



z/OS

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CCP-Tool

Capacity and Cost Planning Tool





OBJECTIVES

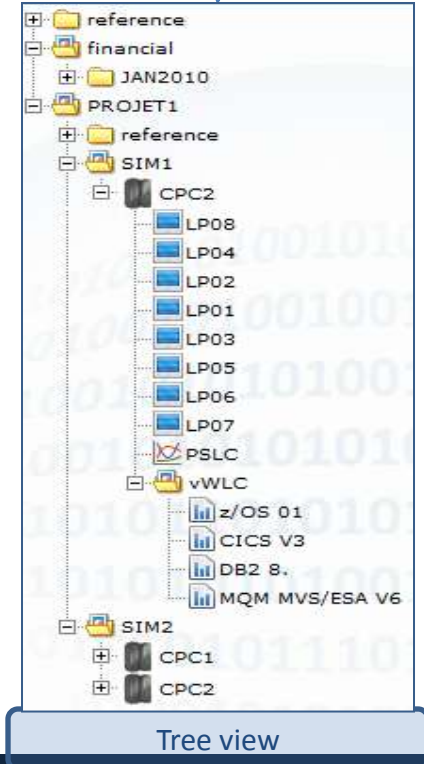
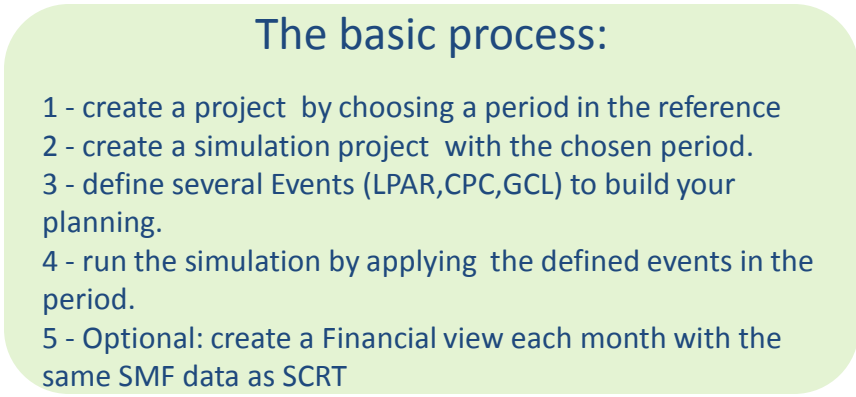
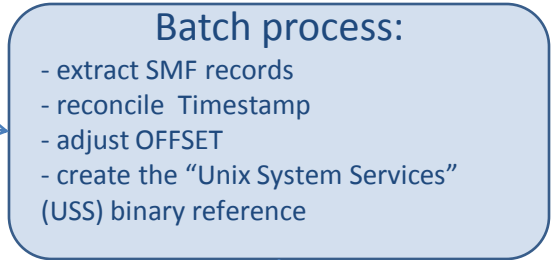
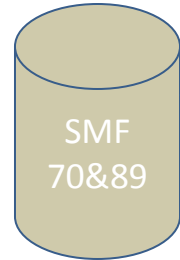
- To build long term capacity planning by controlling the MLC evolution
- To generate cost control policies.
- To optimize System z Resource sharing.
- To make financial management.



HOW?

- Using reference period derived from SMF 70 & 89.
- Duplicating this period over the long term.
- Defining events in your plan.
- Simulating several situations to obtain your a relevant plan.
- Actualizing and revising your plan (quarterly)

CCP-Tool: Capacity & Cost Planning Tool



Web access through JS, CGI, C++, ASM

Web Browser as IE, Firefox, Chrome, Opera, etc..

CCP-Tool: Capacity & Cost Planning Tool

reference
Project Information
Create a new Project
Create Financial view
Reload Tree view

reference
LPAR Information

Project Creation

PROJECT NAME : PROJECT2

Datacenter Resources

Available CPC	Available LPAR
XEADC-CPC1	CPC1-LP02
X89DE-CPC2	CPC1-LP04
	CPC1-LP08
	CPC2-LP01
	CPC2-LP03
	CPC2-LP05
	CPC2-LP06
	CPC2-LP07

Delete CPC Delete LPAR

Period reference

From: 2009/11/15 23:00 To: 2009/11/29 22:50

Cancel Create Project

Creation of a "project" from "the reference" (data extracted from SMF 70&89 record) to determine the period we want to duplicate.

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PROJET1

- Project Information
- Create a simulation
- Copy current Project
- Delete current Project

PROJET1 Information

Project Name:	PROJET1
Creation date:	Mon Feb 1 10:52:20 2010
Available Period	
From:	2009/11/15 at :23:00
To:	2009/11/29 at :22:50

Simulation Creation

Simulation ID

Parent Project: **PRJ1**

Simulation name: **SIM02**

Projection Period

Started on: []

Ended on: []

Calendar: November 2009

Cancel

Creation of a simulation into "the project" :the project period will be duplicated several times to create the project period.
 ex: a 1-week reference will be duplicated 156 times to obtain a 3- year Capacity Planning simulation

CCP-Tool: Capacity & Cost Planning Tool

Creation of LPAR events

Creation of CPC events

CCP-Tool reproduces Soft-Capping, GCL & SCRT algorithm

The screenshot displays the CCP-Tool interface for project simulation. On the left is a tree view of the project structure, including folders for 'reference', 'financial', and 'PROJET1', with sub-items like 'LP08', 'LP04', 'LP02', 'LP01', 'LP03', 'LP05', 'LP06', 'LP07', 'PSLC', 'vWLC', 'z/OS 01', 'CICS V3', 'DB2 8.', 'MQM MVS/ES', 'SIM2', 'CPC1', and 'CPC2'. The main area shows 'PROJET1-SIM1' simulation information:

PROJET1-SIM1 Information	
Project Name:	PROJET1-SIM1
Creation date:	Mon Feb 1 10:53:50 2010

Three dialog boxes are overlaid on the interface:

- LPAR: Add event**: Shows 'LPAR Name' as 'CPC2 - LP08' and 'Event Type' as 'Increase Activity'. A list of event types is visible, including 'Activate', 'Deactivate', 'Enable Hardware Capping', 'Disable Hardware Capping', 'Modify Define capacity', 'Modify weight', 'Increase Activity', 'Decrease Activity', 'Increase DC in percent', 'Decrease DC in percent', 'Increase DC by period', 'Decrease DC by period', 'Increase Activity by period', 'Decrease Activity by period', 'Modify Sysplex', 'Modify GCL group', 'Modify LP number', and 'Event selection'. A 'Close' button is at the bottom.
- CPC: Add event**: Shows 'CPC Name' as 'CPC2' and 'Event Type' as 'Event selection'. A list of event types is visible, including 'Event selection', 'Activate CPC', 'Deactivate CPC', and 'Modify CPC Model or Type'. A 'Close' button is at the bottom.
- GCL EVENT**: Shows 'CPC Name' as 'CPC2', 'GCL Group Name' as 'Select a GCL group', 'GCL group limit' as 'MSU', and 'Event Start Date' as '2010/02/01'. A 'Comment' field is also present. 'Close' and 'Apply' buttons are at the bottom.

Creation of GCL events

CCP-Tool: Capacity & Cost Planning Tool

Sample of a classic project with an growing activity and the need of a CPU upgrade (the defined events are also shown)



- reference
 - CPC1
 - LP02
 - LP04
 - LP08
 - CPC2
- financial
- PROJET1
 - reference
 - SIM1
 - SIM2
 - SIM3
 - SIM4
 - CPC1
 - LP02
 - LP04
 - LP08
 - PSLC
 - vWLC
 - CPC2
 - LP01
 - LP03
 - LP05
 - LP06
 - LP07
 - PSLC
 - vWLC

- PROJET1-SIM4**
- Simulation Information
 - Simulation Events
 - Modify projection period
 - Copy current simulation
 - Create Platform
 - Run current simulation
 - Delete current simulation

LPAR Information

Start Date	Ended Date	Target	Event	Value	Comment
2010/02/01	-	CPC2	Modify CPC	2097709	ANNUAL UPGRADE
2010/02/01	-	CPC2 LP01	Modify LP number	5	
2010/02/01	-	CPC1 LP02	Increase LPAR activity	25	INCREASES SAG WORKLOAD
2010/02/01	-	CPC1 LP04	Increase LPAR activity	15	NEW WEB TRAFFIC
2010/02/01	-	CPC1 LP08	Increase LPAR activity	20	TAKING INTO ACCOUNT DISASTER PLAN
2010/02/01	-	CPC2 LP01	Increase LPAR activity	5	NORMAL INCREASE
2010/02/01	-	CPC2 LP03	Increase LPAR activity	7	NORMAL INCREASE
2010/02/01	-	CPC2 LP05	Increase LPAR activity	6	NORMAL INCREASE
2010/02/01	2010/02/28	CPC2 LP07	Increase LPAR activity by	5% by month	
2010/02/01	-	CPC1	Modify CPC	2097707	PLANNED UPGRADE FOR 2010
2010/02/01	-	CPC2 LP06	Increase LPAR activity	35	NEW WEB TRAFFIC

Close

CCP-Tool: Capacity & Cost Planning Tool

With 4 types of capping:
 1: by the number of LPs
 2: by the weight
 3: by the DC
 4: by GCL



- reference
 - CPC1
 - LP02
 - LP04
 - LP08
 - CPC2
- financial
- PROJET1
 - reference
 - SIM1
 - SIM2
 - SIM3
 - SIM4
 - CPC1
 - LP02
 - LP04
 - LP08
 - PSLC
 - vWLC
 - CPC2
 - LP01
 - LP03
 - LP05
 - LP06
 - LP07

LP06

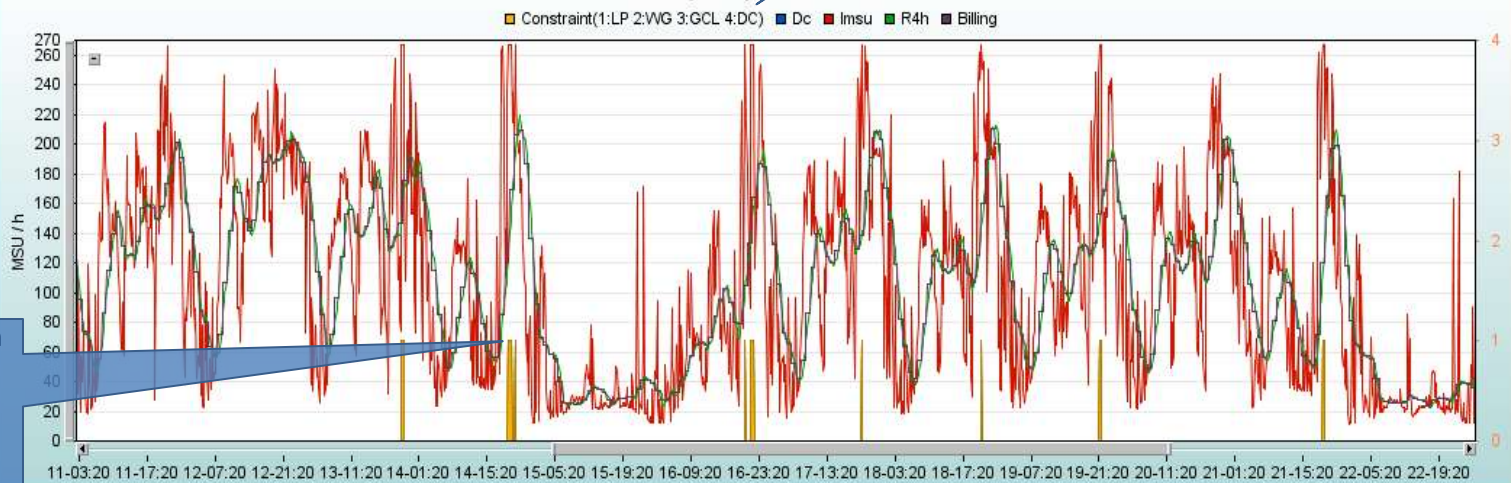
- LPAR Information
- Duplicate LPAR
- Move LPAR
- LPAR event management
- Delete LPAR



LPAR Information

CPCID-LPAR	X89DE-LP06	
SYSPLEX	PRODPLEX	Constant in reference
GCL group		Constant in reference
Platform		
Weight	024	Not constant in reference
Defcap	00000	Constant in reference
LP number	003	Constant in reference
Offset Time(GMT)	+00	Constant

Activity for lpar: CPC2-LP06



Here, 3 LPs are not enough because LP06 needs more logical processors to avoid constraint. You must create an event to add a processor to LP06.

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- reference
- financial
- PROJET1
 - reference
 - SIM1
 - SIM2
 - SIM3
 - SIM4
 - CPC1
 - LP02
 - LP04
 - LP08
 - PSLC
 - vWLC
 - CPC2
 - LP01
 - LP03
 - LP05
 - LP06
 - LP07
 - PSLC
 - vWLC
 - z/OS 01
 - CICS V3
 - DB2 8.
 - MQM MVS/ESA V6

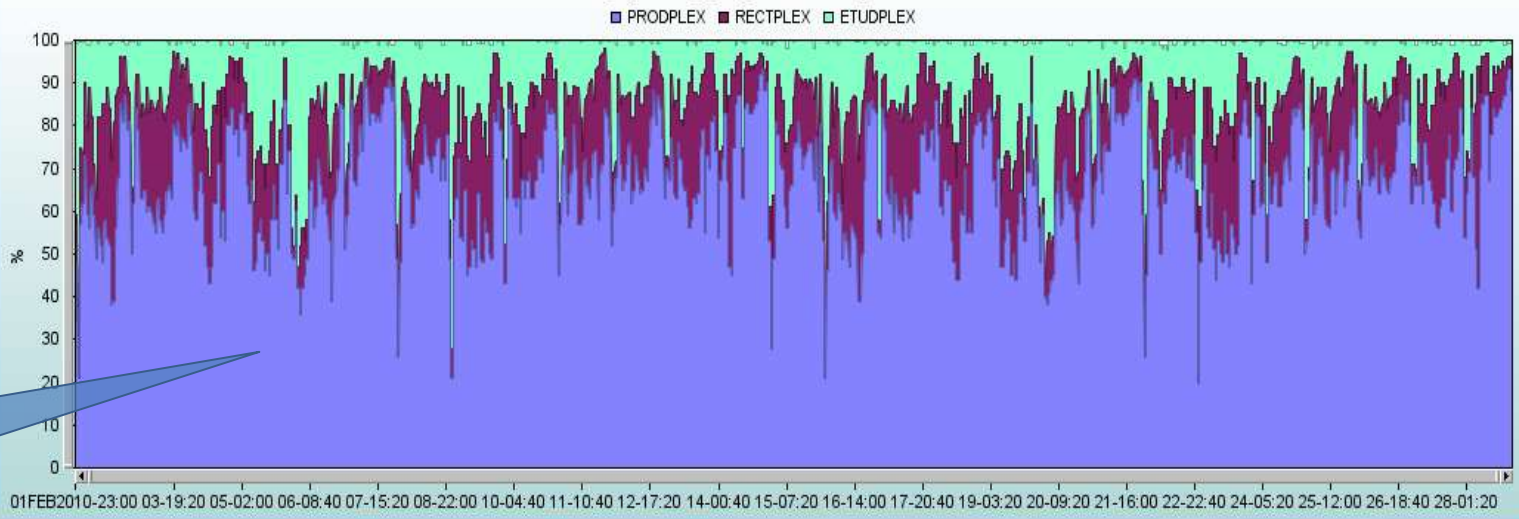
- PROJET1-SIM1**
- Simulation Information
 - Simulation Events
 - Modify projection period
 - Copy current simulation
 - Create Platform
 - Run current simulation
 - Delete current simulation



LPAR Information

CPCID-LPAR	X89DE-LP06	
SYSPLEX	PRODPLEX	Constant in reference
GCL group		Constant in reference
Platform		
Weight	024	Not constant in reference
Defcap	00000	Constant in reference
LP number	003	Constant in reference
Offset Time(GMT)	+00	Constant

Sysplex Aggregation for Cpc:CPC2



The PSLC view determines if the Sysplex aggregation is and will be respected

CCP-Tool: Capacity & Cost Planning Tool

- reference
- financial
- PROJET1
 - reference
 - SIM1
 - SIM2
 - SIM3
 - SIM4
 - CPC1
 - LP02
 - LP04
 - LP08
 - PSLC
 - vWLC
 - CPC2
 - LP01
 - LP03
 - LP05
 - LP06
 - LP07
 - PSLC
 - vWLC
 - z/OS 01
 - CICS V3
 - DB2 8
 - MQM MVS/ESA V6

PROJET1-SIM1

- Simulation Information
- Simulation Events
- Modify projection period
- Copy current simulation
- Create Platform
- Run current simulation
- Delete current simulation

LPAR Information

	CPCID-LPAR	X89DE-LP06	
	SYSPLEX	PRODPLEX	Constant in reference
	GCL group		Constant in reference
	Platform		
	Weight	024	Not constant in reference
	Defcap	00000	Constant in reference
	LP number	003	Constant in reference
	Offset Time(GMT)	+00	Constant

Billing for product: CICS in Cpc CPC2

■ LP01 ■ LP03 ■ LP05 ■ LP06

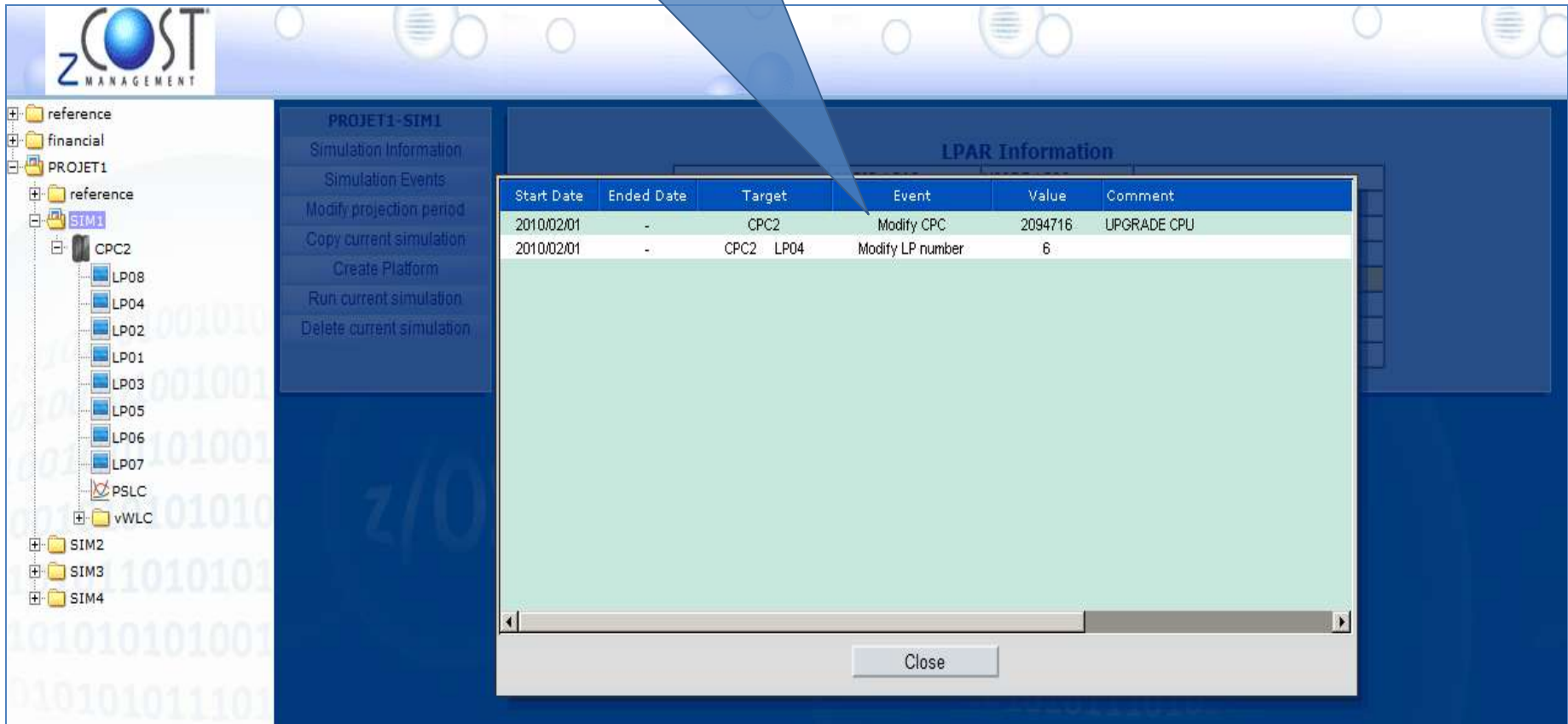
Billing for product: CICS in Cpc X89DE

■ LP01 ■ LP03 ■ LP05 ■ LP06

The WLC view shows that the CICS product will be charged on 346 MSUs in the projection instead of 285 MSUs in the reference

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Another sample of project with a CPCs merge.
all the LPAR's of CPC1 have been moved to
CPC2. Here the CPC Event which changes the
2094 (z9) model from 707 to 716



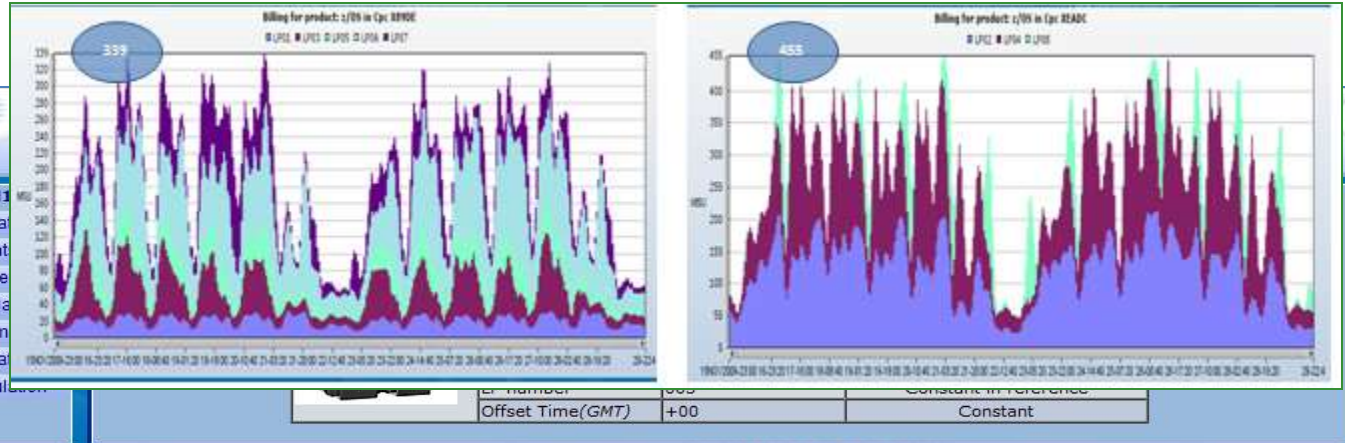
The screenshot displays the zCOST Management software interface. On the left is a project tree with folders for 'reference', 'financial', and 'PROJET1'. Under 'PROJET1', there is a 'reference' folder containing a 'SIM1' folder, which in turn contains a 'CPC2' folder. The 'CPC2' folder lists several LPARs (LP08, LP04, LP02, LP01, LP03, LP05, LP06, LP07) and a 'PSLC' checkbox. Below the tree are folders for 'SIM2', 'SIM3', and 'SIM4'. In the center, a 'PROJET1-SIM1' panel shows simulation options like 'Simulation Information', 'Simulation Events', 'Modify projection period', 'Copy current simulation', 'Create Platform', 'Run current simulation', and 'Delete current simulation'. On the right, an 'LPAR Information' dialog box is open, displaying a table with the following data:

Start Date	Ended Date	Target	Event	Value	Comment
2010/02/01	-	CPC2	Modify CPC	2094716	UPGRADE CPU
2010/02/01	-	CPC2 LP04	Modify LP number	6	

A 'Close' button is located at the bottom of the dialog box.

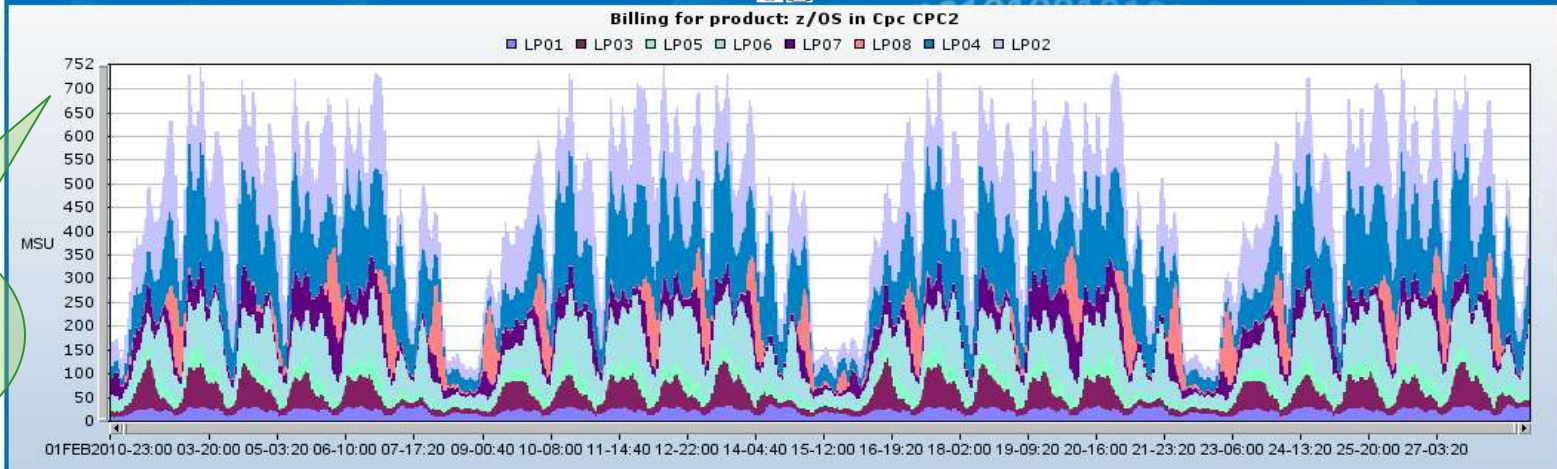
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On the reference, z/OS is charged on 455 MSUs for CPC1 and 339 for CPC2, for a total of 794 MSUs



- PROJET1-SIM1
- Simulation Informa
- Simulation Event
- Modify projection pe
- Copy current simula
- Create Platform
- Run current simula
- Delete current simula

Because of the merge of CPC1 & CP2, z/OS will be charged on 752 MSUs, so there is a gain of 42 MSUs.



To follow your bill

CCP-Tool: Capacity & Cost Planning Tool




“Financial Management” is the tool for SW Manager which allows to follow each month the real invoice:

financial-2009M11-CPC1

graphical view according to each monthly SCRT period with an filing

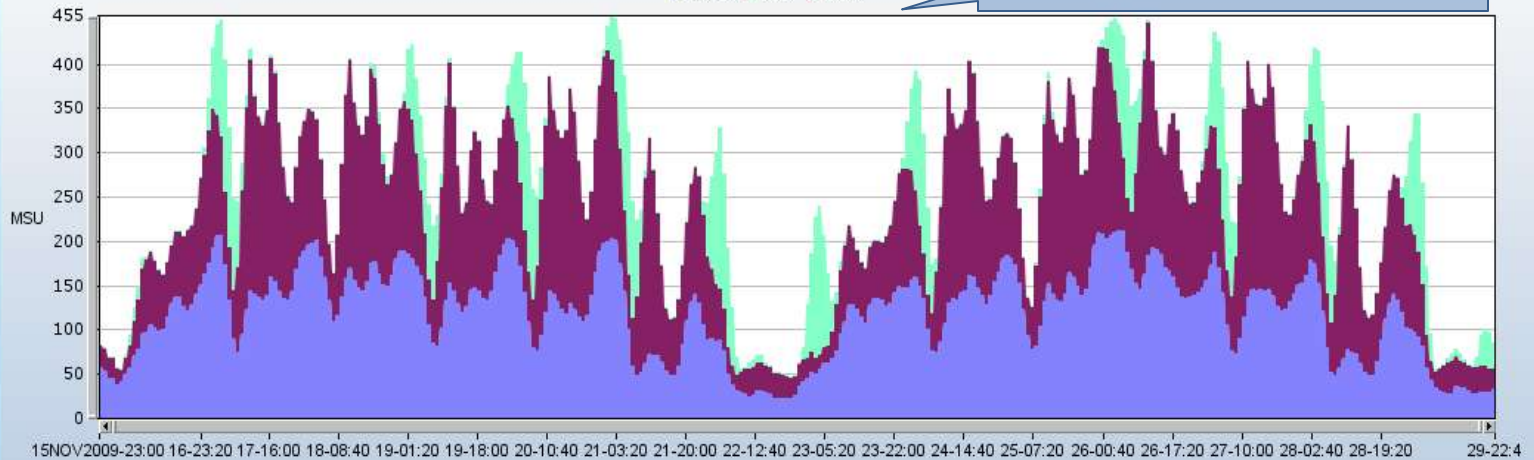
CPC Information

	CPC id	XEADC
	CPC Name	CPC1
	Family	2094
	Model	707
	Capacity (in MSU)	0479
	CP number	07

Financial Management ONLINE

Billing for product: z/OS in Cpc XEADC

z/OS Product Cost from the real SCRT





What CCP-Tool delivers

- A full Study with:
 - A long-term (up to 3 years) Capacity and Cost planning
 - A financial plan & a cost control policies.
- An optimized z/Resources sharing policy (the best PR/SM configuration).
- Financial management



Benefits

- Long term visibility of the evolutions of the Data Centre.
- Saving time and money. Time because it would be much longer to do such a Capacity Planning without CCP-Tool. Money because doing a relevant Capacity Planning without CCP-Tool requires one or two full-time employees who need to be highly skilled.