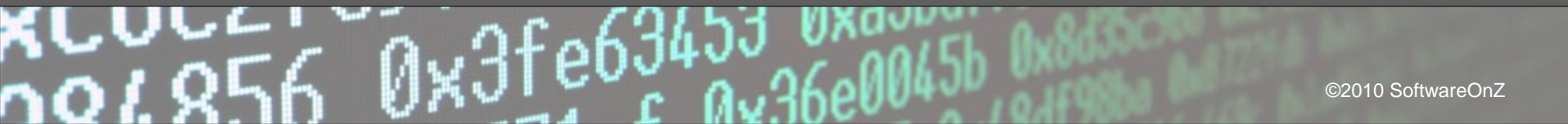


IBM SoftCapping

Do you use this to reduce your
monthly software bill?



It's a test ...

What are the 4 major components of vWLC?

What is the value of the SCRT B5 Section?

What is the most important number in the P5 Section?

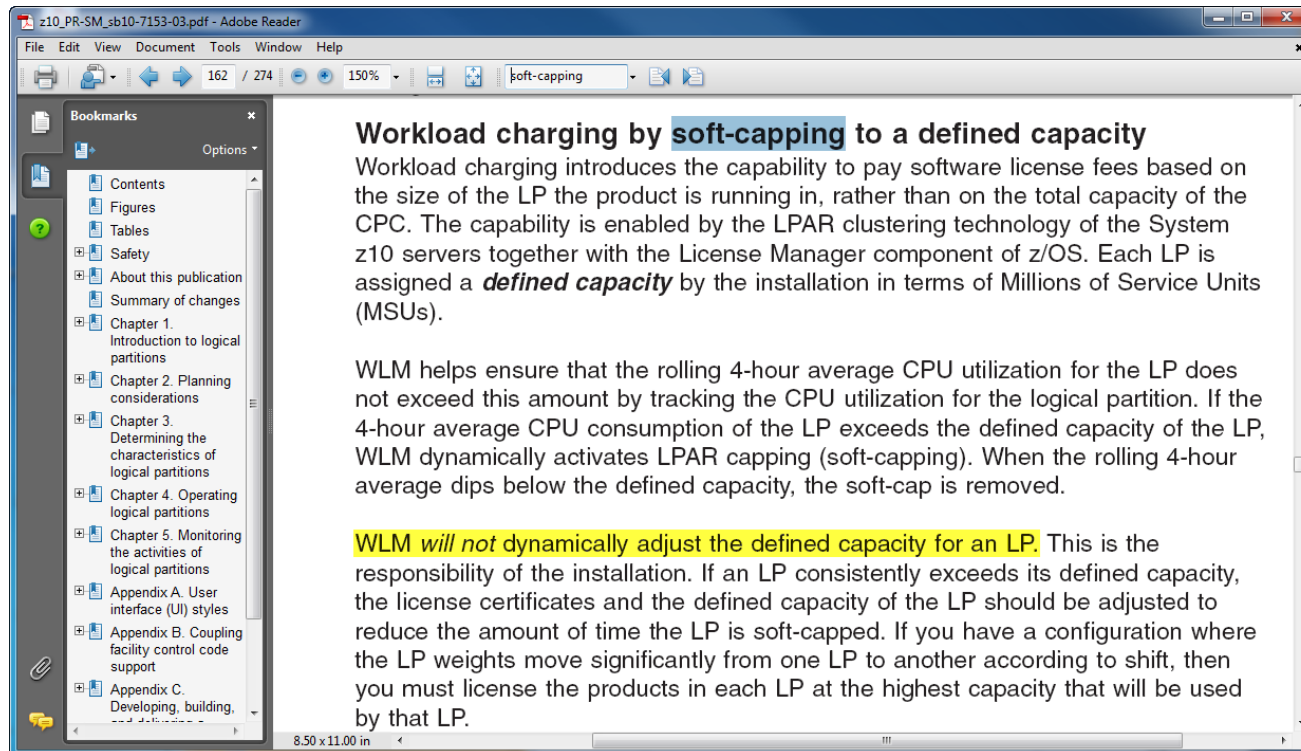
How does the SCRT calculate each hour if Defined Capacity = 0?



- Technical terms and abbreviations used in this document.
 - MSU: (Million Service Units) : reference unit for Software billing.
 - IMSU (or ACTMSU): instantaneous MSU consumption
 - R4H : Rolling 4 Hours
 - CPC Capacity : z/Server full capacity
 - Soft-Capping / WLM
 - WLM, PR/SM and enforcement the Soft-Capping limit
 - Hardware Management Console (HMC)
 - DC : Defined Capacity
 - LPARs: Givers, takers, crushables
 - DC Pool

General Terminology

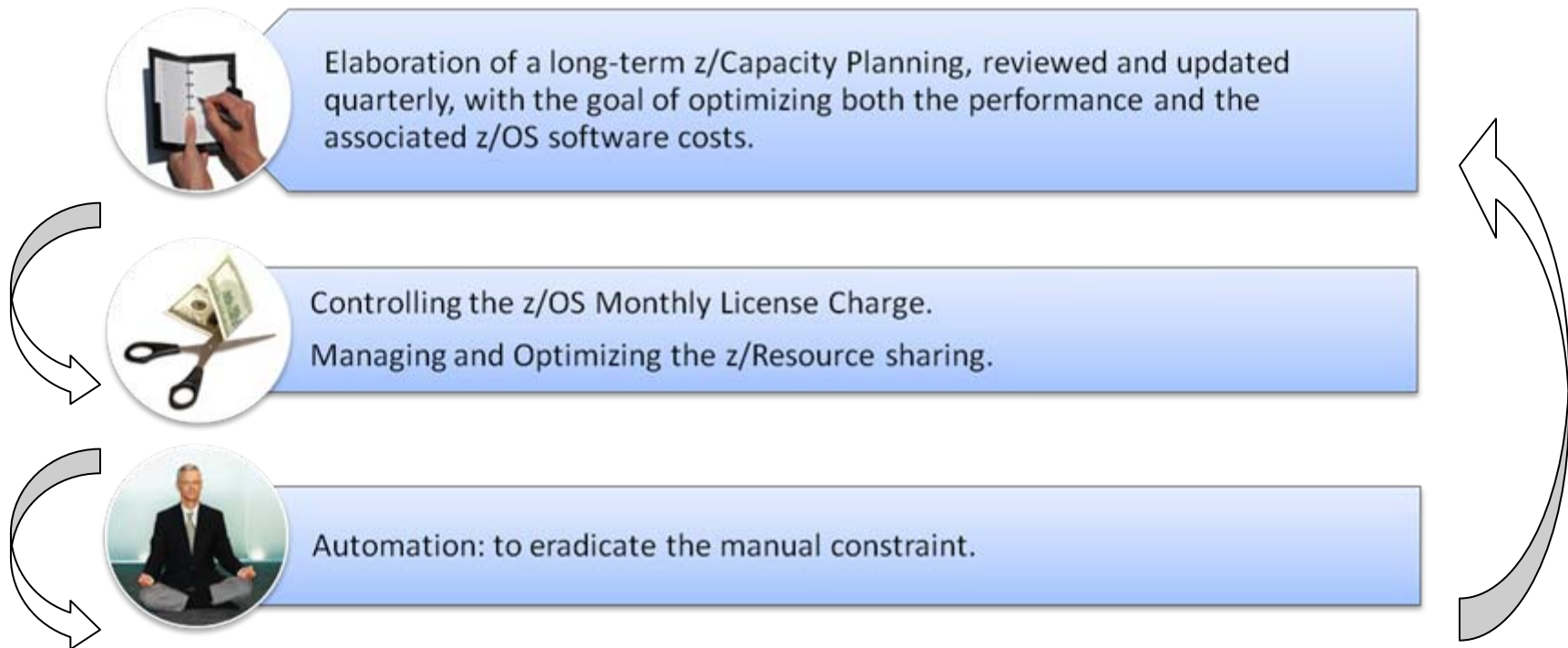
Define Capacity (DC)



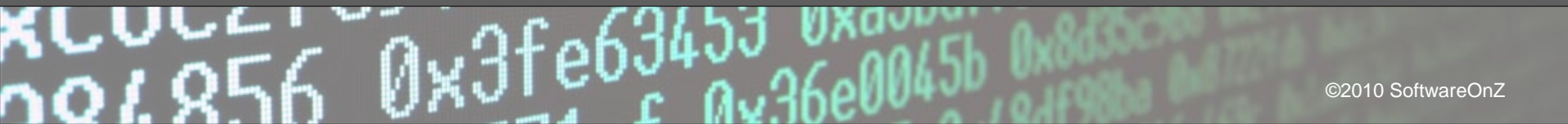
A well-managed Datacenter

system z10

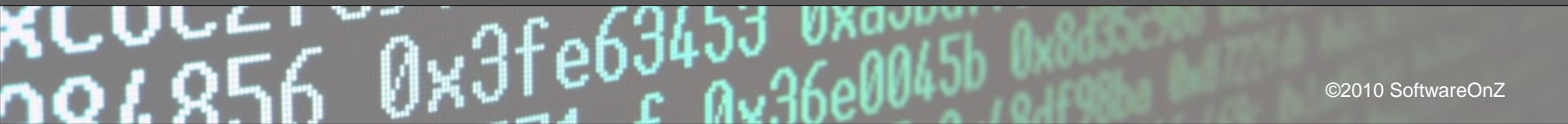
- Significant growth of Datacenters
- New jobs such as Software Cost Planner (just like Capacity Planner which emerged a few years ago)



The 4 parts of vWLC !

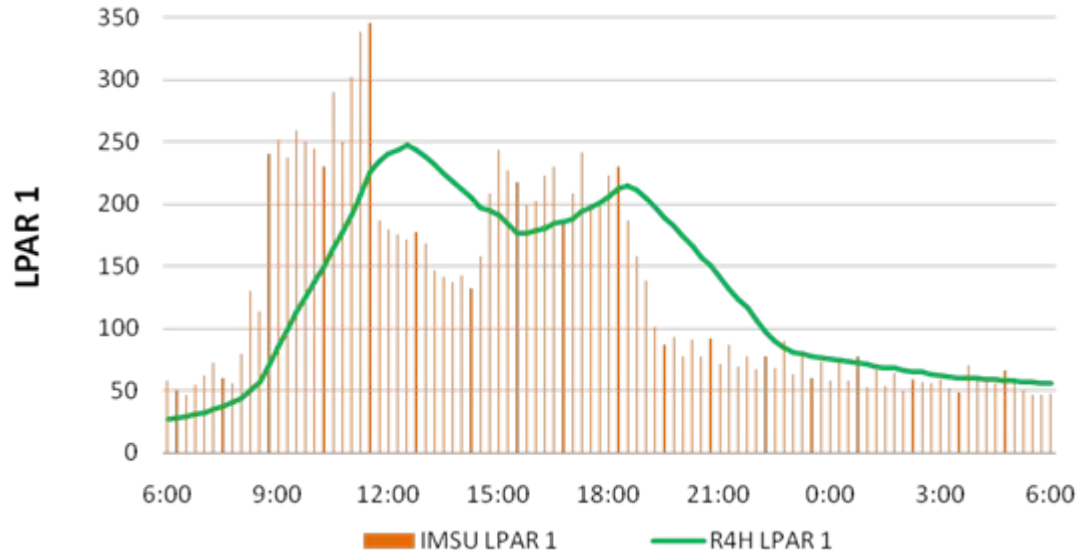
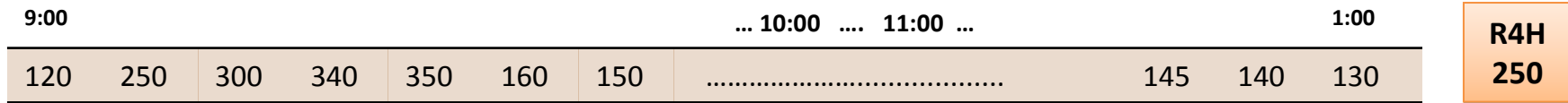


Part 1 of vWLC R4H



VWLC - the R4H

The R4H represents **the average consumption (in MSU)** of the LPAR during the last 4 hours
= Average of the last 48 IMSU metrics.

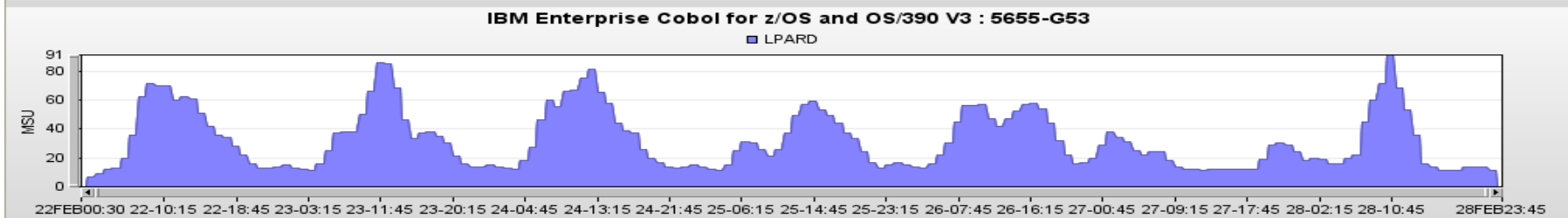
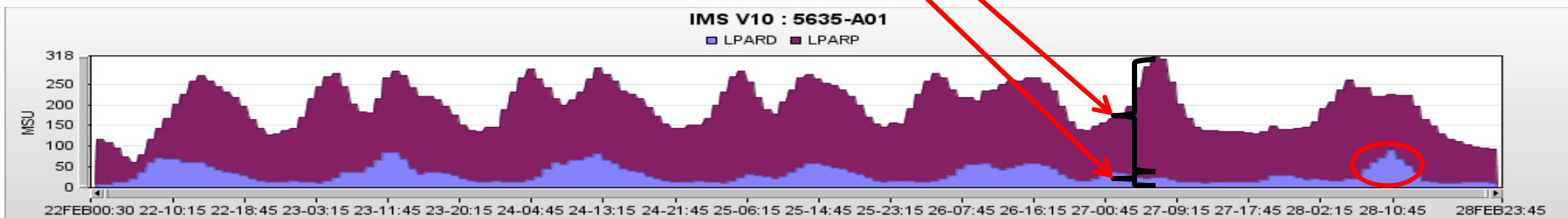


SCRT feature – Invoicing (Example)

- the IMS bill reports 318 MSU at the same date and time with only LPARD & LPARP
- The COBOL bill reports 91 MSU with only LPARD and at different date and time: February, 15th at 10:00

```
==P5=====
```

PRODUCT MAX CONTRIBUTORS						
Product Nam	Product ID	Highest	Date/Time	LPARD	LPARP	LPARWP
z/OS V1	5694-A01	322	27 Feb 2010 - 06:00	24	294	4
DB2 UDB for	5625-DB2	322	27 Feb 2010 - 06:00	24	294	4
CICS TS for z/	5655-M15	318	27 Feb 2010 - 06:00	24	294	0
MQSeries fo	5655-L82	322	27 Feb 2010 - 06:00	24	294	4
IMS V10	5635-A01	318	27 Feb 2010 - 06:00	24	294	0
IBM Enterpri	5655-G53	91	28 Feb 2010 - 11:00	91	0	0



- SCRT (Sub Capacity Reporting Tool) is a tool used by IBM for z/OS billing.
- It uses the following SMF records : SMF 70-1 and SMF 89-1 / 89-2
- The SCRT is computed on a monthly basis :
 - During the month (from the second day of the month at 0h00 to the first day at 24h00 of the following month)
- R4H averages are calculated for each WLC products, **each hour**, for each LPAR, for the month.

Hour	1	2	3	...	719	720
LPAR1 four-hour rolling avg util	60	55	50		50	45
LPAR2 four-hour rolling avg util	70	80	75		75	70
z/OS (in 1 and 2)	130	135	125		125	115
MQSeries and IMS (in LPAR 1 only)	60	55	50		50	45
CICS and DB2 (in LPAR 2 only)	70	80	75		75	70

Part 2 of vWLC DC

Where is the SoftCap set?

Hardware Management Console (HMC)

https://sczhmc1.itso.ibm.com - SCZHMC1: Change Logical Partition Controls - Mi...

Change Logical Partition Controls

Last reset profile attempted: SCZP101
Input/output configuration data set (IOCDS): a1 IODF02

CPs ICs IFAAs zIIPs

Logical Partitions with Central Processors

Logical Partition	Active	Defined Capacity	WLM	Current Weight	Initial Weight	Min Weight	Max Weight	Current Capping	Initial Capping	Number of Dedicated Processors	Number of Not dedicated Processors
A01	Yes	0	<input type="checkbox"/>	10	10			No	<input type="checkbox"/>	0	4
A02	Yes	100	<input checked="" type="checkbox"/>	10	10	1	50	No	<input type="checkbox"/>	0	4
A03	Yes	60	<input checked="" type="checkbox"/>	10	10	5	25	No	<input type="checkbox"/>	0	2
A04	Yes	60	<input checked="" type="checkbox"/>	10	10	5	25	No	<input type="checkbox"/>	0	2
A05	Yes	0	<input type="checkbox"/>	10	10			No	<input type="checkbox"/>	0	2
A06	Yes	0	<input type="checkbox"/>	10	10			No	<input checked="" type="checkbox"/>	0	2
A07	Yes	0	<input type="checkbox"/>	10	10			No	<input checked="" type="checkbox"/>	0	2
A08	Yes	0	<input type="checkbox"/>	10	10			No	<input type="checkbox"/>	0	2
A09	Yes	0	<input type="checkbox"/>	10	10			No	<input type="checkbox"/>	0	2

Processor running time

Attention: It is recommended that you select "Dynamically determined by the system". Selecting "Determined by the user" risks suboptimal use of processor resources.

Dynamically determined by the system
 Determined by the user
Running time: 1 1 to 100 milliseconds

Do not end the timeslice if a partition enters a wait state

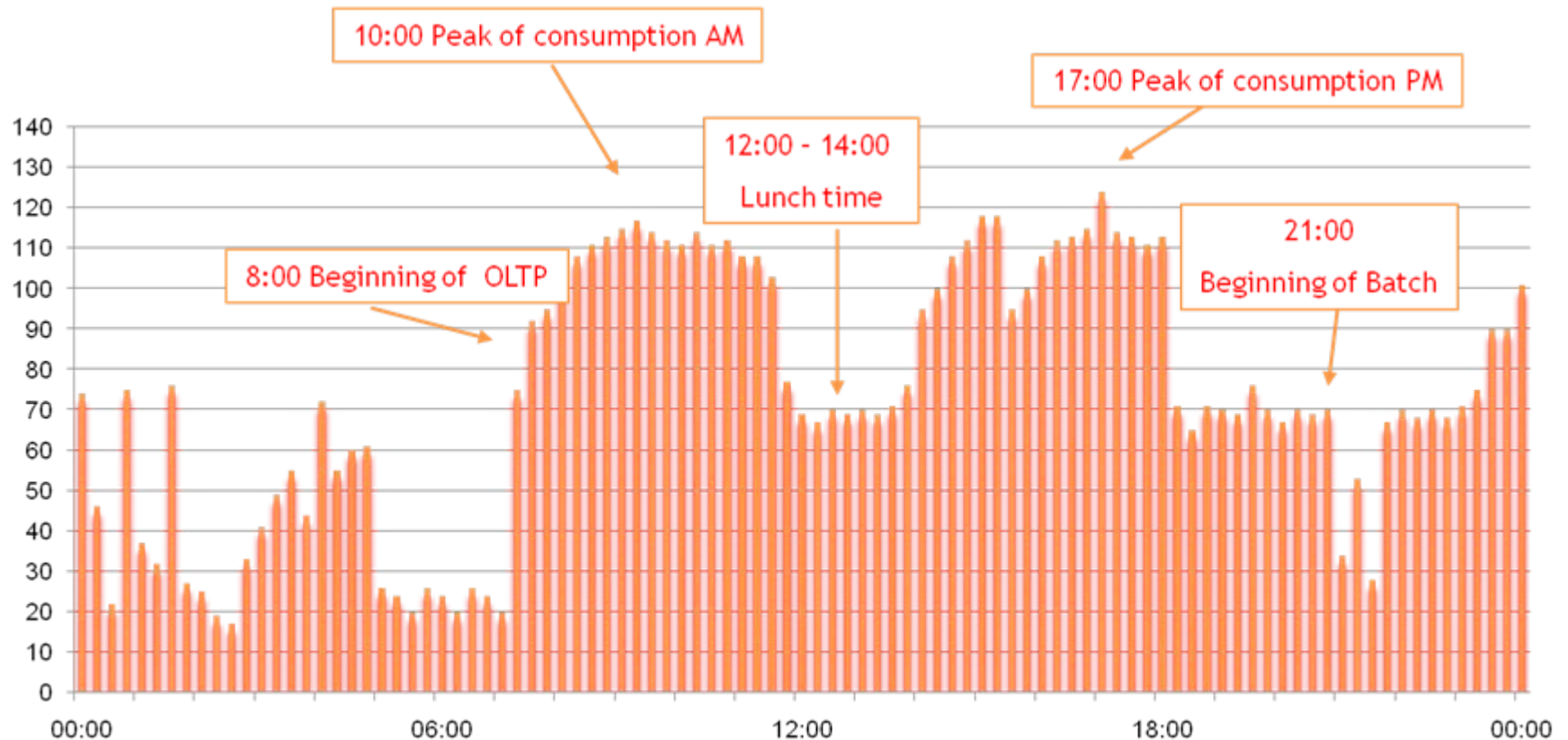
Save to Profiles Change Running System Save and Change Reset Cancel Help

Done Internet

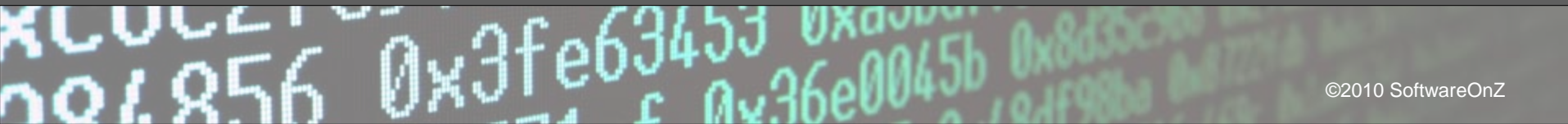
Part 3 of vWLC

IMSU

- ▶ IMSU : Instantaneous consumption of MSU for the LPAR



Part 4 of vWLC SCRT



Section P5

==B5===== SCRT SUB-CAPACITY REPORT - IBM Corp =====

Run Date/Time 05 Mar 2010 - 10:55
 Name of Person Submitting Report: Joe Brockert
 E-Mail Address of Report Submitter: joe.brockert@softwareonz.com
 Phone Number of Report Submitter: 281 808-0270
 Customer Name SOFTWAREONZ

Customer Number 216
 Machine Serial Number
 Machine Type and Model
 Machine Rated Capacity (MSU)
 Purchase Order Number
 Customer Comments (255 ch

For recurring charge (MLC) p
 the billable MSUs in inventory
 column on this report. In acc
 licensed capacity as an orde
 based on inventory MSUs wil

For One Time Charge (IPLA)
 bill those IPLA products listed
 exceed your entitled capacity
 IBM will treat the use of a pro
 the amount in excess of your entitlement.

==P5==

PRODUCT MAX CONTRIBUTORS

Product Name	Product ID	Highest	Date/Time	LPARD	LPARP	LPARWP
z/OS V1	5694-A01	322	27 Feb 2010 - 06:00	24	294	4
DB2 UDB for z/OS V8	5625-DB2	322	27 Feb 2010 - 06:00	24	294	4
CICS TS for z/OS V3	5655-M15	318	27 Feb 2010 - 06:00	24	294	0
MQSeries for z/OS V6	5655-L82	322	27 Feb 2010 - 06:00	24	294	4
IMS V10	5635-A01	318	27 Feb 2010 - 06:00	24	294	0
IBM Enterprise Cobol for z/OS and OS/390 V3	5655-G53	101	15 Feb 2010 - 10:00	101	0	0
Fault Analyzer for z/OS V8	5655-S15	296	16 Feb 2010 - 12:00	96	200	0
Fault Analyzer for z/OS V7	5655-R46	101	15 Feb 2010 - 10:00	101	0	0
Debug Tool Utilities Functions for z/OS V8	5655-S16	101	15 Feb 2010 - 10:00	101	0	0
Debug Tool Utilities Functions for z/OS V7	5655-R45	101	15 Feb 2010 - 10:00	101	0	0
IBM WebSphere Application Server for z/OS V6	5655-N01	24	05 Feb 2010 - 21:00	24	0	0
IBM WebSphere Application Server for z/OS V5	5655-I35	106	15 Feb 2010 - 10:00	101	0	5
Application Perf Analyzer for z/OS V8	5697-N63	101	15 Feb 2010 - 10:00	101	0	0
Application Perf Analyzer for z/OS V7	5697-N53	322	27 Feb 2010 - 06:00	24	294	4

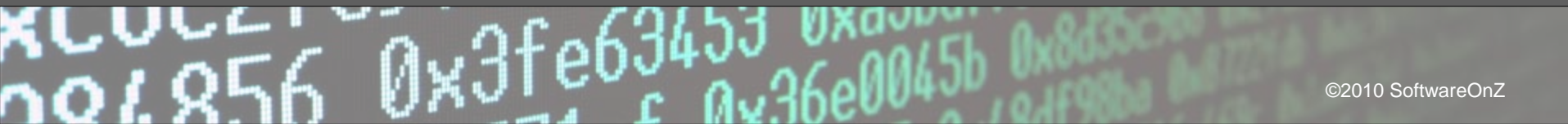
Note: This report is expected to provide a "% data collected" > 95% and data reporting period beginning on the 2nd of the previous month and ending on the 1st of the current month.

==C5=====

I've got vWLC !
but where are the savings ?

IBM Soft-Capping feature

But I hear that impacts performance !



IBM Soft-Capping feature

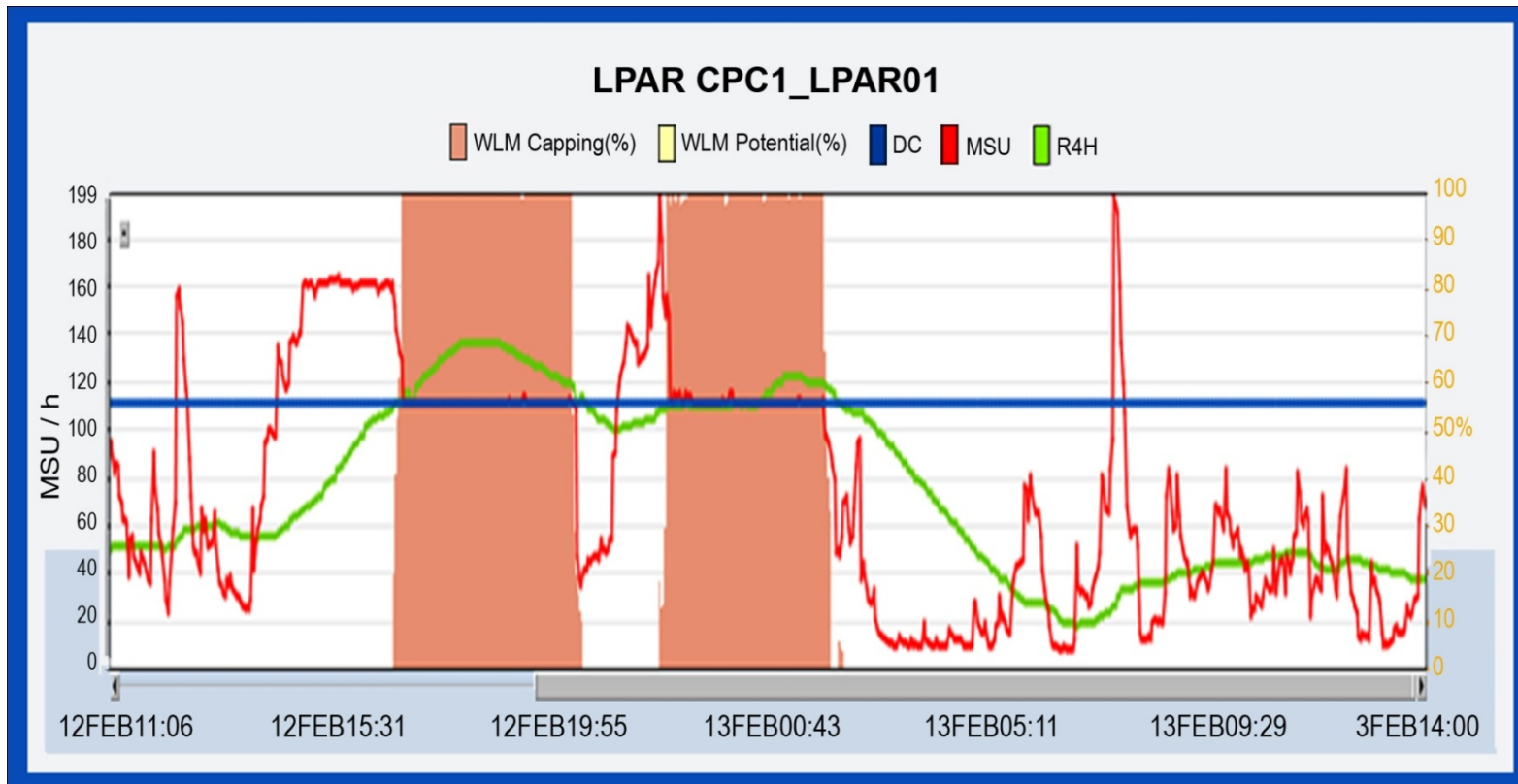
system z10

softwareonZ
...a better way on z

- IBM Soft-Capping is a feature which allows the control of z/OS bill.
 - This limit is called **Defined Capacity (DC)**
- The Soft-Capping rule:
 - When **Rolling 4 Hours (R4H)** becomes greater than or equal to **DC** then the LPAR is capped. That means that the **IMSU** consumption will not be able to exceed **DC** anymore until the **R4H** becomes lower than the **DC**.
- The Enforcer
 - WLM & PR/SM
 - <http://www.ibm.com/support/techdocs>
WLM Support for Sub-Capacity WLC

IBM Soft-Capping feature

- Example of an LPAR which is capped:



IBM Soft-Capping feature

$$SCRT = \text{MAX} \left(\text{SUM} \left(\min \left(\text{Average } \cancel{R4H} \text{ or DC} \right) \right) \right)$$

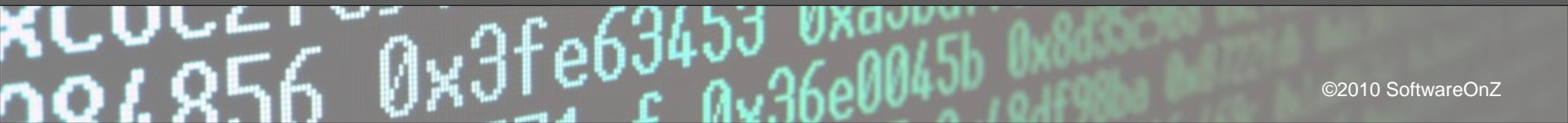
1 month
LPARs
per LPAR

```
=====
PRODUCT MAX CONTRIBUTORS

Product Name                Product ID  Highest  Date/Time  LPAR1  LPAR2
-----
z/OS V1                      5694-    110      27 Feb 2010 - 06:00  40     20
DB2 UDB for z/OS V8          5625-    60       16 Feb 2010 - 10:00  10      0
CICS TS for z/OS V3          5655-    50       16 Feb 2010 - 12:00  19     10
MQSeries for z/OS V6         5655-    29       16 Feb 2010 - 10:00  5      5
IMS V10                       5635-    10       15 Feb 2010 - 10:00  5      5
IBM Enterprise Cobol for z/OS and OS/390 V3  5655-G53 10       16 Feb 2010 - 12:00  19     10
Fault Analyzer for z/OS V8    5655-R46 10       15 Feb 2010 - 10:00  5      5
Fault Analyzer for z/OS V7    5655-S16 10       15 Feb 2010 - 10:00  5      5
Debug Tool Utilities Functions for z/OS V8  5655-R45 10       15 Feb 2010 - 10:00  5      5
Debug Tool Utilities Functions for z/OS V7  5655-N01  2        05 Feb 2010 - 21:00  2      0
IBM WebSphere Application Server for z/OS V6  5655-I35 10       15 Feb 2010 - 10:00  5      5
IBM WebSphere Application Server for z/OS V5  5697-N63 10       15 Feb 2010 - 10:00  5      5
Application Perf Analyzer for z/OS V8        5697-N53 32       27 Feb 2010 - 06:00  12     20
Application Perf Analyzer for z/OS V7
```

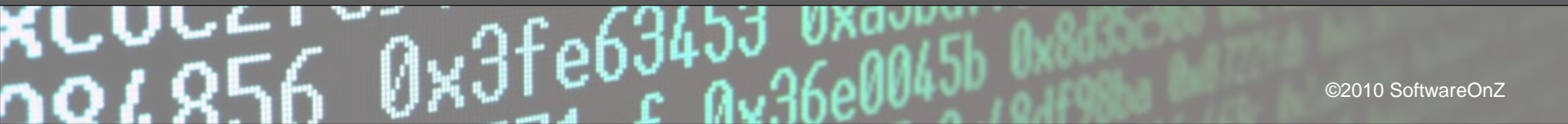
Hour	1	2	3	...	719	720
LPAR1 four-hour rolling avg util	60	60	50		50	45
LPAR2 four-hour rolling avg util	70	50	75		75	70
z/OS (in 1 and 2)	100	110	90	90	101	105
MQSeries and IMS (in LPAR 1 only)	60	50	75		75	70
CICS and DB2 (in LPAR 2 only)	70	80	75		75	70

An example of how you control your costs
with Soft-Capping Defined Capacity = 0



You don't !

System z10



Defined Capacity = 0

system z10

$$SCRT = \text{MAX} (\text{SUM} (\text{min} (\text{Average } \text{R4H} \text{ or } \text{ })))$$

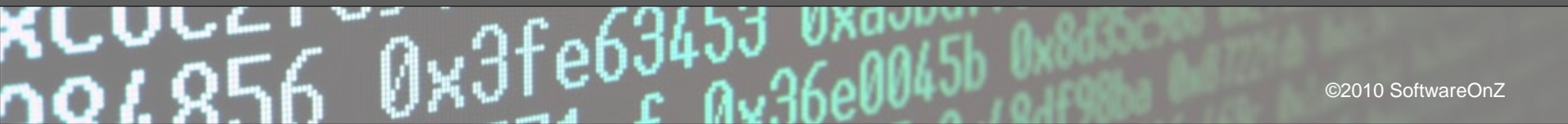


```
=====
PRODUCT MAX CONTRIBUTORS

Product Name                Product ID  Highest  Date/Time  LPAR1  LPAR2
-----
z/OS V1                     5694-A01   135     25 Feb 2010 - 06:00  60     75
DB2 UDB for z/OS V8         5625-DB2   80      27 Feb 2010 - 06:00  50     30
CICS TS for z/OS V3         5655-M15   80      27 Feb 2010 - 06:00  50     30
MQSeries for z/OS V6        5655-L82   60      27 Feb 2010 - 06:00  40     20
IMS V10                     5635-A01   60      27 Feb 2010 - 06:00  40     20
IBM Enterprise Cobol for z/OS and OS/390 V3  5655-G53   10      15 Feb 2010 - 10:00  10     0
Fault Analyzer for z/OS V8   5655-S15   29      16 Feb 2010 - 12:00  19     10
Fault Analyzer for z/OS V7   5655-R46   10      15 Feb 2010 - 10:00  5      5
Debug Tool Utilities Functions for z/OS V8  5655-S16   10      15 Feb 2010 - 10:00  5      5
Debug Tool Utilities Functions for z/OS V7  5655-R45   10      15 Feb 2010 - 10:00  5      5
IBM WebSphere Application Server for z/OS V6  5655-N01   2       05 Feb 2010 - 21:00  2      0
IBM WebSphere Application Server for z/OS V5  5655-I35   10      15 Feb 2010 - 10:00  5      5
Application Perf Analyzer for z/OS V8        5697-N63   10      15 Feb 2010 - 10:00  5      5
Application Perf Analyzer for z/OS V7        5697-N53   32      27 Feb 2010 - 06:00  12     20
```

Hour	1	2	3	...	719	720
LPAR1 four-hour rolling avg util	60	55	50		50	45
LPAR2 four-hour rolling avg util	70	80	75		75	70
z/OS (in 1 and 2)	130	135	125		125	115
MQSeries and IMS (in LPAR 1 only)	60	55	50		50	45
CICS and DB2 (in LPAR 2 only)	70	80	75		75	70

**An example of how you control your costs
with Soft-Capping Defined Capacity = x**



IBM Soft-Capping feature

$$SCRT = \text{MAX} \left(\text{SUM} \left(\min \left(\text{Average } \cancel{R4H} \text{ or DC} \right) \right) \right)$$

1 month
LPARs
per LPAR

```
=====
PRODUCT MAX CONTRIBUTORS

Product Name                Product ID  Highest  Date/Time  LPAR1  LPAR2
-----
z/OS V1                     5694-     110      27 Feb 2010 - 06:00  40     20
DB2 UDB for z/OS V8         5625-     60       15 Feb 2010 - 10:00  10      0
CICS TS for z/OS V3         5655-     50       16 Feb 2010 - 12:00  19     10
MQSeries for z/OS V6        5655-     29       16 Feb 2010 - 10:00  5      5
IMS V10                      5635-     10       15 Feb 2010 - 10:00  5      5
IBM Enterprise Cobol for z/OS and OS/390 V3  5655-G53  10       15 Feb 2010 - 10:00  5      5
Fault Analyzer for z/OS V8   5655-S15  10       15 Feb 2010 - 10:00  5      5
Fault Analyzer for z/OS V7   5655-R46  10       15 Feb 2010 - 10:00  5      5
Debug Tool Utilities Functions for z/OS V8  5655-S16  10       15 Feb 2010 - 10:00  5      5
Debug Tool Utilities Functions for z/OS V7  5655-R45  10       15 Feb 2010 - 10:00  5      5
IBM WebSphere Application Server for z/OS V6  5655-N01  2        05 Feb 2010 - 21:00  2      0
IBM WebSphere Application Server for z/OS V5  5655-I35  10       15 Feb 2010 - 10:00  5      5
Application Perf Analyzer for z/OS V8        5697-N63  10       15 Feb 2010 - 10:00  5      5
Application Perf Analyzer for z/OS V7        5697-N53  32       27 Feb 2010 - 06:00  12     20
```

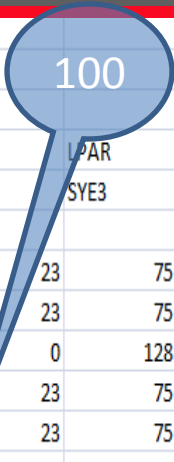
Hour	1	2	3	...	719	720
LPAR1 four-hour rolling avg util	60	60	50		50	45
LPAR2 four-hour rolling avg util	70	50	75		75	70
z/OS (in 1 and 2)	100	110	90	90	101	105
MQSeries and IMS (in LPAR 1 only)	60	50	75		75	70
CICS and DB2 (in LPAR 2 only)	70	80	75		75	70

Defined Capacity = 100

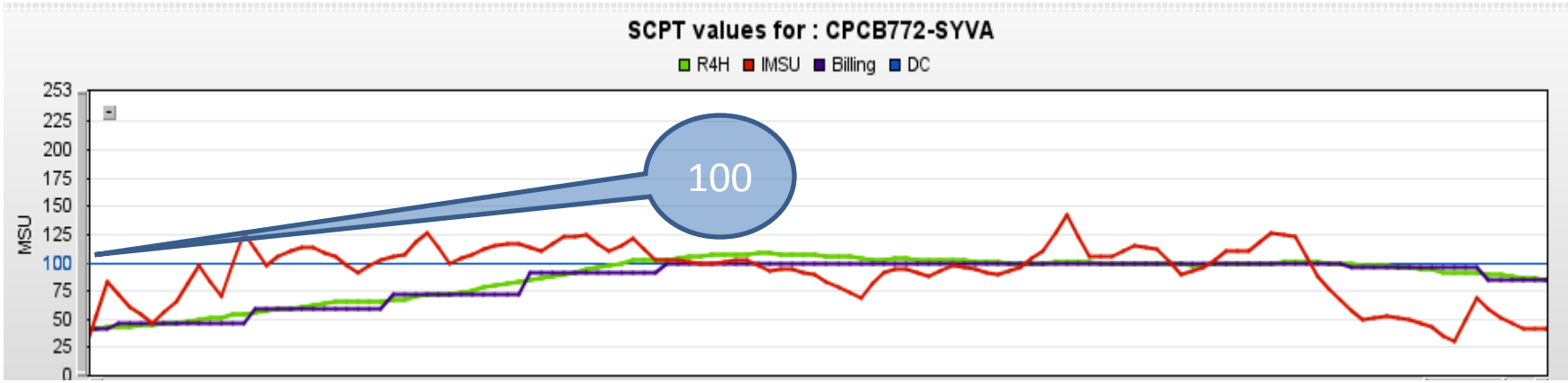
system z10

```
==P5=====
```

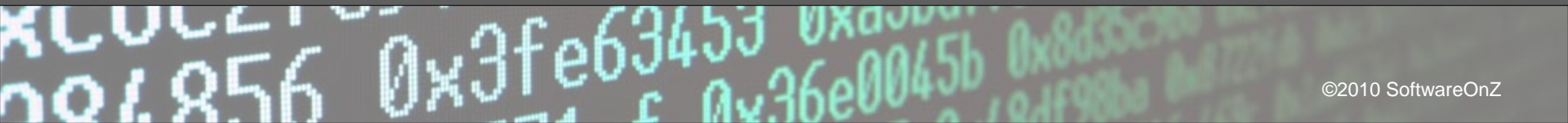
PRODUCT MAX CONTRIBUTORS													
Product Name	Product ID	Highest	Date/Time	LPAR SYVA	LPAR SYE1	LPAR SYE3	LPAR SYN2	LPAR SYTC	LPAR SYT1	LPAR SYV3	LPAR SYV4	LPAR SYV5	
z/OS V1	5694-A01	710	16 Feb 2010 - 01:00 UTC	91	23	75	7	4	7	389	93	21	
DB2 UDB for z/OS V8	5625-DB2	696	16 Feb 2010 - 01:00 UTC	91	23	75	0	4	0	389	93	21	
CICS TS for z/OS V3	5655-M15	336	19 Feb 2010 - 13:00 UTC	0	0	128	0	0	1	0	207	0	
WebSphere MQ for z/OS V	5655-R36	692	16 Feb 2010 - 01:00 UTC	91	23	75	0	0	0	389	93	21	
IMS V9	5655-J38	692	16 Feb 2010 - 01:00 UTC	91	23	75	0	0	0	389	93	21	
COBOL for OS/390 & VM V2	5648-A25	103	02 Feb 2010 - 04:00 UTC	100	0	0	0	3	0	0	0	0	



- Here, Cobol runs only on SYVA. SCRT displays 100 MSU because it retained the DC of 100 since the R4H was higher.

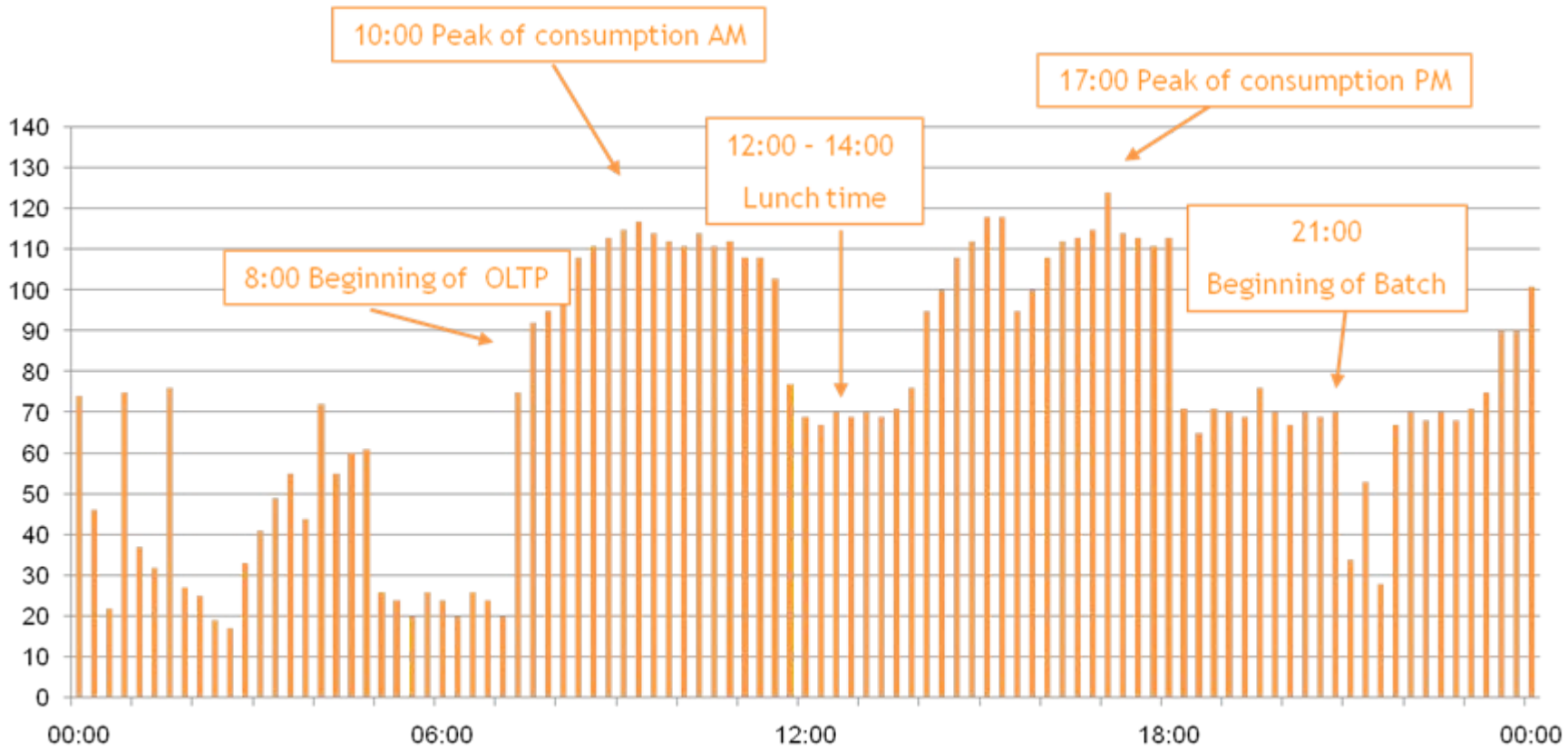


Conclusion



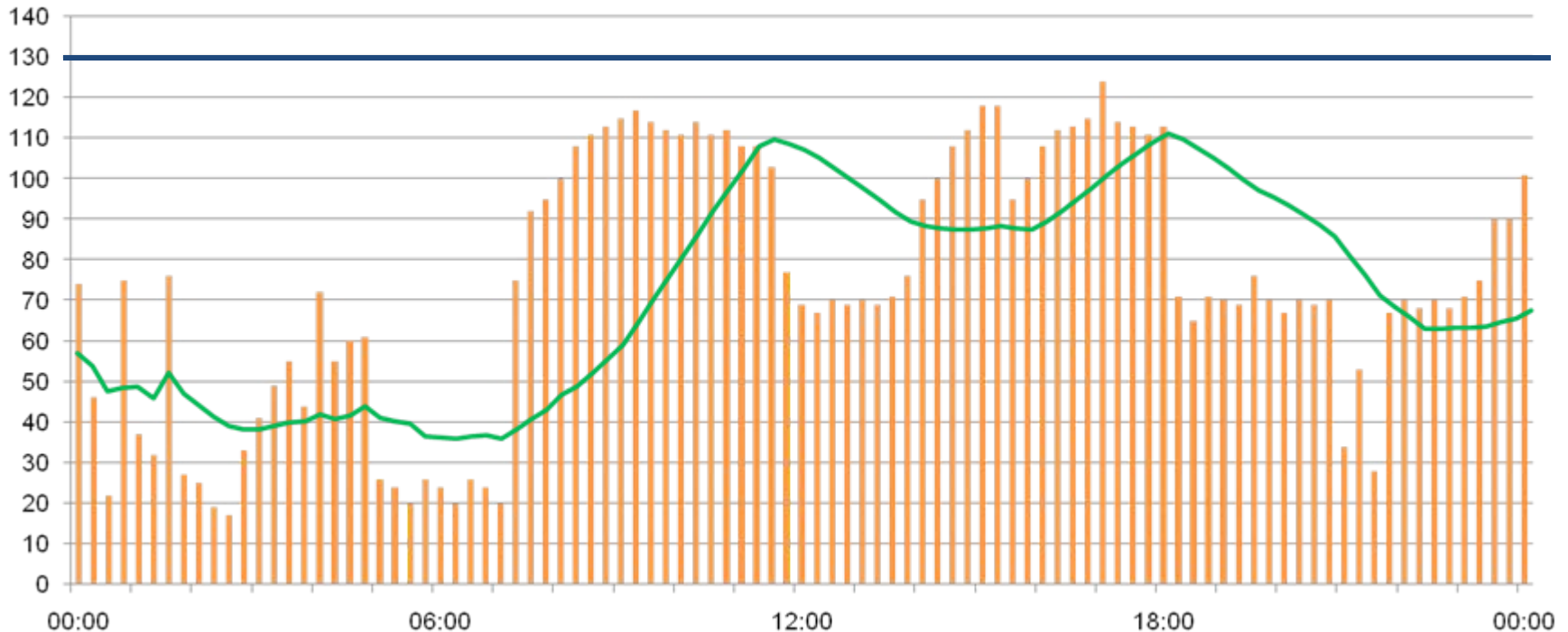
VWLC with Soft-Capping: LPAR view

► IMSU : Instantaneous consumption of MSU for the LPAR



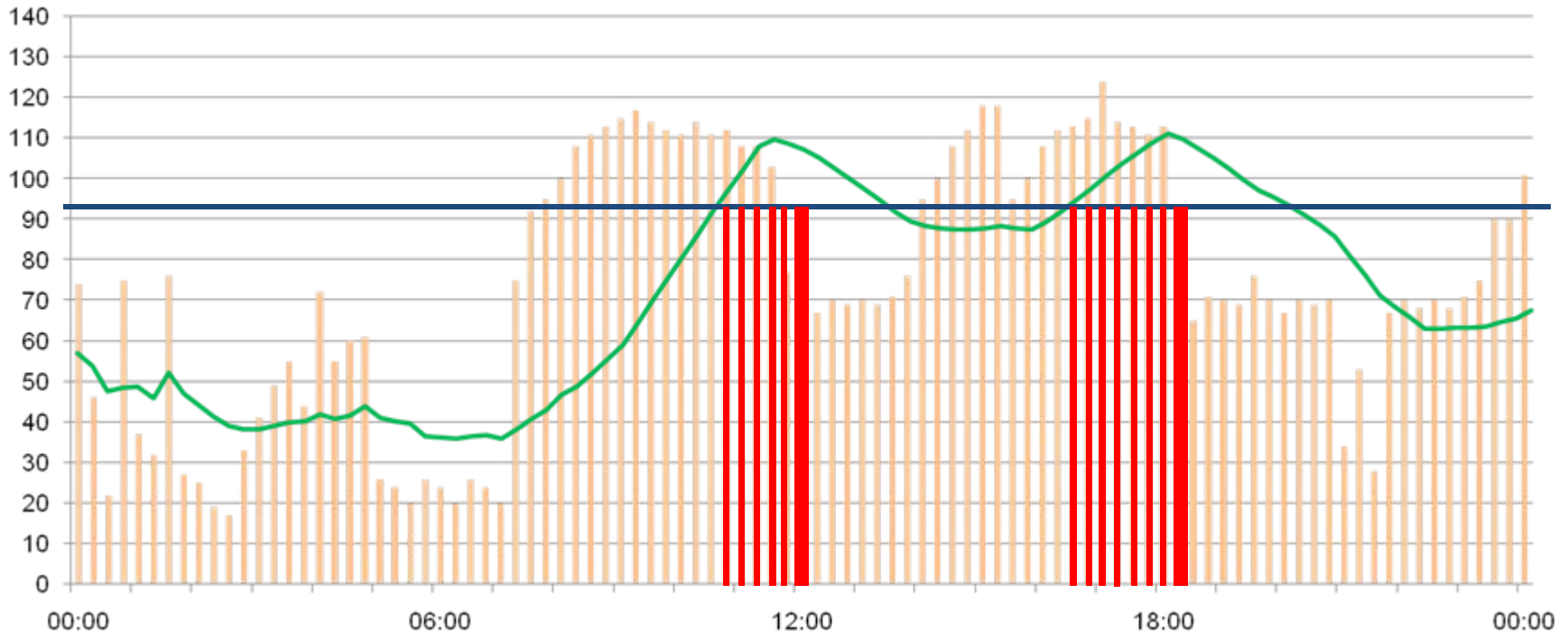
VWLC with Soft-Capping: LPAR view

- ▶ **IMSU** : Instantaneous consumption of MSU for the LPAR
- ▶ **R4H** : Average of IMSU in 4 consecutive hours.
- ▶ **DC** : Defined Capacity, billing limit that you do not want to exceed
... and that you can fix at any level you want



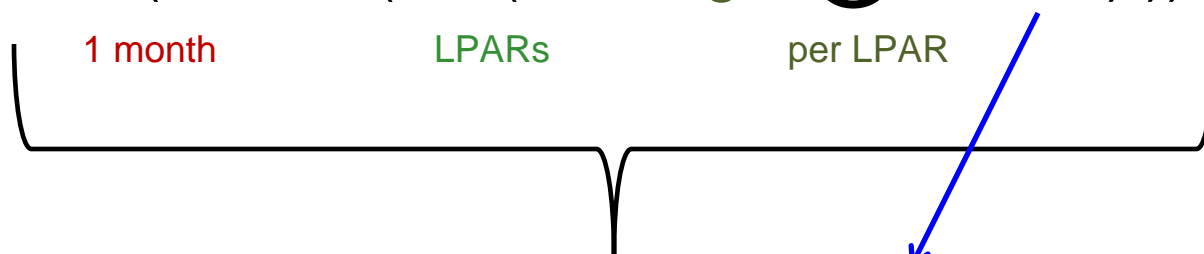
VWLC with Soft-Capping: LPAR view

- ▶ **IMSU** : Instantaneous consumption of MSU for the LPAR
- ▶ **R4H** : Average of IMSU in 4 consecutive hours.
- ▶ **DC** : Defined Capacity, billing limit that you don't want to exceed
... and that you can fix at any level you want
- ▶ **But performance can be affected (capping → IMSU is brought back to the DC) !**



IBM Soft-Capping feature

$$SCRT = \text{MAX} \left(\text{SUM} \left(\min \left(\text{Average } \cancel{R4H} \text{ or DC} \right) \right) \right)$$



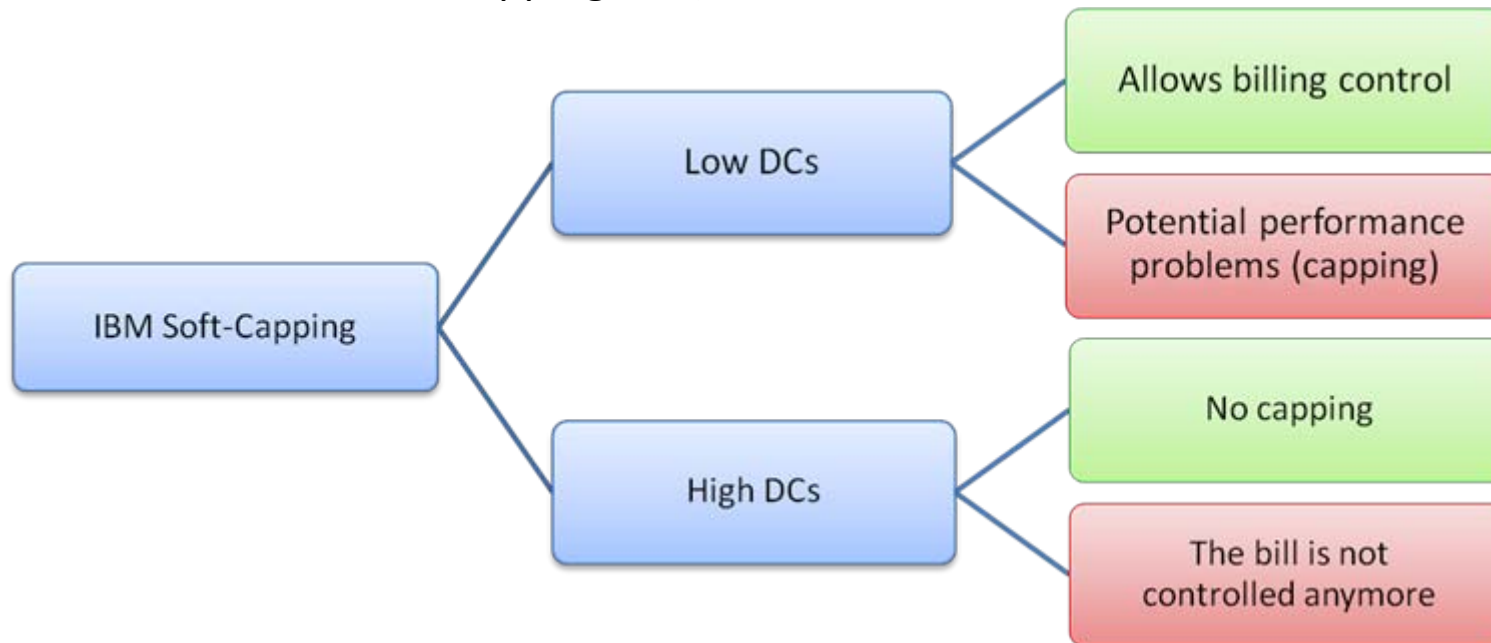
=====
PRODUCT MAX CONTRIBUTORS

Product Name	Product ID	Highest	Date/Time	LPAR1	LPAR2
z/OS V1	5694-				
DB2 UDB for z/OS V8	5625-	110		60	
CICS TS for z/OS V3	5655-				
MQSeries for z/OS V6	5655-				
IMS V10	5635-R01	50	27 Feb 2010 - 06:00	40	20
IBM Enterprise Cobol for z/OS and OS/390 V3	5655-G53	10	15 Feb 2010 - 10:00	10	0
Fault Analyzer for z/OS V8	5655-S15	29	16 Feb 2010 - 12:00	19	10
Fault Analyzer for z/OS V7	5655-R46	10	15 Feb 2010 - 10:00	5	5
Debug Tool Utilities Functions for z/OS V8	5655-S16	10	15 Feb 2010 - 10:00	5	5
Debug Tool Utilities Functions for z/OS V7	5655-R45	10	15 Feb 2010 - 10:00	5	5
IBM WebSphere Application Server for z/OS V6	5655-N01	2	05 Feb 2010 - 21:00	2	0
IBM WebSphere Application Server for z/OS V5	5655-I35	10	15 Feb 2010 - 10:00	5	5
Application Perf Analyzer for z/OS V8	5697-N63	10	15 Feb 2010 - 10:00	5	5
Application Perf Analyzer for z/OS V7	5697-N53	32	27 Feb 2010 - 06:00	12	20

Hour	1	2	3	...	719	720
LPAR1 four-hour rolling avg util	60	60	50		50	45
LPAR2 four-hour rolling avg util	70	50	75		75	70
z/OS (in 1 and 2)	100	110	90	90	101	105
MQSeries and IMS (in LPAR 1 only)	60	50	50		50	45
CICS and DB2 (in LPAR 2 only)	70	80	75		75	70

VWLC with IBM Soft-Capping: Pros & Cons

- VWLC with IBM Soft-Capping:
 - IBM Soft-Capping is easy to setup on the machine
 - It allows you to control the bill at a chosen level (by fixing DCs)
- VWLC with IBM Soft-Capping: + / -



It's a test ...

What are the 4 major components of vWLC?

What is the value of the SCRT B5 Section?

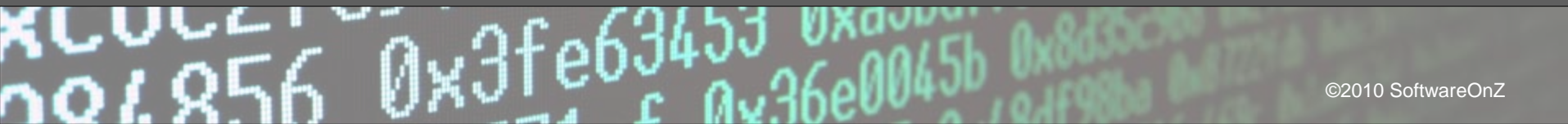
What is the most important number in the P5 Section?

How does the SCRT calculate each hour if Defined Capacity = 0?

Where do you set the **Defined Capacity blue line**?



You don't,
let an automated process handle it
zCost AutoSoftCapping (ASC)



- AutoSoftCapping:

Optimizes the performance of your system while controlling your Workload License Charge.

- The LPARs' DCs (Defined Capacity) are dynamically modified in real time by taking into account the behavior and needs of all the LPARs.
- Keeps the total DC (CPCMAX) constant and guarantees software cost optimization
 - 52-28-20 55-41-4 72-8-20 93-4-3
- Web reporting which allows for control on your activity and your System z/resources.
- ASC adjusts the DC line, WLM handles z/OS resources

General Principle

Setting the Defined Capacity line

Enforce AutoSoftCapping Defined Capacity parameters

CPC: **CPCMAX**, **CPCMIN**

LPAR: **MSUMAX**, **MSUMIN**, **DCFBase**

PERIOD statements

If **IMSU** < **R4H**

Decrease **DC** to just above the **R4H** to optimize the SCRT and avoid capping, releasing **DC** MSUs to the pool.

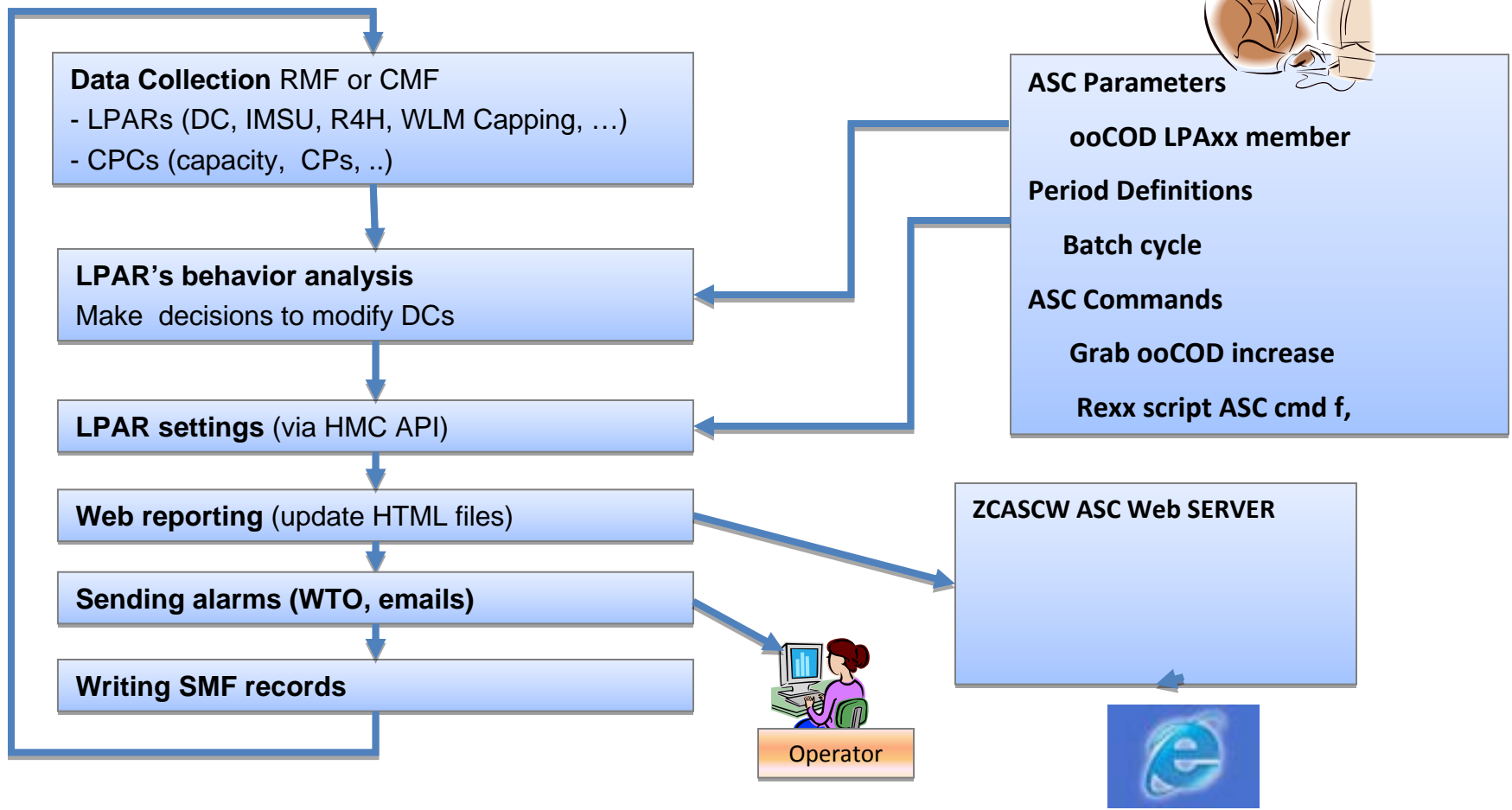
If **IMSU** > **R4H**

Increase **DC** to just above the **R4H** to avoid capping, taking from the pool or enforce capping as you have defined

ASC – Product Flow

system z10

ZCASC Main ASC Started Task

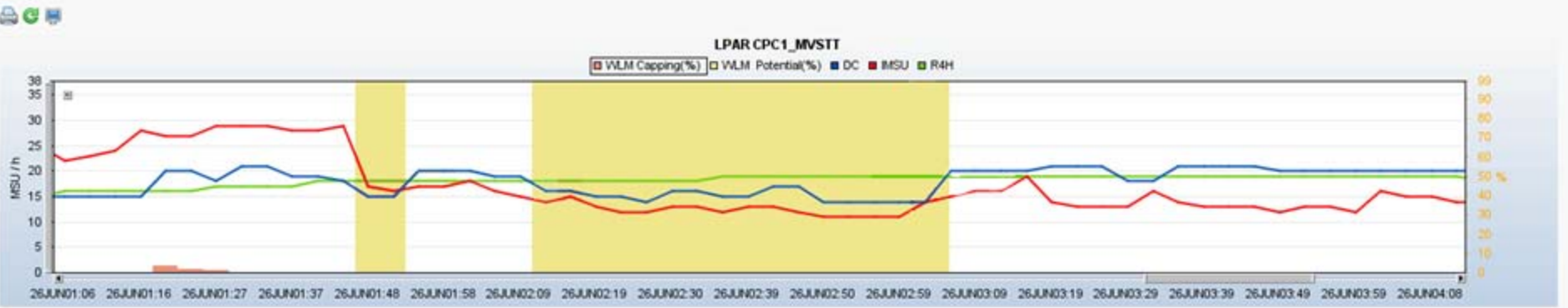


Auto Soft-Capping feature



CPC	LPAR	Psic status	Decisions in Log	Last Measurement
2	18	4	175	26 Jun.09 06:50

Status	Time	CPC	LPAR	DefCap New	DefCap Old	Weight New	Weight Old	Setting From	Setting To	Msumax	Msumin	Priority	Type
●	26 Jun.09 06:46	CPC2	◆ MVSD6	20	22	---	56	-	-	----	----	--	DY
●	26 Jun.09 06:46	CPC1	◆ MVSD1	36	34	---	107	-	-	----	----	--	DY
●	26 Jun.09 06:46	CPC2	◆ MVSP3	29	27	---	113	-	-	----	----	--	DY
●	26 Jun.09 06:46	CPC1	◆ MVST1	68	70	---	130	-	-	----	----	--	DY
●	26 Jun.09 06:43	CPC1	◆ MVSD1	34	35	---	107	-	-	----	----	--	DY
●	26 Jun.09 06:43	CPC1	◆ MVST1	16	15	---	42	-	-	----	----	--	DY
●	26 Jun.09 06:40	CPC1	◆ MVST1	15	17	---	42	-	-	----	----	--	DY



AutoSoftCapping V1.5.00 is a zCost Management product - mailto: support@zcostmanagement.com - Copyright , 2006-2009 by zCost Management. All rights reserved

What about ooCoD !

- Works just the way you want it to
- When new CPs are added to CEC ASC automatically responds by adjusting to the new resources
- How ASC responds is up to you.
 - Set MSUMAX to the new MSU rating?
 - Set MSUMAX to 50% of the new MSU Rating?
 - Change LPAR-B to PRIORITY = 10 ?
 - Set REACTIVITY = 10?
 - Set SECURITYMARGIN = 20?

LPAR Group Capacity Limit

system z10

Understanding and controlling LPARs

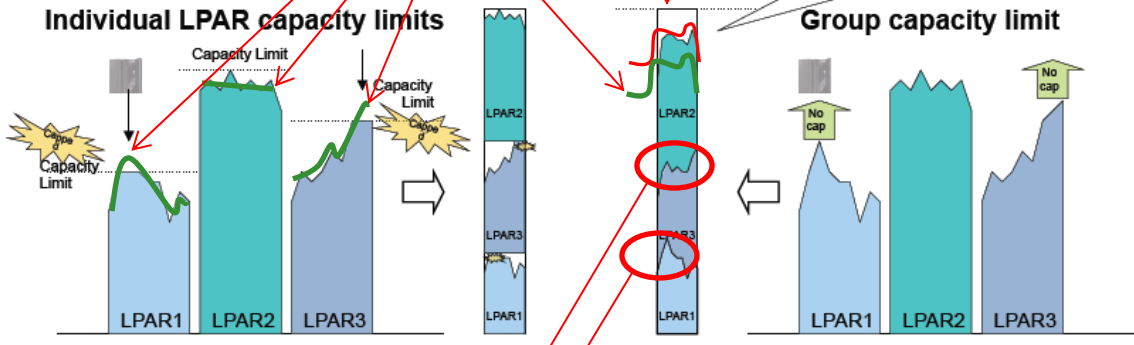


LPAR group capacity limit

Defined Capacity remains the same

ASC reduce capping and lowers DC to here, good for \$\$\$

- ! May help reduce the amount of 'capping'
- ! For more productive use of 'white space' and higher utilization



Reduce capping, good for customer

GCL Caution ...

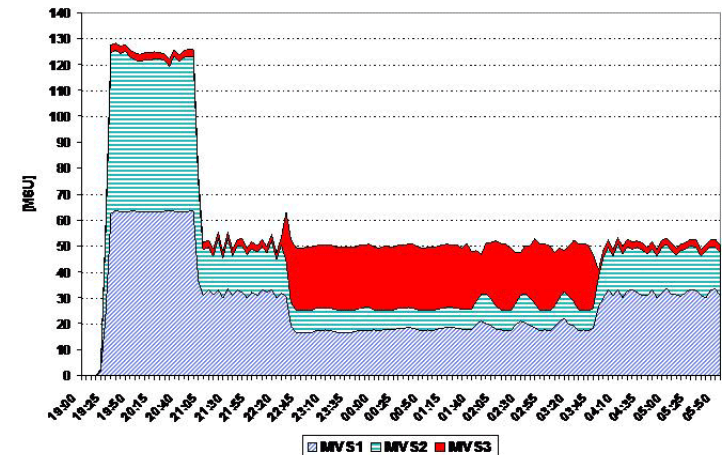
Defining Group Capacity

In the following example a capacity group is defined which consists of three partitions MVS1, MVS2 and MVS3. The group limit is defined to 50 MSU and the weights of the partitions are shown in Table 2:

Table 2. Example: Partition Definitions

Partition	Weight	Share [MSU]
MVS1	100	16,7
MVS2	50	8,3
MVS3	150	25

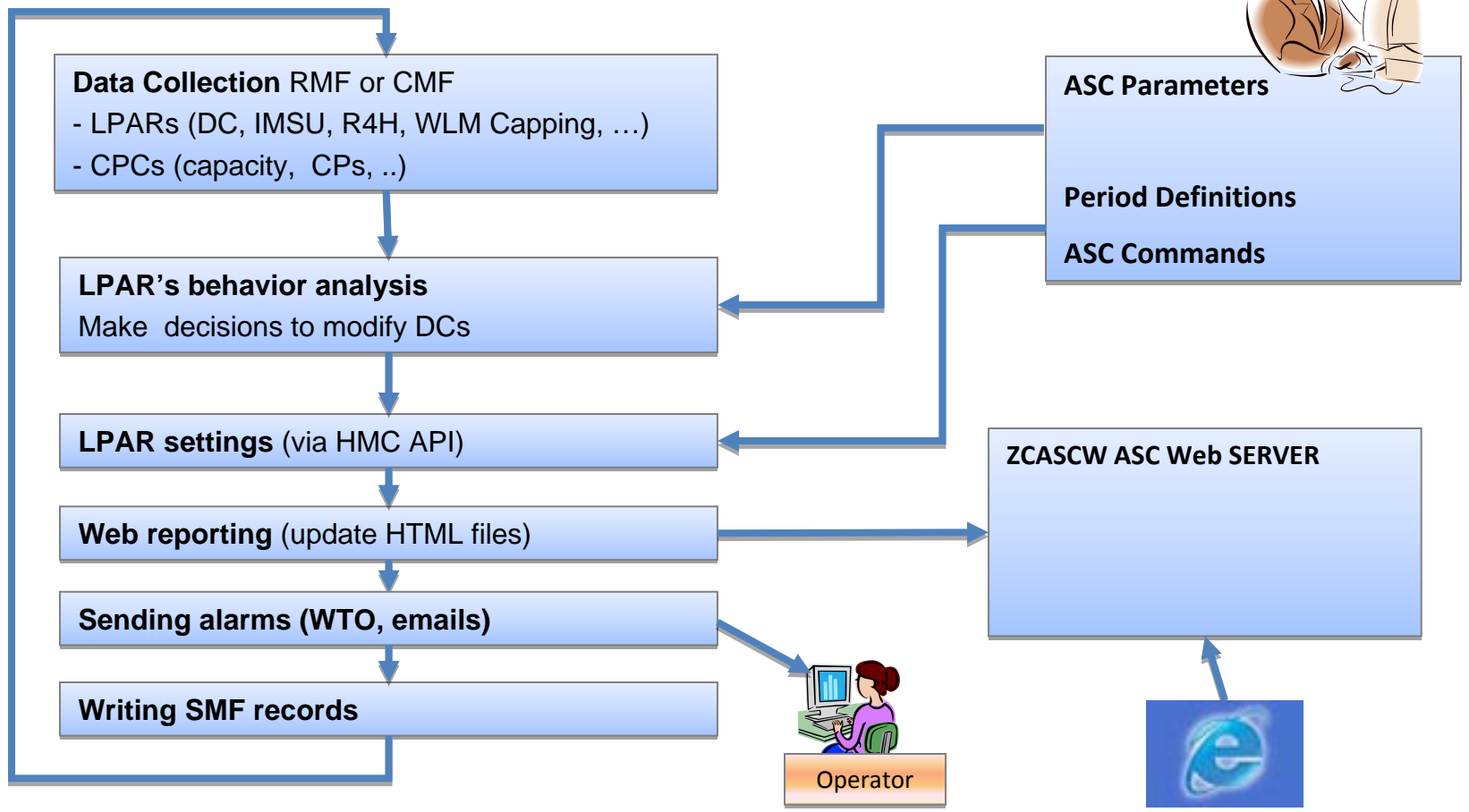
Partition Weight Share [MSU] MVS1 100 16,7 MVS2 50 8,3 MVS3 150 25 The total weight of all partitions in the group is 300. Based on the weight definitions, each partition gets an entitled share of the group capacity of 50 MSU. The entitled share is important to decide how much MSU can be used by each partition if the 4-hour rolling average of the group exceeds the group capacity limit. The share is also shown in Table 2. Figure 13 on page 27 shows an example how the partitions use their entitled capacity. At 07:00 p.m. all three partitions are started. In the beginning, only partition MVS1 and MVS2 use approximately 60 MSU. No work is running on partition MVS3. Therefore its measured consumption is very small. WLM starts to cap the partitions when the 4-hour rolling average for the combined usage exceeds the 50 MSU limit. This happens around 09:00 p.m. At that point, MVS1 is reduced to about 30 MSU and MVS2 to about 20 MSU. MVS3 still does not demand much CPU. Therefore the available MSU of the group can be consumed by MVS1 and MVS2. **Around 11:00 p.m. work is started on MVS3. A small spike can be observed when WLM recognizes that the third partition starts to demand its share of the group. After that spike MVS3 gets up to 25 MSU of the group because its weight is half of the group weight. MVS1 is reduced to 16.7 MSU and MVS2 to 8.3 MSU.** Based on variation in the workload the actual consumption of the partitions can vary but the group limit of 50 MSU is always met on average. The work on MVS3 stops around 04:00 p.m. At that point, a small negative spike can be observed and afterwards the capacity is consumed again only by the partitions MVS1 and MVS2.



ASC – Product Flow

system z10

ZCASC Main ASC Started Task



Putting ASC into action

system z10

softwareonZ
...a better way on z

- You provide us with:
 - NDA
 - On-site technical discussion of AutoSoftCapping
 - SMF records 70 over a significant period
 - The SCRT of the last month for each CPC
- We process the data through our simulator.
- We schedule a meeting to present:
 - Review the results of the simulations
 - Review the Financials, Costs and ROI
- Schedule a POC
 - Run in Simulation mode and validate results
 - Turn it on

zCost ASC – In Summary....

- ASC SAVES MONEY by controlling the z/OS license charge.
 - Very short ROI: All our current customers got an ROI between 3 and 12 months!
 - An average of saved MSU between 7 and 14%.
- ASC opens new opportunities in how you run your operations
- ASC is a simple tool:
 - Easy to set up on the machine (can be installed and a day or 2).
 - Compatible with all existing System z servers.
 - A sophisticated Web Reporting interface allows more control of the system.
- ASC receives excellent customer feedback.



Q&A

