy limit:                      200 additional MSU
  Management base:                   50 MSU
  Managed capacity:                  200 additional MSU
  Current capacity:                  250 MSU
  Remaining time until capping:      240 minutes
  4 hour rolling average consumption: not available
End of report

F CPOGUI1,APPL=SB DC SYS=IRD6 PLEX=IRD4PLEX MSU=40 KEEPTIME=1

CPO4431I Management of DC to 40 MSU started for LPAR IRD6 of CPC P35 with
system IRD6 in sysplex IRD4PLEX. Managed DC will be active for at least 1 minutes

CPO3964I Defined capacity decrease initiated to 40 MSU for LPAR IRD6 of CPC P35
with system IRD6 in sysplex IRD4PLEX

CPO3984I Defined capacity change detected. New defined capacity is 40 MSU for
LPAR IRD6 of CPC P35 with system IRD6 in sysplex IRD4PLEX
```

Usage & Invocation - SET BASE 5

Sample 2:

- Limit > current
  → Initiate increase of Defined Capacity and
  set Management Base to new increased Defined Capacity Value

```
CPO1095I Defined capacity report generated at 11/10/2016 17:27:26
Defined capacity for system IRD6 in sysplex IRD4PLEX
  CPC.LPAR:                           P35.IRD5
  Sysplex.System:                     IRD4PLEX.IRD5
  Management state:                   increased
  Policy limit:                       200 additional MSU
  Management base:                    40 MSU
  Managed capacity:                   200 additional MSU
  Current capacity:                   240 MSU
  Remaining time until capping:       240 minutes
  4 hour rolling average consumption: not available
End of report

F CPOGUI1,APPL=SB DC SYS=IRD6 PLEX=IRD4PLEX MSU=260

CPO4435I DC increase initiated to 260 MSU for LPAR IRD6 of CPC P35 with system IRD6 in
sysplex IRD4PLEX. DC management base is temporarily set to 240 MSU
```

Overview – Java 8

- Problem Statement / Need Addressed
  - Previous supported runtime environment Java 7.1 goes out-of-service during z/OS V2R3 service period
- Solution
  - Switching required runtime environment to current **Java 8**
- Benefit / Value
  - Guaranteed enhancement and security fixes for supported runtime environment Java 8 throughout the whole V2R3 service period

Configuration – Java 8

- Sample ENV in /usr/lpp/cpo/samples has changed
- LIBPATH points by default to a possible Java 8 installation path

```
LIBPATH=/usr/lpp/cpo/lib:/usr/lib:/usr/lpp/java/J8.0/bin:/usr/lpp/java/J8.0/bin/classic
```

- If started with and runtime environment prior to Java 8, following messages may appear on the message console or in the joblog:
  - `CPO2053E Could not load invocation class`
  - `CPOMain fails with RC 16 from mainAPF`
- Previously customized CPM installations must be adapted accordingly when switching to the z/OS V2R3 CPM

Migration & Coexistence Considerations – Java 8

- Migration of the Provisioning Manager runtime environment is needed
  - Install IBM 31-bit SDK for z/OS, Java 2 Technology Edition, V8.0 (5655-DGG)
  - Change the LIBPATH variable in the ENV member of your Provisioning Manager parameter file (default: CPO.DOMAIN1.PARM(ENV)) to contain the installation directories of your Java V8.0 installation.
  - LIBPATH statement may be:

```
LIBPATH=/usr/lib:/usr/lpp/java/J8.0/bin:usr/lpp/java/J8.0/bin/classic:/usr/lpp/cpo/lib
```

- z/OS V2R1 and V2R2 CPM are not compatible with Java 8
  - When migrating back from an V2R3 evaluation installation to a pre-V2R3 CPM the LIBPATH must be restored to its original path setting (pointing to Java 6, 7, or 7.1)

Session Summary

- New **SETBASE** command to adjust management base of Defined/Group Capacity for
  - Handing over manually activated Defined Capacity to CPM
  - Taking away already managed Defined Capacity from CPM
  - Simultaneously define a new Defined Capacity CPM management base and initiate an limit increase

- Compelling dependency to **Java 8** runtime environment
  - Java 8 SDK must be installed on CPM runtime system
  - Already implemented CPM installations must adapt their LIBPATH environment settings

Appendix

- MVS Capacity Provisioning User's Guide, SC34-2661-30
- MVS System Messages Volume 4 (CBD – DMO), SA38-0671-30
- z/OS Migration publication, GA32-0889