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Marist College

Abstract for Paper:

"Using a powerful web-based GUI workflow to assist with z/OS platform product migration"

Managing a workflow between many organizations and large-scale computer systems can be a daunting challenge. Computing environments (as well as the processes that manage them) have exploded in complexity since their inception 50 years ago. A single system which one programmer understood relatively completely has expanded with new functions and features to the point that it takes several people, each a specialist in one or more areas, to cover an entire system and the workload requirements for that enterprise system.

As a case in point, even smaller enterprises that have a mainframe need programmers knowledgeable in operating systems, data bases, transaction management, performance and capacity planning, networking, automation, security, system coupling, and hardware. The list goes on. It is possible for someone to be skilled in several of these areas, but it would be rare to be an expert in all of them.

Adding to this problem is the business need to do more with less. While the capability of the mainframe has increased at a mind-boggling rate, there are fewer people to maintain them, with the business expecting more return on investment from their Information Technology (IT) expenditures. Every new programmer joining the mainframe community is expected to contribute quickly to the organization, although many of the tasks that are asked of them require a steep learning curve to accomplish.

Since 2009, a web-based GUI has put a front-end on the premier mainframe operating system (z/OS) called z/OS Management Facility (z/OSMF). Since its introduction, additional functions have been added. IBM's strategy is to incorporate even more. One of the more exciting additions in 2013 was the incorporation of Workflow. Workflow gives us the capability to provide an XML file with steps identified to perform a series of tasks. Workflow can invoke programs to assist with the performance of those tasks. It can also keep track of steps, who is responsible for them, and the order in which they must be performed.

Workflow provides some outstanding capabilities to address problems decades-old in the enterprise computing environment for z/OS: how can I manage a software (or even

hardware) migration from one level to another? Why is a migration so complicated, when the system I'm running is so powerful?

Prior to Workflow, a partial sequence of migration events may have involved searching through multiple books (if you could even find them let alone know of their existence), producing a series of steps to accomplish what you had read, assigning tasks within that series to the appropriate person, and understanding which tasks were completed and still remained to be completed. Having the system itself programmatically perform or verify the majority of tasks for you was a rare activity, if it even existed. With the match up of Workflow and enterprise computing migration, the process is much more organized.

z/OSMF Workflow benefits all programmers. The more experienced jack-of-all-trades can recoup some of his/her time by ensuring that tasks that are seldom done are performed in correct sequence, accommodating all of the latest changes. The newer programmers to the platform can use the Workflow to help perform activities they may be unfamiliar with, or may have trouble performing by themselves.

This paper will explore the first XML Workflow for a software migration that has recently been made available. With this first foray into using Workflow for a migration activity, the details, challenges, and aspirations of where a future migration activity could go will be explained.