

# A Simple Model to Save up to 30% on Mainframe Monthly License Charge Costs

Transform your business to be more productive and competitive

A large, decorative graphic consisting of a thick, wavy orange line that starts on the left side of the page, curves upwards to a peak, and then slopes downwards towards the bottom right corner, creating a sense of movement and flow.

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## Executive Summary

The pressure on IT to keep up with the pace of digital business is relentless. Digital business is driven by enormous increases in data, analytics, and transactions, and the mainframe is the most powerful platform for meeting the increasing demands for availability and performance. However, **as IT budgets remain flat or decline, cost management can become a challenge for most organizations.**

One of the most effective ways to save on costs is by reducing the cost of IBM monthly license charge (MLC) software for products such as IBM® DB2®, IMS™, CICS®, and MQ®. The MLC charges are based on the peak 4-hour rolling averages (4HRA) in a month, rather than the actual amount of resources the software actually used. These costs can represent 30 percent or more of overall mainframe budgets

and have continued to increase by 4 to 7 percent annually.

Trying to calculate MLC costs can be complex, so simplifying this calculation can make it easier to reduce costs. Although many organizations have made limited progress with application tuning, manual capping, and workload shifting, there is actually more that can be done to increase savings.

Read on to learn about a model that:

- Provides a structured approach for helping IT meet the challenges of digital business
- Reduces MLC costs in terms of resource use rather than 4HRA
- Benefits many companies, and could help yours as well

## Sub-Capacity Pricing



IBM MLC software charged at peak MSU usage



Not based on full machine capacity



Key metric is the 4-hour rolling average (4HRA)



## A MODEL TO SIMPLIFY AND CONTROL MLC COST MANAGEMENT

### Why You Need This Model

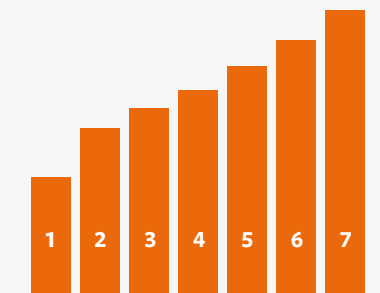
With a clear understanding of what is driving peak usage, organizations are able to track and reduce MLC costs. Taking a structured approach based on best practices and automation enables IT staff to gain insight into MLC cost drivers and dynamically automate and optimize defined capacity settings. They can also move or isolate MLC subsystems to reduce peak usage, which increases availability while lowering costs. This includes optimizing subsystem license charges by “turning on and off” MLC subsystem instances and adding additional failover capabilities.

Many organizations use multiple techniques to meet their cost management and application performance objectives. **The MLC Cost Management Model lets IT take more control over 4HRA costs, or as BMC calls them, R4 costs, and reduce MLC.** This approach can help IT to be better prepared to negotiate a more favorable future contract.

MLC products, such as IBM® DB2, IMS, CICS, z/OS®, and MQ, are charged based on the aggregate monthly peak R4 for all software running on logical partitions (LPARS), rather than overall MLC product utilization. Identifying what is driving costs enables you to remove the existing architectural restrictions inherent to z/OS subsystems and isolate MLC products to increase availability and lower costs. This is accomplished based on a “regioning” concept, a way to isolate and place subsystems (such as DB2, IMS, or CICS) onto a single LPAR, with the ability to turn the subsystem on and off a particular LPAR, and activate it on the LPAR that is the most cost effective based on the R4.

### Overview of the Model

By focusing on the objectives shown in Figure 1, organizations can take a more structured approach to MLC cost management.



#### MLC Cost Management Model 7 Key Objectives

1. Identify cost drivers
2. Tune or move peak workloads
3. Implement dynamic workload capping
4. Identify advanced processes for cost reduction
5. Optimize subsystem placement
6. Develop advanced contract negotiation strategies
7. Optimize infrastructure and cost

FIGURE 1: The MLC Cost Management Model

Based on interviews with mainframe executives and industry experts, BMC has determined that mainframe organizations that do not complete MLC cost reduction activities pay up to 15 percent more in MLC costs.

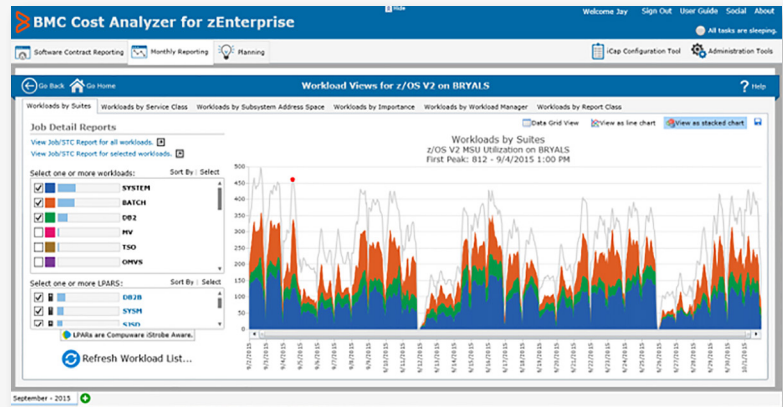
The model also goes beyond enabling cost reductions. It helps IT to optimize performance and monitoring with improved awareness to better meet service level agreements (SLAs) and increase availability. As IT organizations become more advanced, they can continue to improve monitoring and tune workloads, building in system redundancy and leveraging workload capping intelligently. This comprehensive approach enables IT to plan and execute actions based on objectives, and track results.

Ideally, it is best to move through the objectives shown in Figure 1 sequentially from left to the right. Some companies may already be working on objectives 1 and 2. Some also may have tried basic LPAR or group “soft capping” with varying degrees of success and minimal savings. Although certain benefits may be achieved by following the initial objectives out of sequence, it is particularly critical to complete the first five objectives before doing advanced contract negotiations.

#### Objective 1 - Identify Cost Drivers

The adage “seek to understand” is critical for determining what is driving peaks that make up monthly costs. Many companies use spreadsheets or tools with basic functions to analyze their IBM Sub-Capacity Reporting Tool (SCRT) report for identifying the peak R4. This activity can provide some savings, but it can also be error-prone and labor-intensive. Because these basic approaches are not suited for the complexity and interrelationships that drive MLC costs, it is easy to miss critical insights and other opportunities for cost reduction.

FIGURE 2: Insightful reporting identifies peak cost drivers



IT needs clear insight into what is driving MLC costs in order to reduce them. A cost driver analysis solution can report on key workloads that drive the peaks and identify when they occur. With improved visibility beyond what is typically available using SCRT reports, IT gains the insight they need to take actions that reduce costs while ensuring availability.

### Objective 2 - Tune or Move Peak Workloads

While most organizations are performing some form of application tuning and moving workloads, few are realizing significant cost savings as a result. With advanced monitoring and tuning technology, IT can quickly discover and resolve high-level application performance issues caused by inefficient resource utilization, and significantly improve elapsed times, execution costs, and availability.

### Objective 3 - Implement Dynamic Workload Capping

Workload capping can help reduce costs, but performing this process manually is difficult and stressful for most IT teams and capping too aggressively can impact business-critical workloads and SLAs. Automated, intelligent capping can accelerate and streamline this process while mitigating risks. IT can configure policies that factor in workload importance and use cost-aware technology to dynamically adjust caps.

### Objective 4 - Identify Advanced Processes for Cost Reduction

Develop a roadmap to identify additional advanced processes for cost reduction and actions required to implement them. Keep stakeholders informed and focus on continuous process improvement to increase savings.

An example of this is reviewing your workload capping strategy every 6 months, and adjusting thresholds and level of aggressiveness with capping as needed. Deciding whether to cap more aggressively, for instance, might save another 1% in MLC costs.

### Objective 5 - Optimize Subsystem Placement

Historically, technical restrictions for MLC products have required that transactional systems communicate with their corresponding databases on the same LPAR. As a result of this limitation, many mainframe customers maintain duplicate subsystems, which increases MLC costs dramatically. As mentioned earlier, each subsystem on the LPAR is charged at that peak rate, so less utilized subsystems are charged at the same rate as the heavily used subsystems. This is where the savings potential with MLC cost management is very high.

Most companies running mainframes have dozens of CICS, DB2, IMS, and MQ subsystems running, which can offer a nice level of redundancy, but can be very expensive. However, by carefully planning and assessing the mathematical impact of turning some of these subsystem instances onto separate LPARs—while still being able to communicate with each other—companies can save 20 percent or more in MLC costs while still providing the availability needed.

Therefore, configuring MLC software in a more efficient way can result in favorable changes to MLC calculations without sacrificing the subsystem redundancy necessary to provide failover capability for critical applications.

### Objective 6 - Develop Advanced Contract Negotiation Strategies

Historically, most companies have not been in a position to effectively negotiate MLC contract terms to benefit their bottom line. As a result, they paid whatever their vendor proposed. More recently, however, companies are achieving significant savings by better preparing themselves for contract negotiations.

Following the first five objectives in this model can help place organizations in an excellent position for significant savings at contract renewal time. They can identify actions to reduce the billable workload by selecting more attractive licensing metrics. For example, they can do this by analyzing peak workloads and looking at a monthly cost-oriented view so that low priority work can be moved out of the peak. The MLC reductions must be implemented before contract negotiations begin in order to show that the estimates are accurate. This is particularly important when considering a move to the new IBM Country Multiplex Pricing model.

### **Objective 7 - Optimize infrastructure and cost continuously**

Teams should strive to ensure that MLC costs are always totally under control through a focused, continuous process of improvement in cost optimization. Organizations with a continuous focus on MLC cost management can implement strategies to reclaim their IT budgets without compromising service delivery. This includes going beyond basic cost management processes and focusing on advanced ways to provide even greater savings.

## **CASE STUDIES ON TRANSFORMING MLC COST MANAGEMENT**

Enterprises have leveraged MLC cost management technology to reduce costs, increase availability, and meet the demands of the digital enterprise. Here are some examples:

### **Case Study – Cost Driver Analysis**

A leading global provider of reinsurance services wanted to optimize mainframe use patterns to reduce MLC costs. The company had been using a collection of homegrown Microsoft® Excel®-based approaches, which were cumbersome and inadequate. The company purchased BMC Cost Analyzer for zEnterprise® to identify mainframe use patterns during peak R4 intervals and adopt preemptive cost reduction strategies.

Within six months of deployment, the company reduced its mainframe costs by 5 percent—despite a 10 percent increase in workload—by better understanding the drivers of MLC costs and having the confidence to make targeted reductions to mainframe capacity. **The solution payback period was 11.8 months, with a projected ROI of 558 percent and a projected total benefit of \$2.68 million in MLC cost savings and productivity gains over four years.**

### **Case Study – Dynamic Workload Capping**

A large international bank needed to drive down MLC costs. With actionable data from BMC Cost Analyzer and BMC's Intelligent Capping™ (iCap), IT identified the workloads that drove the peak R4. By focusing initially on MSUs (million service units) consumed by batch processing that drove peak consumption, they **slashed MSUs by 17 percent, which saved the company thousands of euros each month.** With peak usage now driven by online processing, and with the number of online transactions from mobile devices rising, the bank is now positioned to take advantage of IBM's Mobile Workload Pricing to reduce their MLC bill.

### **Case Study – Optimized Subsystem License Charges**

An Australian government agency that runs 500 MIPS spends a significant amount each year on MLC. They obtained information quickly with BMC Cost Analyzer that identified potential big savings available in their development, test, and production environments. Next, they used BMC Subsystem Optimizer for zEnterprise® and saved 4 percent in their development/test environment. The company is looking at **11 to 14 percent savings in peak workload in their production CICS environment, yielding an estimated \$870,000 savings over five years.**

## **HOW TO GET STARTED WITH MLC COST MANAGEMENT**

The information in the Appendix can help your organization identify how to advance through MLC cost management objectives. Begin by understanding MLC cost drivers to support your plan before taking actions to reduce the billable workload and developing advanced negotiation strategies. This requires having the right solutions and processes in place along with the organizational support necessary to ensure success.

A cost analyzer solution should provide insight into all subsystems and workloads that contribute to the peak. Track the MLC budget, as shown in Figure 3, to ensure that the organization does not go over the budget before the end of the year or the end of the contract. In the case of contracts that require an annual true-up fee to IBM, this action can be critical for planning ahead to avoid budget overruns.

After tracking the budget, planning can help identify when to run batch workloads. This involves optimizing peak workloads by tuning and moving them. Low priority workloads can be moved to an appropriate off-peak time. Organizations can achieve significant improvements with cost-aware, dynamic workload capping. Exploring advanced processes for MLC cost management can help organizations identify further opportunities for saving.

FIGURE 3: MLC Budget Reporting



As an organization adopts more model objectives, it can achieve dramatic savings by optimizing license charges. Optimizing subsystem placement can be done in a development or test environment. Then, model the impact of moving subsystems before changes are made in the production environment.

Throughout the process, stay focused on having comprehensive and timely access to the information for basing decisions related to technology, business requirements, and negotiations. Understand how cost analysis, performance tuning, monitoring, capping, and subsystem optimization technology can help improve the economics of the mainframe while increasing availability. The savings will depend upon the types of actions taken, which are described in the Appendix. MLC cost management is an iterative process and requires continued focus and execution.

















































## CONCLUSION

By following this model and leveraging innovative MLC cost management solutions for the mainframe, IT organizations can continue to make the mainframe more integral to meeting the demands of the digital economy while reducing costs. This model provides critical guidance for all mainframe organizations to help them **reduce costs and mitigate risk by ensuring availability and increasing productivity**. It will help organizations that are transforming to a digital enterprise grow faster and become more profitable. As a result, IT organizations can continue to innovate and help their businesses to become stronger, more competitive, and more agile.











































**APPENDIX**

**MLC Cost Management Model**

\*The square shapes represent levels of advancement in activities for the various objectives.

Objective	Beginner	Some Basic Experience	Beginner to Advanced	More Advanced	Most Advanced
 <b>Identify Cost Drivers</b>	<p>Is unaware that the organization can take action to reduce MLC costs. Pays the bill without trying to lower costs. Has many unanswered questions. Lacks the time and knowledge about the mainframe and MLC costs. Cannot initiate cost saving projects.</p>	<p>Has begun initial research on drivers of MLC costs and looks for cost management opportunities. Uses SCRT reports and Excel spreadsheets to identify peak drivers.</p> <p>Has identified some cost drivers and goals for reducing MLC costs.</p> 	<p>Has researched MLC cost management opportunities and has begun to implement several strategies.</p> <p>Uses basic features of cost analysis technology to identify cost drivers.</p>  	<p>Has researched and implemented MLC cost management opportunities and is achieving significant savings.</p> <p>Uses more advanced features of cost analysis and modeling technology to identify cost drivers and model changes to see cost impact.</p>   	<p>Has researched and implemented MLC cost management opportunities and is achieving dramatic savings.</p> <p>Uses the most advanced features of cost analysis and modeling technology to identify cost drivers and track annual MLC budgets. Models changes and is achieving dramatic savings.</p>    
 <b>Identify Cost Drivers</b> + <b>Tune or Move Peak Workloads</b> 	<p>Uses minimal cost management analysis tools, basic monitoring, and tuning software to reactively put out fires.</p> 	<p>Uses SCRT reports and Excel spreadsheets to identify peak drivers and monitor thresholds to tune trouble spots. Some organizations have instituted complex, resource-heavy processes that are manual and error prone. The savings are minimal.</p>   	<p>Has taken some actions to reduce MLC costs, including application and workload tuning and basic budget planning.</p> <p>Uses more advanced monitoring and tuning capabilities to be less reactive.</p>     	<p>Has achieved significant savings in cost reduction and is measuring the savings. Regularly gets reports on what's driving costs.</p> <p>Uses key automation and alerts to be proactive. Keeps stakeholders informed of results.</p>       	<p>Has achieved dramatic savings in cost reduction and is measuring the savings. Regularly conducts a deep dive analysis of cost drivers and models changes. Keeps stakeholders informed of results. Focuses on the latest automation technologies and continuous process improvement to achieve even higher levels of savings.</p>        
 <b>Implement Dynamic Workload Capping</b>	<p>Is not capping workloads.</p>	<p>Is considering or planning to try workload capping techniques.</p> 	<p>Operates a basic level of workload capping, but would like to do more. Sets goals to ensure that the less important work is not running during peak.</p> <p>Takes a very conservative approach to capping, realizing some savings but is frustrated that cost reductions are not optimized.</p>  	<p>Has achieved significant cost reductions and performance improvements with dynamic workload capping, cost impact analysis from capping, advanced monitoring and tuning.</p> <p>Uses intelligent capping to set a limit that is cost aware and workload-importance aware to significantly lower capping on unimportant workloads while the most critical work is not impacted.</p>   	<p>Has achieved dramatic cost reductions and performance improvements with dynamic, intelligent workload capping, cost impact analysis, tuning, and monitoring. Continues to find new ways to increase savings.</p> <p>Keeps stakeholders informed of results.</p>    



Objective	Beginner	Some Basic Experience	Beginner to Advanced	More Advanced	Most Advanced
 <b>Identify Advanced Processes for Cost Reduction</b>	Needs to identify basic processes for cost reduction.	Has identified basic processes for cost reduction but hasn't taken actions. 	Has taken some actions that incorporate basic processes for cost reduction but has not begun working on advanced processes.  	Has implemented advanced processes and keeps stakeholders informed of results.   	Has implemented advanced processes and is focused on continuous process improvement to achieve even higher levels of savings.    
 <b>Optimize Subsystem Placement</b>	Has not considered optimizing subsystem placement as a way to optimize costs or mitigate risk.	Is investigating methods of optimizing subsystem placement and designing plans. 	Has implemented homegrown applications to help with optimizing subsystem placement. Savings are limited and maintenance costs are high.  	Uses the industry's best technology to take action on optimizing subsystem placement to reduce costs and increase availability.   	Implements a comprehensive approach to optimizing subsystem placement to obtain the highest level of savings, while improving transaction rates and performance of critical work.    
 <b>Develop Advanced Contract Negotiation Strategies</b>	Has made no effort to improve contract terms. Just pays what is charged and does not consider alternatives in negotiation strategies.	Would like to improve negotiations but is not aware of how to be successful. Is planning to investigate negotiation strategies. 	Understands basic techniques for improving contract terms. Has begun to consult with experts in the field.  	Collects and organizes new information needed to negotiate a successful contract with reduced costs. Works with industry experts and companies to gain knowledge and plans well in advance of the next contract.   	Regularly meets with industry experts and has implemented a favorable contract negotiation strategy. New contracts result in reduced costs and more favorable future terms.    
 <b>Optimize Infrastructure and Cost</b>	Is unaware of the benefits realized from running an optimized infrastructure.	Would like to explore ways to optimize the infrastructure and costs but is not yet ready. 	Documents plans and strategies for projects that contribute to optimization and cost reduction.  	Has implemented cost control activities, software, reporting, and processes that enable control over MLC costs. Strives for even greater control.   	Ensures that MLC costs are always totally under control. Is focused on continuous process improvement for cost optimization.    



## FOR MORE INFORMATION

To learn more about how to make your digital business more competitive with mainframe MLC cost management, please visit [bmc.com/it-solutions/mlc-software-management](http://bmc.com/it-solutions/mlc-software-management)

## ABOUT THE AUTHOR

Tom Vogel has 25 years in the software industry, in various technical, marketing, and business development roles. At IBM Corporation, Tom managed product launches for various database products on all platforms. Previously, Tom managed the marketing and communications for a host of middleware software packages, such as OpenTV interactive TV software. At Automation Anywhere in San Jose, Tom was the Director of the ERP Business, managing business development and marketing for the company's rapidly growing ERP process automation and testing automation solutions. Tom is experienced in building customer and partner relationships, and has an MBA from Santa Clara University. Today, Tom is the Lead Solutions Marketing Manager for innovative mainframe cost optimization and data management offerings at BMC Software.

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