



VWLC

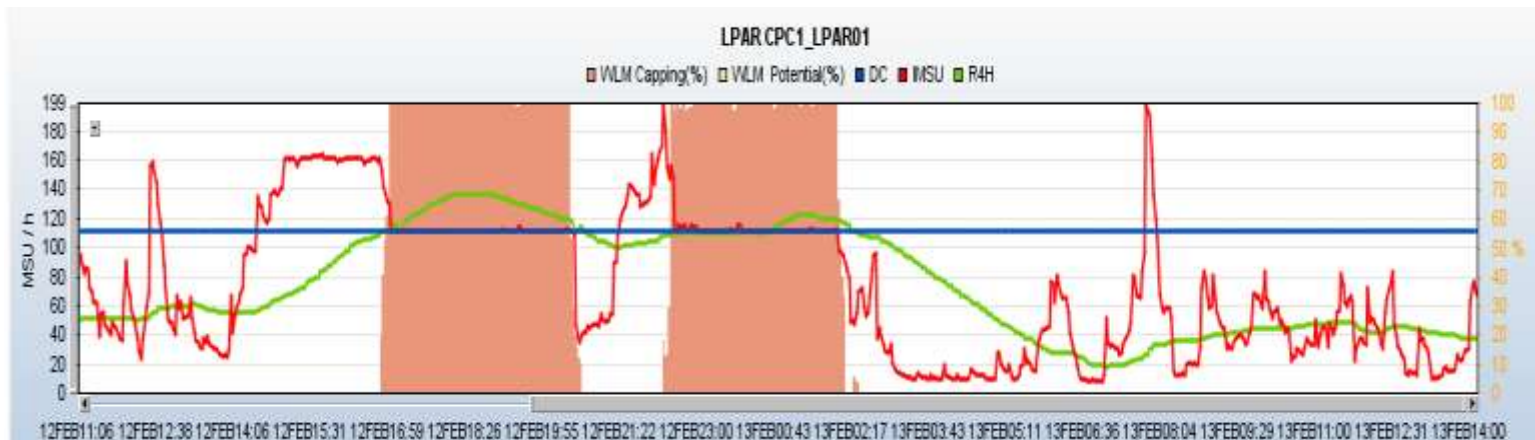
Part 2: The use of the Soft-Capping

IBM Soft-Capping feature

- IBM Soft-Capping is a feature which allows the control of z/OS bill by defining for each LPAR a MAXIMUM for the average consumption of MSU (R4H)
 - This limit is called Defined Capacity (DC)
- The Soft-Capping rule:
 - When Rolling 4 Hours (R4H) becomes superior 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.

When $R4H > DC$, IMSU is limited to DC, until $R4H < DC$.

- Example of an LPAR which is capped:



LPAR Image options – Defined Capacity

Customize Activation Profiles: MA0 : MA0A0 : CZ01 : Options

- Storage Options
- YCF1
- ZCF1
 - General Processor
 - Security
 - Storage Options
- CZ01
 - General Processor
 - Security
 - Storage Options
 - Options
 - Load
 - Crypto

Image Options

Minimum input/output (I/O) priority *	<input type="text" value="0"/>
Maximum input/output (I/O) priority *	<input type="text" value="0"/>
Defined capacity *	<input type="text" value="90"/>
CP management cluster name	<input type="text"/>

Soft-Capping is enabled by the LPAR clustering technology of the System z servers together with the License Manager component of z/OS. Each LP is assigned a defined capacity by the installation in terms of Millions of Service Units (MSUs). WLM helps ensure that the rolling 4-hour average CPU utilization for the LP does not exceed this amount. If the 4-hour average CPU consumption of the LP exceeds the defined capacity of the LP, WLM dynamically activates LPAR capping (soft-capping).

WLM will not dynamically adjust the defined capacity for an LP. This is the responsibility of the installation.

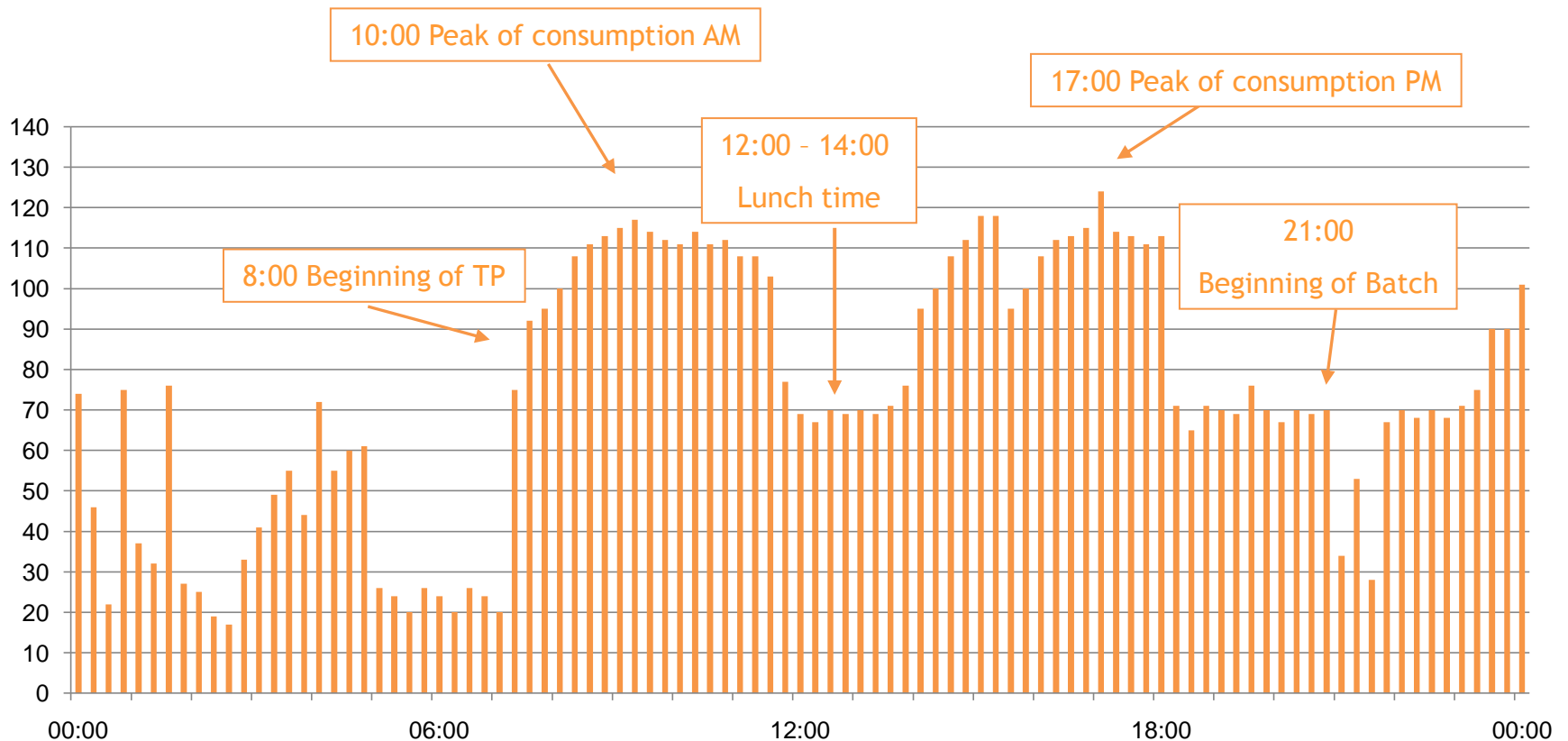


Conclusion

Introduction to VWLC

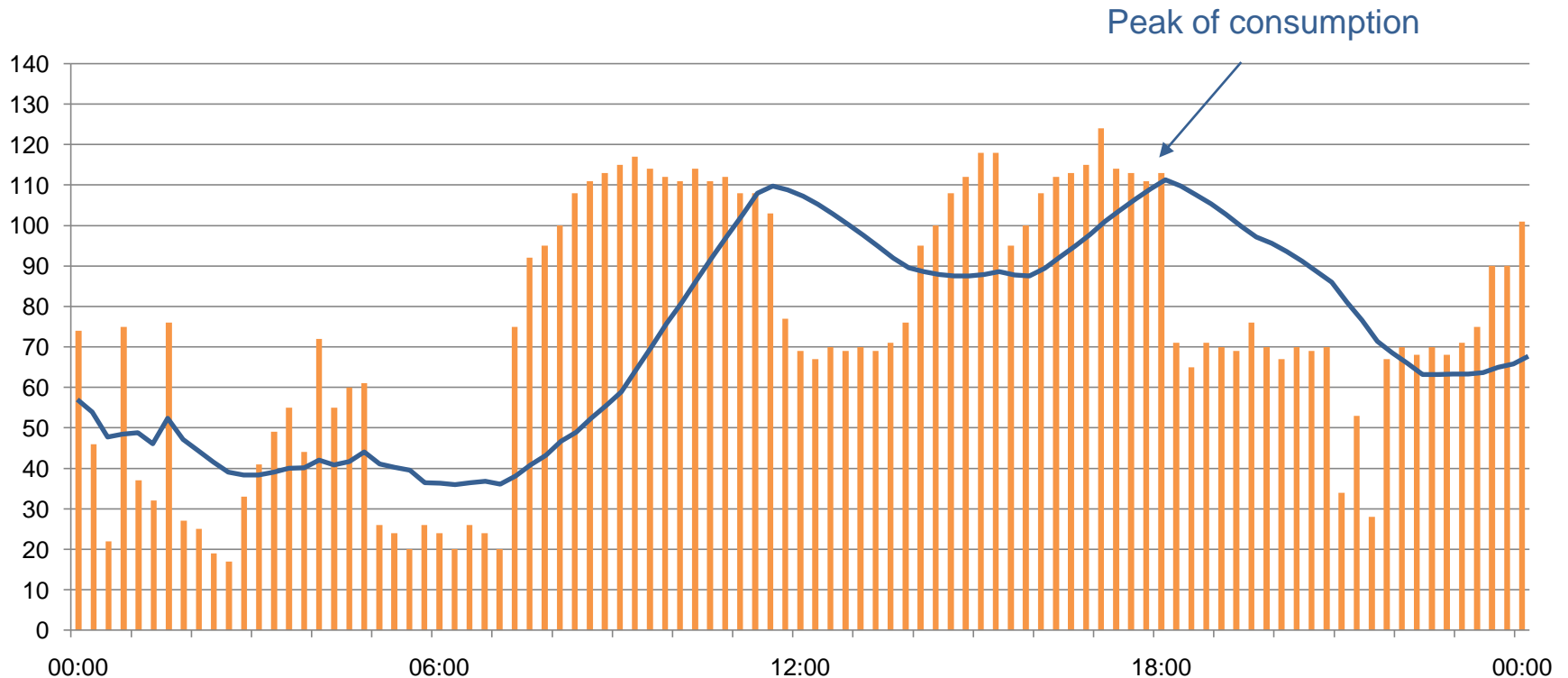
VWLC with Soft-Capping: LPAR view

- ▶ **IMSU** : Instantaneous consumption of MSU for the LPAR



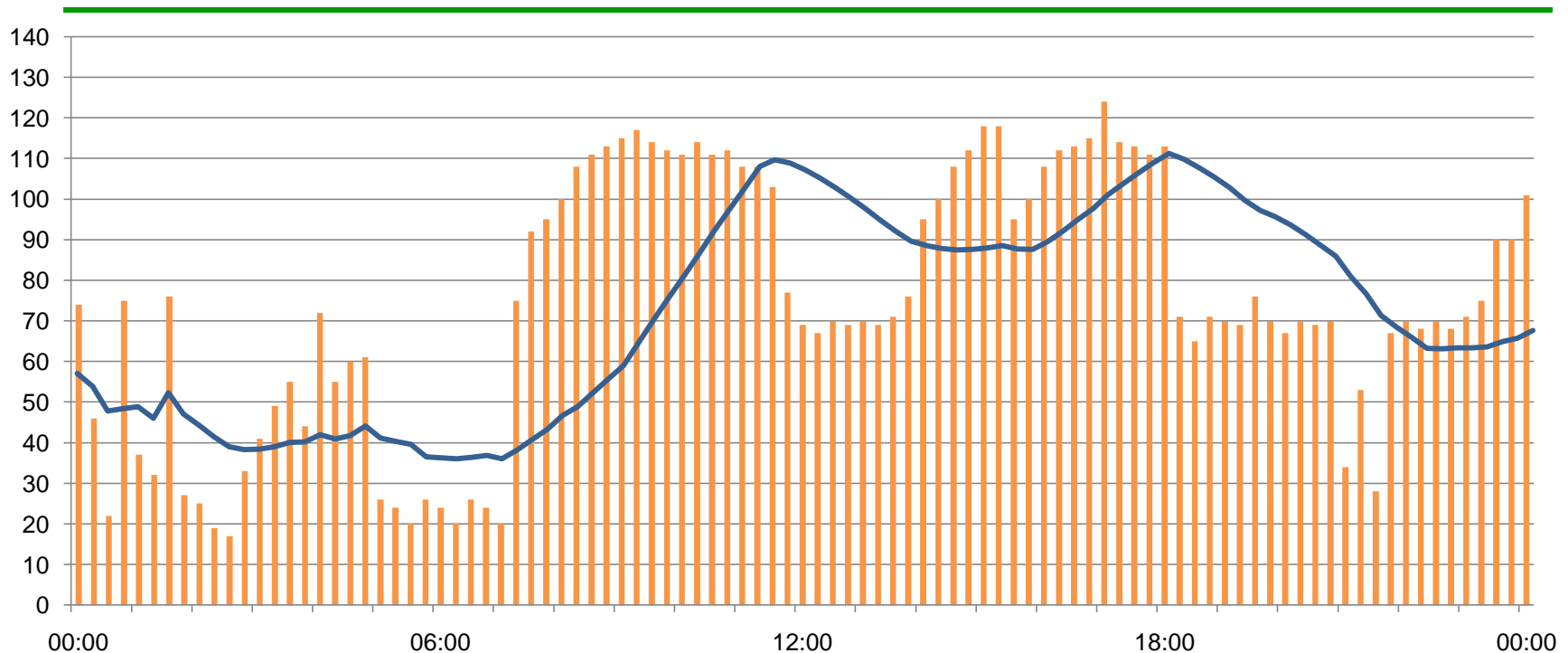
VWLC with Soft-Capping: LPAR view

- ▶ **IMSU** : Instantaneous consumption of MSU for the LPAR
- ▶ **R4H** : Average of IMSU in 4 consecutive hours.



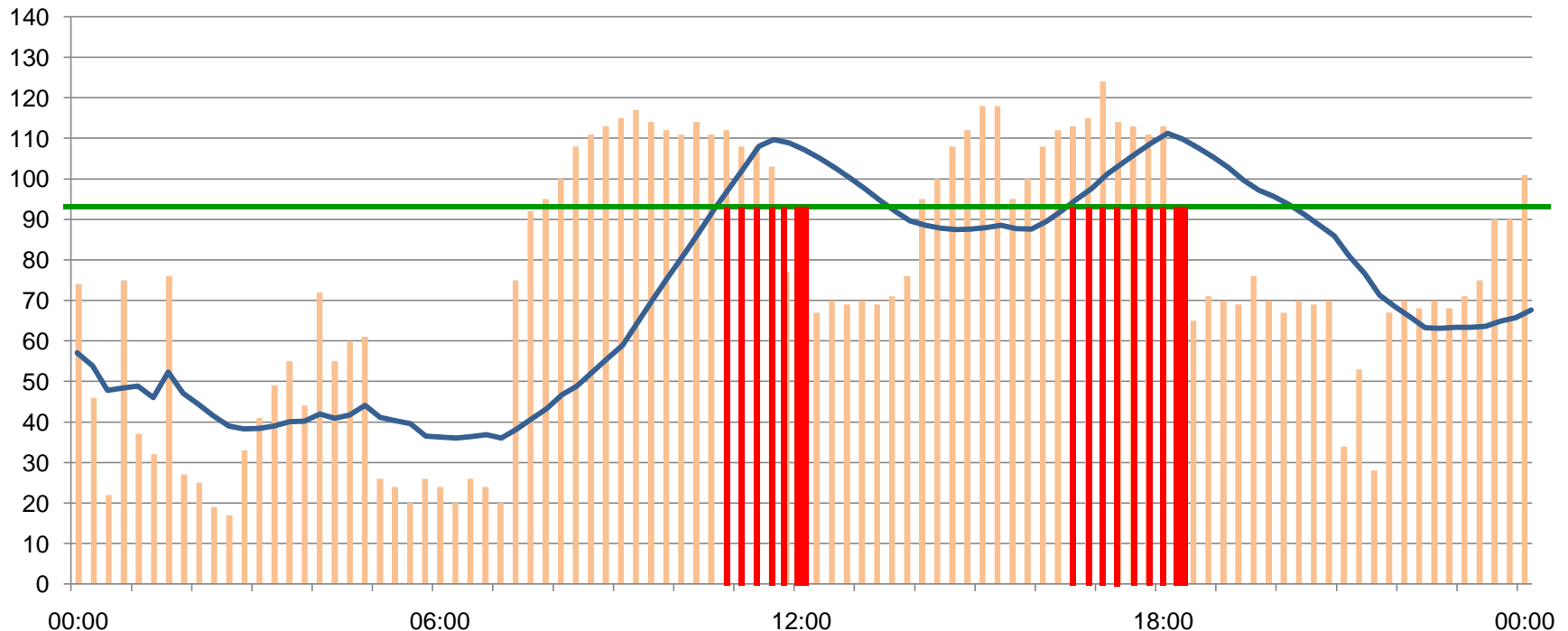
VWLC with Soft-Capping: LPAR view

- ▶ **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

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... and that you can fix at any level you want
- ▶ **But performance can be affected (capping → IMSU is brought back to the DC) !!!**



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: + / -

