

Session z100833

A consultant looks at Country Multiplex and
Container Pricing

—
Cheryl Watson

cheryl@watsonwalker.com

Watson & Walker



TechU

2018 IBM Systems Technical University

May 2, 2018

Orlando, Florida

IBM®

Please note

While Country Multiplex Pricing has been available for two years now, Container Pricing is still in its infancy. The information in this presentation is our best understanding of how Container Pricing works, based on the available documentation and discussions with IBM. However, as with any decision that has financial repercussions, you should verify your assumptions with IBM before making a final decision.

Introduction

Thank you for coming.

Who am I?

- President of Watson & Walker Inc. since 1986
- Working on IBM mainframes since 1965
- We publish Cheryl Watson's Tuning Letter (since 1991)
 - Now available to subscribers online at www.watsonwalkerpublications.com
- We teach classes, consult, and have three software products: BoxScore, BoxScore II, GoalTender
- Our latest SCRTPro Service Offering processes SCRT reports and helps to control your IBM Software costs
- z/OS evangelists, Subject Matter Experts in Software pricing, Parallel Sysplex, and Workload Manager.



What we are going to talk about:

- Something old(?) – Country Multiplex Pricing
- Something new – IBM Container Pricing

Feel free to ask questions and make this session as interactive as possible.

Country Multiplex Pricing

Country Multiplex Pricing (CMP)



What
is it?

- A follow-on to AWLC (Advanced Workload License Charge).
- Intended to remove the technical limitations and downsides of Sysplex Aggregation. This is primarily is a technical initiative, not a financial one.
- Customers around 1950 MSUs might see savings due to additional CMLC tiers

Country Multiplex Pricing (CMP)

What it
is NOT?

- A way to reduce current costs. All other things being equal, the cost of running in CMP mode is designed to be the same as running in pre-CMP mode.
- If you are growing, future costs would probably be a little less than if you were to stay on AWLC.
- If you are shrinking, future costs would probably be a little higher than if you remained on AWLC.

Question – How many of you are
already running in CMP?

Country Multiplex Pricing (CMP)

What
benefits
does it
provide?

- Because the old Sysplex Aggregation criteria are irrelevant in CMP mode, there will no longer be a reason to shoehorn dis-similar systems into the same sysplex for purely financial reasons.
- Removing the incentive to create sysplexes with unrelated systems (for example, Production and Test) should improve overall availability, and provide increased flexibility for the non-production systems.

Country Multiplex Pricing (CMP)

What
benefits
does it
provide?

- When using CMP, MSUs are summed across ALL your CPCs (in a given country), rather than CPC by CPC.
- This means that you can move a workload from one CPC to another (even from one data center to another), and it should have zero impact on your MLC bill.
- You can “move MIPS” from one CPC to another. If you increase the caps on one CPC, and decrease the caps on another CPC(s) at the same time by the same amount, there should be zero impact on your MLC bill.
- Because the MSUs are summed across all CPCs when using CMP (the “peak of the sums”), if you are growing, the peak R4HA would be expected to be less than if you are non-CMP (and using the “sum of the peaks”).

Basics – Sum of the Peaks

How IBM arrives at your (pre-CMP) monthly z/OS-based software bill:

– DO THIS For each product:

- For each CPC:
 - Identify the peak Rolling 4-Hour Interval (in MSUs) in the month for that product (A).
- For each CPC or aggregated group:
 - Sum the 'A' values for that CPC or group.

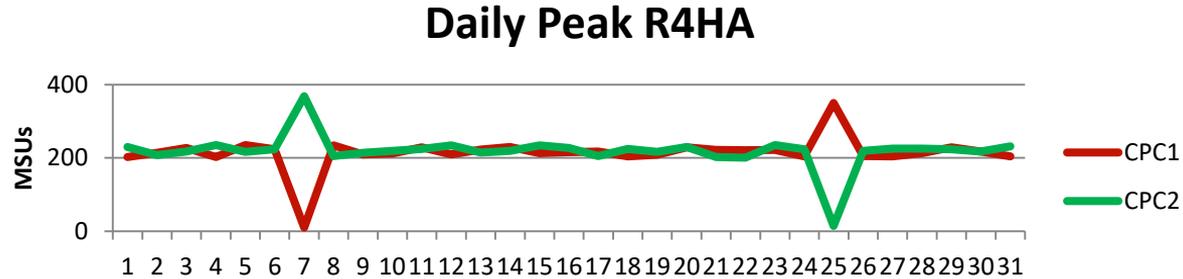


	CPC ₁						CPC ₂					CPC ₃				AWLC SUM
	LP ₁	LP ₂	LP ₃	LP ₄	AWLC SUM		LP ₁	LP ₂	LP ₃	AWLC SUM		LP ₁	LP ₂	AWLC SUM		
0:00	55	232	13	563	863	0:00	217	101	392	710	0:00	148	183	331		
1:00	64	481	49	246	840	1:00	276	392	384	1052	1:00	71	62	133		
2:00	60	454	15	255	784	2:00	235	382	65	682	2:00	179	288	467		
3:00	73	279	38	342	732	3:00	166	269	202	637	3:00	348	321	669		
4:00	75	257	37	671	1040	4:00	108	218	347	673	4:00	260	115	375		
5:00	52	442	32	329	855	5:00	369	86	122	577	5:00	450	123	573		
6:00	61	415	17	172	665	6:00	315	342	123	780	6:00	241	74	315		
7:00	75	406	12	168	661	7:00	366	293	155	814	7:00	148	340	488		
8:00	66	465	12	159	702	8:00	117	64	100	281	8:00	103	363	466		
9:00	68	374	18	390	850	9:00	154	264	347	765	9:00	446	155	601		
10:00	63	350	50	571	1034	10:00	266	83	220	569	10:00	229	399	628		
11:00	66	395	22	382	865	11:00	339	120	336	795	11:00	244	373	617		
12:00	52	459	24	263	798	12:00	342	247	318	907	12:00	304	211	515		
Peak					1040	+				1052	+			669	→	2761



Problem – Moving Workloads

- However, while sysplex provides the *technical* ability to float and shift workloads between systems, CPCs, and even sites, the use of the peak R4HA for *each* CPC to determine your software bill can act as a financial disincentive to exploit this capability.



- In this example, the combined CPC consumption never exceeded about 460 MSUs. However, the bill for this month would be for 710 MSUs (peak of 350 MSUs for CPC1 plus 360 MSUs for CPC2).
- Another example - When doing a permanent move of a sizeable workload between CPCs, you would need to do it at 23:59 on the 1st of the month to avoid having to pay for that workload twice in that month. But that timing might not suit your business.

CMP – Peak of the Sums

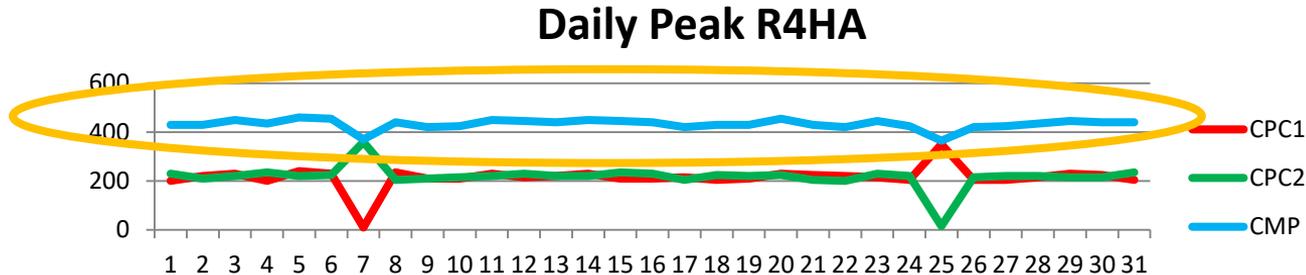
- When using CMP, your peak R4HA is calculated by summing the MSUs for LPARs across ALL CPCs, not on a CPC-by-CPC basis.
- The *worst* case is that the CMP R4HA will be the same as the pre-CMP R4HA. In practice, it should nearly always be less.

AWLC SUM = 1040 + 1052 + 669 = 2761
 CMP SUM = 2277

	CPC1						CPC2						CPC3				AWLC SUM	CMLC SUM
	LP1	LP2	LP3	LP4	AWLC SUM		LP1	LP2	LP3	AWLC SUM		LP1	LP2	AWLC SUM				
0:00	55	232	13	563	863	0:00	217	101	392	710	0:00	148	183	331		1904		
1:00	64	481	49	246	840	1:00	276	392	384	1052	1:00	71	62	133		2025		
2:00	60	454	15	255	784	2:00	235	382	65	682	2:00	179	288	467		1933		
3:00	73	279	38	342	732	3:00	166	269	202	637	3:00	348	321	669		2038		
4:00	75	257	37	671	1040	4:00	108	218	347	673	4:00	260	115	375		2088		
5:00	52	442	32	329	855	5:00	369	86	122	577	5:00	450	123	573		2005		
6:00	61	415	17	172	665	6:00	315	342	123	780	6:00	241	74	315		1760		
7:00	75	406	12	168	661	7:00	366	293	155	814	7:00	148	340	488		1963		
8:00	66	465	12	159	702	8:00	117	64	100	281	8:00	103	363	466		1449		
9:00	68	374	18	390	850	9:00	154	264	347	765	9:00	446	155	601		2216		
10:00	63	350	50	571	1034	10:00	266	83	220	569	10:00	229	399	628		2231		
11:00	66	395	22	382	865	11:00	339	120	336	795	11:00	244	373	617		2277		
12:00	52	459	24	263	798	12:00	342	247	318	907	12:00	304	211	515		2220		
Peak					1040					1052				669		2761	2277	

CMP – Freely Move Workloads

- Because your peak R4HA is calculated by summing the MSUs for LPARs across ALL CPCs moving a workload from one CPC to another should have zero impact on your software bill – note that the CMP line below (blue one) is no higher on days 7 or 25, so the bill would be for 460 MSUs rather than 710 MSUs if not using CMP.
- This means that you can now move workloads when it suits *your business*, not when it fits in with how your R4HA is calculated.
- You can also better exploit queue sharing and dynamic workload routing.



Country Multiplex Pricing (CMP)

If the CMP peak R4HA is less than the AWLC R4HA, why does my bill not get smaller?

CMP is designed to be “revenue neutral” – not *save* you money, not *cost* you money.

Country Multiplex Pricing (CMP)

To achieve
this, IBM
determines:

- The pre-CMP MSUs and \$ price for each product
- The CMP MSUs and \$ price for each product.
- The % uplift (IBM calls this the “MLC Base Factor”) that will be applied to future bills so that the CMP price would equal the pre-CMP price if everything else (MSUs, discounts) were the same.

This calculation is applied to 3 months of SCRT data from your systems (this is called the “qualification period”). To determine what the CMP MSUs would have been, simply run your SCRT jobs again, but with the “Country_Multiplex_Pricing” SPECIAL control statement.

CMP Financials

How does all this get factored into working out your bill after moving to CMP?

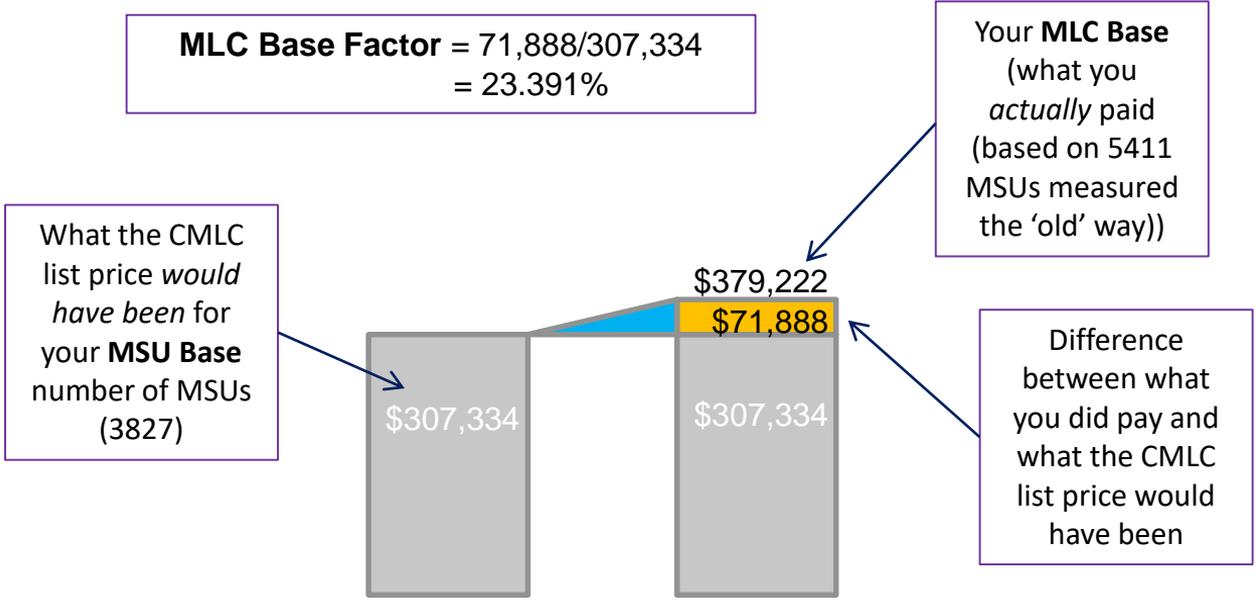
- Calculate the list price of the total reported Multiplex peak MSUs using the CMLC metric.
- Calculate the current list price of the Base MSUs using the CMLC metric.
- Multiply the result of Step 2 by the MLC Base Factor (your uplift).
- Add the results from Step 1 (CMLC List price) and Step 3 (your uplift) to determine your adjusted CMLC price for that period.

This calculation takes place EVERY MONTH until IBM changes the rules, or you move to some other pricing metric.

Let's look at an example (based on an example by IBM's David Chase). For the sake of 'simplicity', I have ignored any TTO or other discounts.

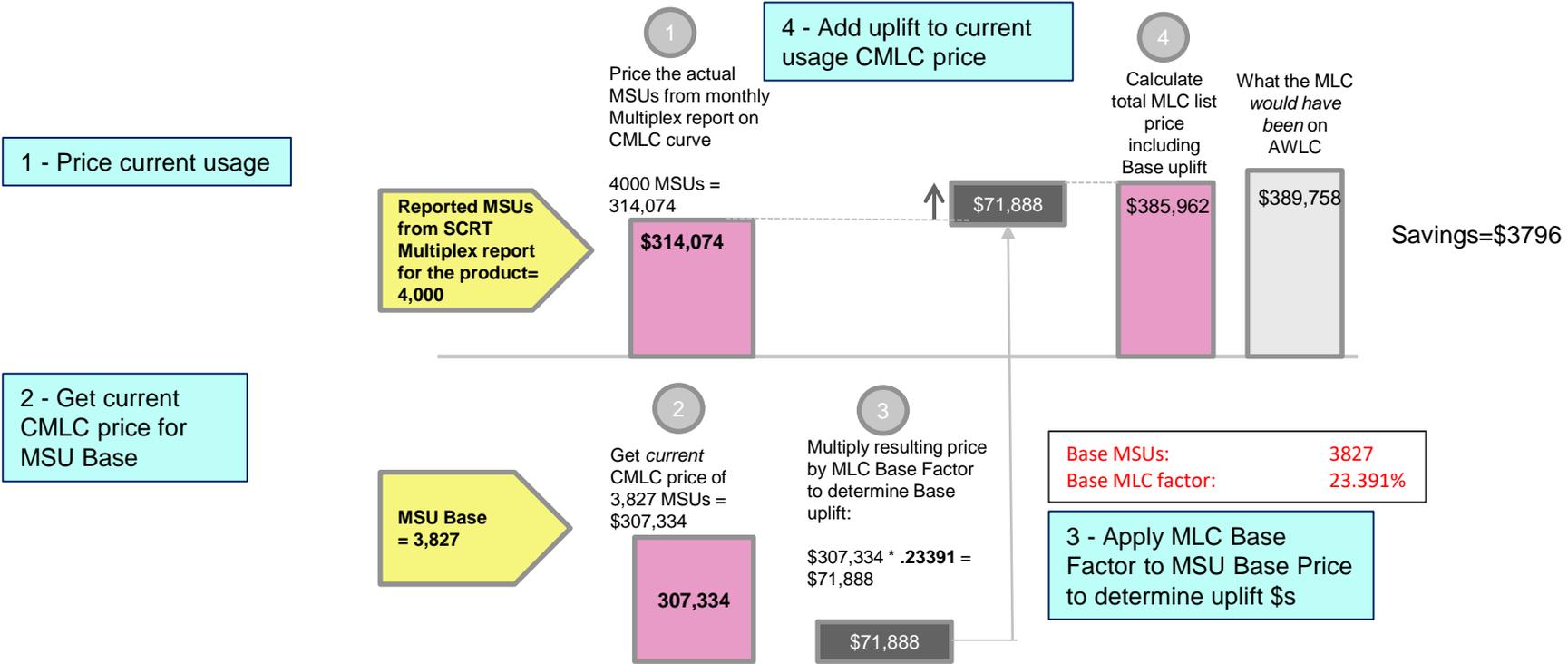
CMP Financials

Assumption:
CMP R4HA - 3827
Pre-CMP R4HA - 5411



How will all this affect my bill when I move to CMP?

CMP – Growth Scenario



CMP – Shrinking Scenario

1 - Price current usage

Reported MSUs from SCRT Multiplex report for the product= 3654

1
Price the actual MSUs from monthly Multiplex report on CMLC curve

3654 MSUs = 300,594

\$300,594

4 - Add uplift to current usage CMLC price

4
Calculate total MLC list price including Base uplift

\$372,482

What the MLC would have been on AWLC

\$368,653

Cost=\$3829

2 - Get current CMLC price for MSU Base

MSU Base = 3,827

2
Get current CMLC price of 3,827 MSUs = \$307,334

307,334

3
Multiply resulting price by MLC Base Factor to determine Base uplift:

$$\$307,334 * .23391 = \$71,888$$

\$71,888

Base MSUs: 3827
Base MLC factor: 23.391%

3 - Apply MLC Base Factor to MSU Base Price to determine uplift \$s

Country Multiplex Pricing (CMP)

Tips:

- Common wisdom is that you should aim to keep utilization as low as possible during the qualification period.
- However, the %uplift is calculated as the difference between the MSUs and \$s using the pre-CMP methodology and the CMP methodology.
- Therefore, what you *really* should be aiming for is a period when the difference in MSUs measured using the two methods is as small as possible.

Country Multiplex Pricing (CMP)

Tips:

- We have found that customers that are running close to full capacity have lower uplifts (the lowest we have seen is <1%). Customers with multiple priceplexes (i.e., not all CPCs are aggregated together, multiple sites) tend to have the highest %uplift (>25%).
- The uplift % for each product *will* be different.
- Do not, **NOT**, disaggregate BEFORE you move to CMP. Once you get there, you can do what you want.
- If possible, try to have as many of your CPCs as possible in as few aggregation groups as possible during the qualification period.

Country Multiplex Pricing (CMP)

Tips:

- Run multiplex reports for the last 12 months and see if there is a time in your business cycle when the difference between the methodologies is as small as possible. If that is likely to repeat, then aim for those three months. But be careful if you added CPC capacity in the interim – CPCs with lower utilization and no capping are more likely to see larger %uplift values.
- If your z/OS usage is decreasing, your MLC bills are likely to decline at a lower rate if you are using CMP. But the technical benefits of CMP still apply. You need to determine if the benefits outweigh the higher costs.

Country Multiplex Pricing (CMP)

Tips:

- Expectation setting is VITAL. Sell this to your management as a significant technical enhancement that, due to your outstanding negotiating skills, IBM is letting you have for nearly no cost.
- Then, *if* your bills work out a little smaller, you will be hailed as a hero!
- On the other hand, if you position it as a way to reduce your costs and there isn't a ANY cost reduction, things might not work out so well..
- Do **not** make decisions based on ROTs or industry guidelines or trends – use YOUR numbers to model various scenarios – growth, reduction, add products, remove products, etc.



Container Pricing

Container Pricing

What is it? TWO things:

- Infrastructure enhancements (in WLM, SMF, RMF, SDSF, z/OSMF, and SCRT) that lay the groundwork for far greater flexibility in software pricing.
 - These were discussed in session z100832 this morning.
- New software pricing options (three so far) that will exploit the new infrastructure. The pricing options are called “Solutions”.
 - In *all* cases, the objective is that the cost of the *non-container* workload should not be affected by the presence of the workload that is using one of the Solutions.
 - Additionally, they try to make the cost of selected workloads more affordable/predictable/attributable-to-business metrics.

Container Pricing

MORE software pricing options??!!

Yes, more pricing options.



However, due to the infrastructure enhancements, the new Container-Based Pricing options should be free of the contractual restrictions that came with some of the old options:

- You can run the qualifying workload in its own LPAR (like zNALC), OR in existing LPARs ('collocated'), OR across both.
- Assigning work to a Solution, collecting usage information, and passing it to SCRT should all be handled by the infrastructure, rather than *you* having to write your own programs and wade through TBs of SMF data.

Container Pricing

The technical details of how containers work were covered in Session z100832 this morning.

In this session, we will focus on recent pricing options that exploit the Container Pricing infrastructure.

- [Dev/Test Solution](#)
- [New Application Solution](#)
- [Payments Processing Solution](#)

Container Pricing – Dev/Test Solution

Dev/Test Solution

- The most popular offering currently is the Dev/Test Solution one
- Development and test LPARs typically need to have every piece of software that is running in any of the production LPARs. This makes the cost per MSU of these LPARs very high.
- As a result, many customers cap the development LPARs to contain costs. But this is not very popular with developers, who have to suffer glacial response and turnaround times.

Container Pricing – Dev/Test Solution

Dev/Test Solution

- This low-productivity environment works to make off-platform development options even more attractive.
 - This is not consistent with encouraging application owners to deploy new applications on z/OS.
- Most customers have separate LPARs for Development and Test. This makes sizing the container and implementing the Solution easier than would be the case if LPARs are shared between DevTest and Production.

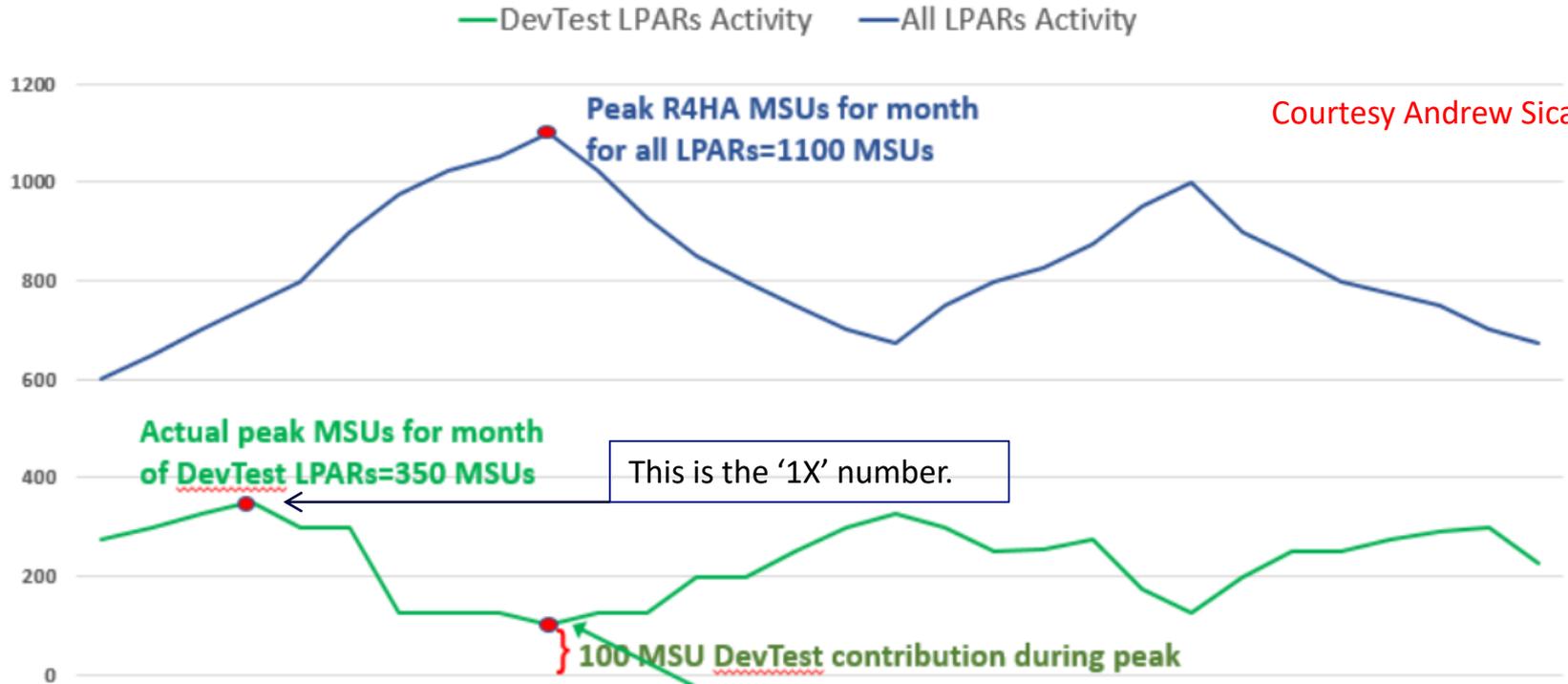
Container Pricing – Dev/Test Solution

Dev/Test Solution

- It removes the consumption of the development and test workloads when calculating the peak R4HA of the other workloads.
- It caps the cost of the MLC software for the Dev/Test workloads, even if the consumption of those workloads increases up to 3 times the current peak R4HA of those workloads.
- Let's look at an example...

Container Pricing

Old Slide – No Longer True!



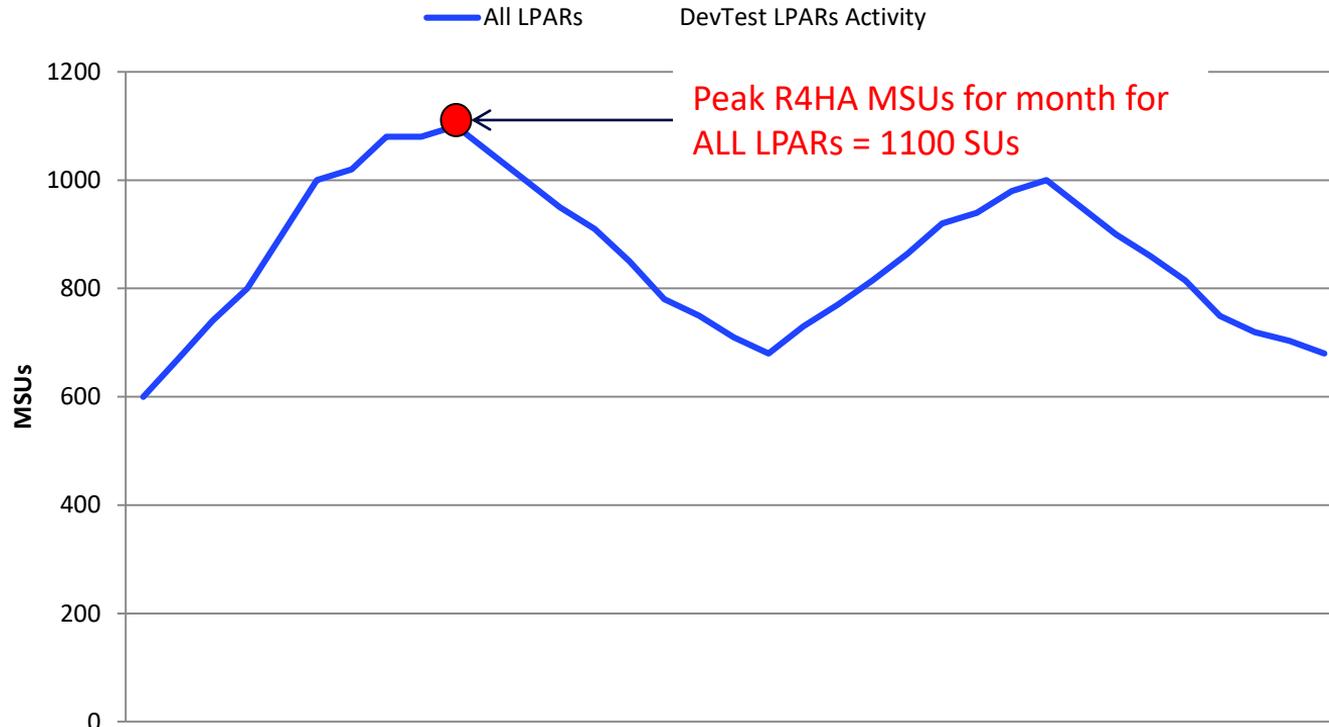
Courtesy Andrew Sica, IBM

In this example, actual peak for DevTest is seen as 350 MSUs so up to 1050 MSUs permitted at no extra MLC cost (subject to HW MIPs and zIPLA SW coverage being available)

Contribution of DevTest to peak R4HA used for billing. \$ value calculated by excluding from SCRT run and calculating delta versus BAU total \$ cost based on announcement letter terms – this becomes the MLC \$ cost for DevTest workload going forward.

Dev/Test Solution example

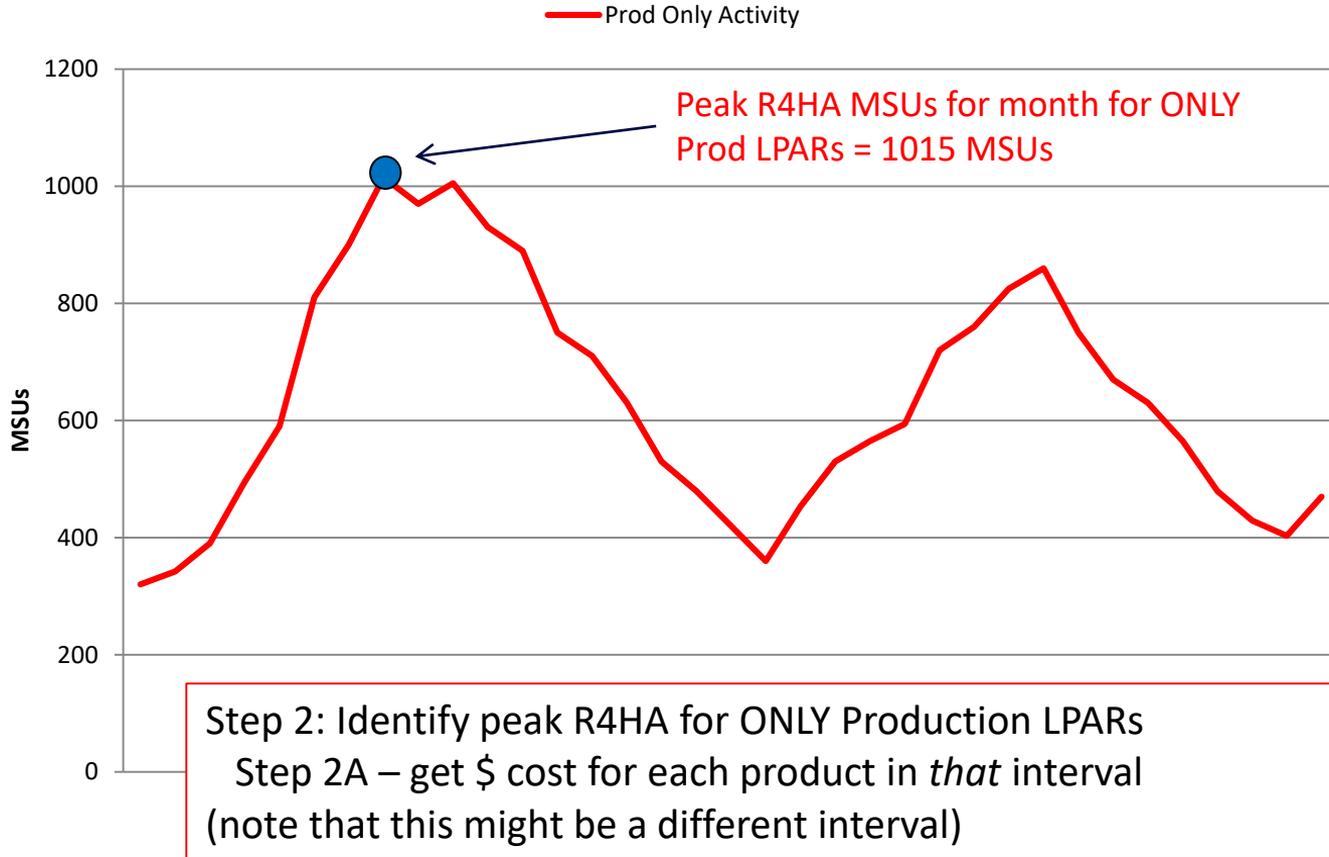
Courtesy of Andrew Sica, IBM



Step 1: Identify peak R4HA for ALL workloads
Step 1A – get \$ cost for each product in that interval

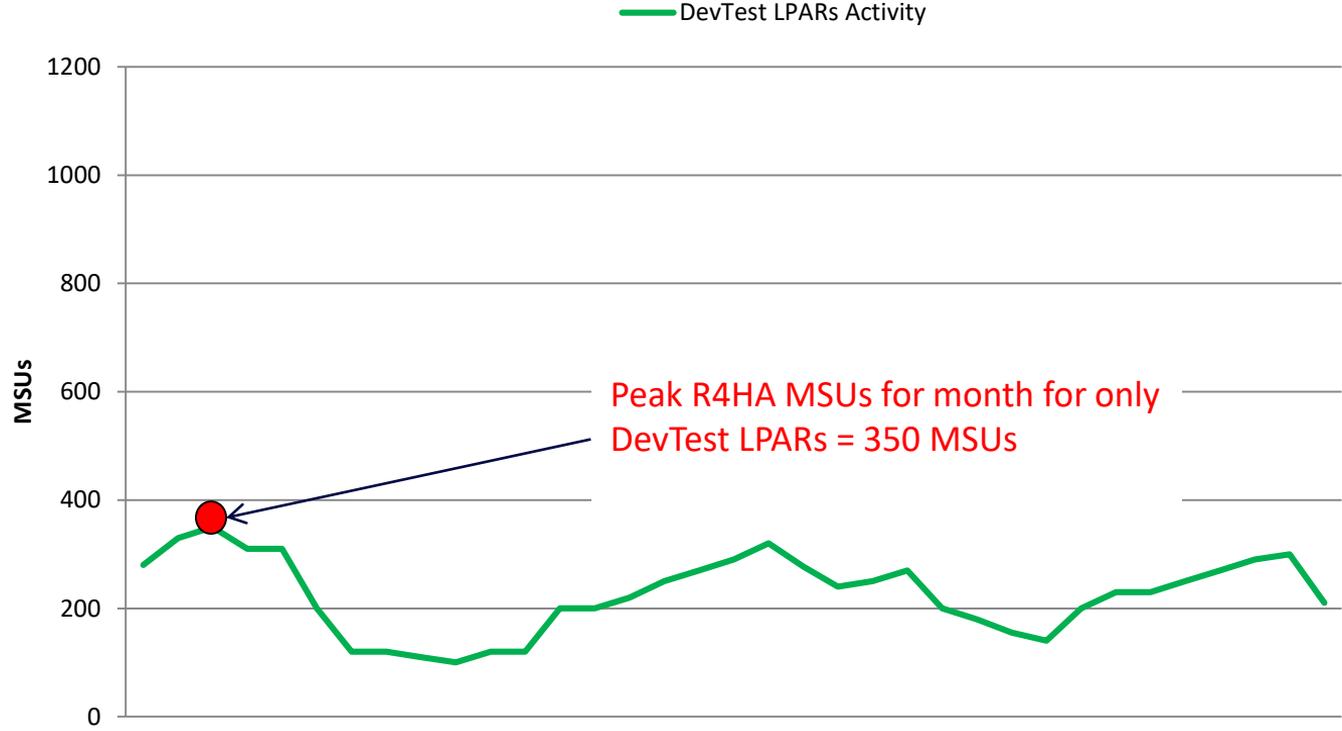
Dev/Test Solution example

Courtesy of Andrew Sica, IBM



Dev/Test Solution example

Courtesy of Andrew Sica, IBM



Step 3: Identify peak R4HA for only DevTest workloads

Dev/Test Solution

What does IBM do with these numbers?

Container Cost =

Cost of Peak R4HA for ALL LPARs (Step 1A) – Cost of Peak R4HA for Only Prod LPARs (Step2A)

DevTest MSU Base =

Peak R4HA for DevTest LPARs (Step3)

“Solution MSUs” =

DevTest MSU Base x 3

The customer-chosen multiplier in this case is 3x. Could also be 1x or 2x.

Future bill for Prod LPARs will be based on peak R4HA for just the Prod LPARs.

How are these numbers used?

- The MLC cost of the Solution ('Container cost') will not change as long as the DevTest container Peak R4HA does not exceed the agreed 'Solution MSUs' and no new MLC products are added.
- The MLC bill for the **non**-DevTest systems will be calculated by removing the DevTest MSUs *for each month* from the Total MSUs. It is NOT calculated by subtracting the fixed Container cost from the bill.
- zIPLA products must have enough Value Units to cover the 'Solution MSUs' (unless that is > CPC capacity?).
 - If you have IPLA products licensed at full cap, that addresses the Container VU requirements.
- Handling of NEW MLC products that might be added to the DevTest Container is not yet finalized.

Assuming no
change in
Prod MSUs
(and
ignoring IPLA
software for
a minute):

- If the DevTest workload during the overall peak R4HA is not growing, the adjusted Prod R4HA MLC plus the MLC for the container should equal current MLC, so no savings. On the other hand, you have the flexibility to handle spikes in the DevTest workload without any impact to your MLC costs.
- If the DevTest workload is growing or is capped (and there is spare capacity to uncap it), then the adjusted MLC for Prod plus the container MLC should equal current MLC, resulting in you using more capacity *without* directly increasing your MLC costs. *Note that higher CPU utilization could cause an indirect increase in MLC costs.*
- If DevTest is shrinking, the adjusted MLC for Prod would be less plus the container MLC would remain the same as today, meaning that your total MLC would be unchanged. As a result, in this case, the MLC would probably be higher than if you didn't use this offering.

What about IPLA?

- If all your IPLA products are licensed at full capacity, then signing up for DevTest should not result in additional IPLA costs.
 - Upgrading your CPC would result in your having to purchase additional VUs, but that is no different than the current situation.
- If your IPLA products are licensed at sub-capacity, then you need to get a price from IBM for the additional Value Units:
 - You will need sufficient Value Units for the 'Solution MSUs'. All IPLA products used in a container must have sufficient value units for the FULL container size – this *might* be a reason why you would select a smaller value than 3x.
 - Don't forget to factor the Subscription & Service (S&S) costs into your calculations.

Considerations

- If you outgrow the size of the Container, additional MLC MSUs are priced at 20% of the CMLC price.
- Costs only ratchet *up*. If your Solution MSUs is 1000 and in one month your DevTest peak R4HA is 1100 MSUs, your bill for every month after that will be based on 1100 MSUs (until the peak R4HA exceeds 1100, at which point it will ratchet up to the new peak value).
- Play safe and Group Cap your DevTest LPARs at the Solution MSUs number.
- The cost of the container is fixed.
 - If you like consistency and predictability, this is ideal.
 - However, if your DevTest MSU consumption is declining, the container cost will not reduce.

Considerations

- You get to nominate the LPARs that will be in the DevTest solution.
 - Obviously, they must all be development or test – no production.
 - Be careful if you have test LPARs that are used for stress testing. It is not unusual to see them peak at 10 or 15x their normal usage. Depending on overall activity, such spikes could potentially push the entire container beyond the 3x limit.
- If you would like an estimate from IBM, you will need your existing SCRT reports, plus another run containing only your Production LPARs.
- Think carefully about what multiplier you go for:
 - A large one gives you much more scope for growing your DevTest workload without increasing your MLC costs.
 - But it also potentially increases the number of VUs that you need to purchase for the container. AND it potentially increases your S&S costs.

Some suggestions

- Make sure that the contract explicitly states *how many* VUs must be purchased for each IPLA product, and what discount you will receive on Value Units that you purchase up front, and for future purchases (if you exceed the 3x limit).
- Get written agreement that VUs purchased for use in the Container can be used for other workloads if you decide to discontinue using the DevTest Solution.
- Get written clarification about the VU requirement for reference-based IPLA products that are not used in the container, but the referenced product IS used in the container. For example, a DB2 tool that is only used in production, but DB2 itself is used in both production and test.

Some suggestions

- Get a clear written statement about whether any prices stated in the contract *include* TTO and ELA discounts, or if the discounts should be applied on top of those prices.
- Get a written statement about which pricing *tier* is used for MLC MSUs above the Container size.
- The contract should clarify the cost implications (if any) of moving to new versions of MLC products that are in the Container.

Summary

- The DevTest Solution is currently by far the most popular of the solutions.
- Very attractive for any site with growing or capped Development or Test environments. Even in a stable environment, it protects you from month to month fluctuations and provides a fixed bill for planning purposes.
- Make sure that you understand how the different metrics are used – this is not simple stuff.
- Talk to all the ISVs – How will they handle container products?

Summary

- The 'gotcha' is likely to be IPLA VU costs, depending on your software stack.
 - IBM seems willing to offer significant discounts on VUs.
 - Don't forget the S&S costs, which are not discounted.
 - Remember that the VU requirement only goes *up*. The number of VUs that you require (and pay S&S on) does not reduce if you have a quiet month.
- Model, model, model – don't sign up for anything until you have tested the impact of likely scenarios in your installation.

Container Pricing – New Application Solution

New Application Solution

- The offering that is closest to the previous pricing options is the New Application Solution
- Containers for new applications can replace IWP, zCap, and Solution Edition price offerings
- But containers are much easier and more flexible.

Container Pricing – New Application Solution

New Application Solution

- You provide IBM with the expected peak R4HA of your new application and the list of products the application will use.
- IBM prices the container using:
 - z/OS is priced at 50% off the MzNALC price for that number of MSUs.
 - *All other products must be licensed as IPLA*, with sufficient Value Units to cover the Container size. Value Units must be purchased up-front, not as you go along.
- As long as the Container peak R4HA doesn't exceed the agreed size, you will pay a fixed price for the Container.
- The MSUs for all non-Container work are reduced by the R4HA of the Container.

Container Pricing – New Application Solution

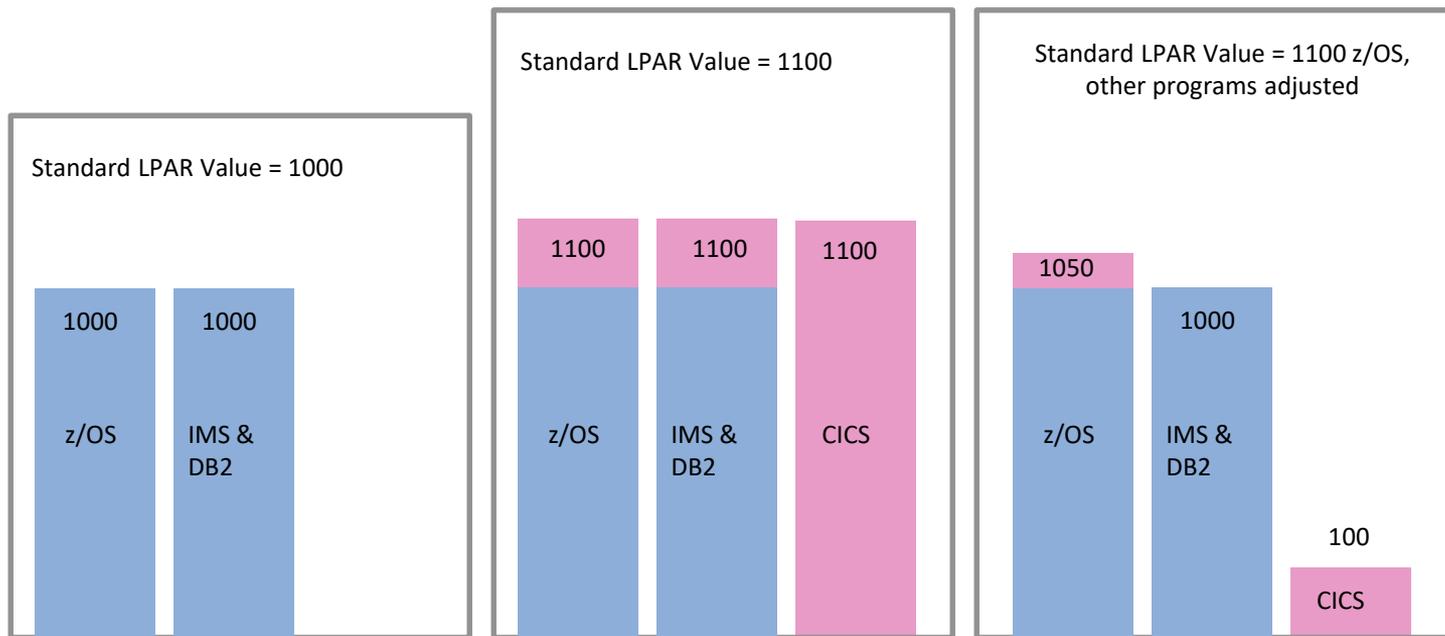
New Application Solution differences

- It doesn't have any requirement for dedicated LPARs (like zNALC or Solution Edition). You can run the work in a dedicated LPAR, collocated in a shared LPAR, or in both.
- There is a fixed price for the Container, regardless of when it runs, or its contribution to the peak overall R4HA.
- The *entire* consumption of the Container is deducted from the overall R4HA. Previous offerings deducted some percent of the additional MSUs for all products, or 100% of the additional MSUs for a subset of products.

z Systems Collocated Application Pricing

Example of zCAP application that is the first user of CICS in an IMS/DB2 shop (assumes all products have peak R4HA at same time).

Example courtesy of David Chase, IBM



Container Pricing – New Application Solution

New Application Solution Considerations

- The most common question is “Why would you specify (and pay for) a large container size up front, rather than specifying a smaller size, and paying for growth as you go along?”
- One likely reason is that you will probably get a better discount if you buy a ‘large’ number of VUs upfront, rather than buying a few every month as you grow.
- Another commonly-cited reason is that it is easier to get spending approval once, for a larger amount, than to have to go back over and over for approval for smaller purchases.

Container Pricing – New Application Solution

New Application Solution Considerations

- This is for new applications – IBM is likely to adhere to the rules more strictly than was the case for some previous ‘new application’ pricing options.
- The software cost for using zIIPs is zero. If your new application uses Java, much of the processing will run on zIIPs. If new application uses DDF, 55-60% of the DB2 processing will run on a zIIP. May sure you factor this in to your sizing calculations.
- You are not locked in to using the Solution – if it transpires that the application runs nearly entirely outside the peak R4HA, you can stop using the Solution for that application if you wish. *But*, you had to use the IPLA version of everything other than z/OS – you will not get the money that you paid for the VUs back if you stop using the Solution.

Container Pricing – New Application Solution

New Application Solution Considerations

- Containers are not aggregated to your traditional workloads when calculating the z/OS price – each container starts at the 1 MSU price point. The z/OS price is based on 50% of the MzNALC price, so it is probably still cheaper than your incremental z/OS price, but this IS an added consideration to factor into your calculations.
- Check with your ISVs to see how they will handle these types of containers

Container Pricing – New Application Solution

New Application Solution Considerations

- This offering is far less of a ‘no-brainer’ than the DevTest one:
 - The Container will have a fixed cost. For previous new application pricing options (zCAP, for example), the new application *might* cost as little as nothing, if it only runs outside the peak R4HA.
 - Recommend that you model various scenarios using zCAP, zNALC, and New Application Solution. Depending on the particular application, the ‘right’ answer might be different for each one.
 - You can always sign up for zCAP now (if IBM approves your application), locking in that option, and then switch to New Application Solution later after you get more experience running the new application in production.

Container Pricing

Payments Processing Solution

- This solution is aimed at a very niche market, so we won't get into all the details.
- *However*, the model that it uses is very interesting as a possible indicator of what IBM has in mind for future offerings.

Container Pricing

Payments Processing Solution:

- Unlike the TestDev or New Application Solutions, this one does not have a fixed price for the container.
- Instead, the cost of the container is based on the number of payments that are processed by Financial Transaction Manager for z/OS, the heart of the offering.
- This provides a direct correlation between the price the customer pays for the container and the business value delivered by the product – if FTM processes more payments, that means more business value and therefore a higher bill. Fewer payments would mean a smaller bill.

Container Pricing

Payments Processing Solution

- This is interesting from a number of perspectives:
- It uses the container pricing infrastructure to measure the R4HA of the container so that the R4HA of all other work can be adjusted accordingly.
- It is supporting two metrics – one metric (# of payments) determines the cost of the container, and a quite different metric (R4HA) is used to ensure that the cost of other workloads is not affected by the presence of the container workload.
- In the future, this concept could be extended to things like transaction counts, TBs read, total CPU time consumed, jobs run, just about anything that can be measured programmatically and audited could be used as the basis for the container bill.

Container Pricing

Summary

- While technically all Solutions do support collocated configurations, you need to consider how easy it would be to identify *all* work associated with the Container in the WLM classification rules.
- Shared services (a single DB2 subsystem, for example) are supported. But the CPU time that DB2 does not charge back to the application will be charged to the non-Container part of the workload.
- MWP and zCAP and zWPC supported classification at the individual transaction level. Container Pricing only supports classification at the address space or independent enclave level.

Container Pricing

Summary

- I believe that it is impossible to make a blanket statement that Container Pricing is *always* better than one of the previous software pricing options such as zCAP. On the other hand, IBM is making very aggressive statements about doing whatever is necessary to compete with other platforms.
- It depends mainly on the impact of the new application on the peak R4HA and on how much your business needs predictable bills.

Container Pricing

Summary

- The comparison is made even more difficult by the requirement to use IPLA licenses for ALL the products in the New Application Solution container. You can't get the Value Unit money back if you change your mind (although you should be able to use those VUs elsewhere).
- The best that you can do is to model the cost of various scenarios and select the option that is the best fit for your company.
- Before moving any ISVs to a container, check with each ISV about their products.

Container Pricing

For more information about Container Pricing, refer to:

- Announcement letters:
- Container Pricing preview – [117-044](#).
- Application Development and Test Solution – [217-490](#).
- New Application Solution – [217-519](#).
- Payments Processing Solution – [217-518](#).
- Container Pricing White Paper [WP102719](#).
- [List of sample Solution IDs](#)
- [SCRT User's Guide](#)
- SHARE in Sacramento Session [22548](#), *Container Pricing Overview and Sub-Capacity Reporting*, by **Andrew Sica**.

Please complete the session survey!

Z100833

