

IBM Education Assistance for z/OS Capacity Provisioning V2R3 Part 2

Agenda

- Session Objectives
- Overview
- Usage & Invocation
- Interactions & Dependencies
- Migration & Coexistence Considerations
- Installation
- Session Summary
- Appendix

Session Objectives

- Introduction of new function 'health report'
 - Allows to quickly recognize connectivity problems between your CPM and managed CPCs or observed Systems
 - Helps to identify problems by grouping displayed CPM warning and error messages to an affected CPC or System
- Understand how individual statuses influence the overall health percentage displayed in the report

Overview

- Problem Statement / Need Addressed / User Stories
 - Most common problems occurring between Capacity Provisioning Manager and managed/observed elements (CPCs or systems) are due to:
 - Incomplete security setup
 - Unavailable network connection
 - Server on element not running or responding reliably
 - CPO warning or error message informing about the problem is usually written only once on the console
 - CPO message is scrolled away / displaced by other subsequent messages
 - System administrator might not notice that the element is not responsive and that full management is not possible for CPM
 - Customer requested reports (CONFIGURATION, RECORD, DEFINEDCAPACITY) will inform that full management is not possible for a CPC or system, but the reason for the problem is not apparent
 - CPM usually does not inform if the problem is not current anymore
 - **Capacity Provisioning Manager might not manage as expected due to unnoticed problems on managed/observed elements**

Overview

- Solution
 - New REPORT HEALTH integrates the availability/connectivity status of all managed/observed elements (CPCs and systems)
 - REPORT HEALTH brings together the element's status and the belonging explanatory CPO messages
 - An overall health percentage is calculated, which sums up the status of all elements
 - CPM can be customized to write an alerting CPO message every time the overall health percentage changes
- Benefit / Value
 - System administrator can correlate management problems related to managed/observed elements with reasoning CPO messages
 - System administrator is notified through separate message whenever the availability/connectivity status for one of the managed/observed elements changes

Usage & Invocation - Console

- `REPORT HEALTH`
`R H` [abbreviation form]
lists the overall health status percentage and the status of each element in the current domain configuration
- `REPORT HEALTH TYPE=DETAILED`
`R H TYPE=D` [abbreviation form]
displays additional explanatory CPO messages for every element in Warning or Error state
- `REPORT HEALTH CPC=cpcName`
`REPORT HEALTH SYS=sysName PLEX=plexName`
only displays the status of the specified domain configuration element

```
CP01094I Health status report generated at 02/22/2017 12:09:20
Overall health: 100%
CPC ECL2 health: OK
CPC P35 health: OK
CPC S35 health: OK
System CP01 Sysplex CP01PLEX health: OK
System IRD4 Sysplex IRD4PLEX health: OK
System IRD5 Sysplex IRD4PLEX health: OK
System IRD6 Sysplex IRD4PLEX health: OK
End of report
```

Usage & Invocation – z/OSMF

- In “Provisioning Manager” select a CPM runtime system and then a running CPM domain
- From the “Reports” drop-down box select “Health”

This page shows information about the active domain configuration and the health of its CPCs and z

Active configuration:
IRD456
Overall health:
0%



CPCs

Systems

Actions ▾

↕

No filter applied

	CPC Filter	Health Filter	Message Filter	
<input type="radio"/>	ECL2	Unavailable	CPO2134I	
<input type="radio"/>	P35	Unavailable	CPO2134I	

- Switch between the CPCs and the Systems tab
- Click on a desired element to see the related messages list
- Click on the listed message ID to get the related message explanation and recommended Users action

Usage & Invocation – Health Report structure (1)

- The health report is composed of
 - The overall health percentage
 - The higher overall health percentage value, the more domain configuration elements have a good (OK) status
 - All domain configuration elements contribute in the same proportion to the percentage value
 - The change of an individual health status automatically changes the overall health percentage
 - Individual health statuses for each current domain configuration element
 - Each element can have either of the statuses (in descending health)
 - Disabled
 - OK
 - Warning
 - Error
 - Unavailable

Usage & Invocation – Health Report structure (2)

- Disabled domain configuration elements do **not** contribute to the overall health percentage
- A single Unavailable or Error health status reduces the overall health percentage to a greater extent than a Warning status

CP01094I Health status report generated at 02/22/2017 12:27:10

Overall health: 100%

CPC ECL2 health: OK

CPC P35 health: OK

CPC S35 health: OK

System CP01 Sysplex CP01PLEX health: Disabled

System IRD4 Sysplex IRD4PLEX health: OK

System IRD5 Sysplex IRD4PLEX health: OK

System IRD6 Sysplex IRD4PLEX health: OK

End of report

CP01094I Health status report generated at 02/22/2017 12:35:23

Overall health: 83%

CPC ECL2 health: OK

CPC P35 health: OK

CPC S35 health: OK

System CP01 Sysplex CP01PLEX health: Disabled

System IRD4 Sysplex IRD4PLEX health: OK

System IRD5 Sysplex IRD4PLEX health: Error

CP03850E Unable to connect to CIM server at

<http://9.152.87.209:5988>

CP03801W The system at address 9.152.87.209 is temporarily
unavailable

System IRD6 Sysplex IRD4PLEX health: OK

End of report

Usage & Invocation – Customization

- CPM can be customized to issue a specific message on the system console every time the overall health percentage changes due to an health state change of an individual domain configuration element
 - System administrator or automation product get alerted each time the management status changes
 - Can be understood as an invitation to issue a
`REPORT HEALTH`
in order to check the current status(es)
 - CPM Parameter *
`Health.ChangeMessage=YES`
 - CPM issues console message CPO2133I

`CP02133I The Provisioning Manager health changed from 78% to 67%`

* CPM must be restarted after parameter change

Interactions & Dependencies

- Software Dependencies
 - For displaying the report on z/OSMF, a V2R3 z/OSMF is required
- Hardware Dependencies
 - None
- Exploiters
 - None except for z/OSMF

Migration & Coexistence Considerations

- To display health report in z/OSMF, V2R3 is required
- z/OSMF V2R3 will **not** report health of z/OS V2R2 or V2R1 CPMs

Installation

- Prerequisites for installation
 - No installation changes
 - Part of V2R3 GA
 - z/OS BCP (CPM)
 - z/OSMF (CP z/OSMF plugin)

Session Summary

- Provisioning Manager introduces a new 'health report'
 - Allows to have an overview of current connectivity problems between your CPM domain and managed CPCs or observed Systems
 - Helps to identify problems by grouping displayed CPM warning and error messages to an affected CPC or System
 - Health report can be either queried through the system console or z/OSMF CP plugin

Appendix

- MVS Capacity Provisioning User's Guide, SC34-2661-02
- MVS System Messages Volume 4 (CBD – DMO), SA38-0671-05
- z/OS Management Facility online documentation
 - <https://www.ibm.com/systems/z/os/zos/features/zosmf/moreinfo/>
- z13 – PR/SM Planning Guide, SB10-7162-00