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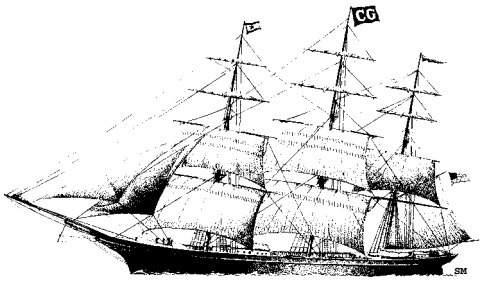

Navigating Information Technology Horizons℠

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zSeries Zips Through Java with zAAP

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Introducing the zAAP

The magic of processor-based solutions has always been the way they can, like a well-tailored suit, disguise and streamline application processes to run more smoothly. The *zSeries* has always used its processors to do outrageously useful things. Long ago, it separated off control traffic into a Service Processor. It added the option of using a processor as a dedicated *Internal Coupling Facility (ICF)*. More recently, it allowed a processor to be used as an *Integrated Facility for Linux (IFL)*, which allows Linux-based applications to run on a mainframe, at near open system pricing. Given this scenario, it is not surprising that zSeries will now offer, on its *z890* and *z990*, the *zSeries Application Assist Processor (zAAP)* – a specialized z/OS Java execution environment for the many Java-based applications that beset the modern enterprise. *The rules…they are a-changing*, once again!

Meeting the Demands for Java Execution, zSeries-Style

Java-based applications are an essential part of the enterprise application mix. The self-service components they contain make a huge difference in process efficiency and in customer satisfaction. Together with XML, they have changed the way that application environments can be evolved. But, the way they are written, the way their code is reused, and their translational ability to *run anywhere* multiplies the resources they need to run. And, the more self-service elements they contain, the more unpredictability they introduce into the IT environment that supports them.

Unpredictability is handled well on zSeries, which has the automation to balance resources and subdivide capacity to create more instances of an application to meet demand. As well, zSeries has the *On-Off Capacity on Demand* feature to let you add more processors for really big periodic swings without permanently adding capacity (and license charges). On-Off Capacity on Demand pricing will also be available for zAAP engines, but the number of zAAPs cannot exceed the number of CP processors.

Executing Java Applications on zAAP

So how does zAAP work? The Java application is deployed within the same z/OS logical partition as its associated database system. The IBM Java Virtual Machine (JVM) requests z/OS to direct its Java processing cycles on the zAAP, which z/OS then does. Execution of the Java application on the zAAP is transparent to the application and, upon completion (or when a non-Java function is requested by the application), execution is redirected back to a CP engine. (See Exhibit 1 at the top of Page 2.)

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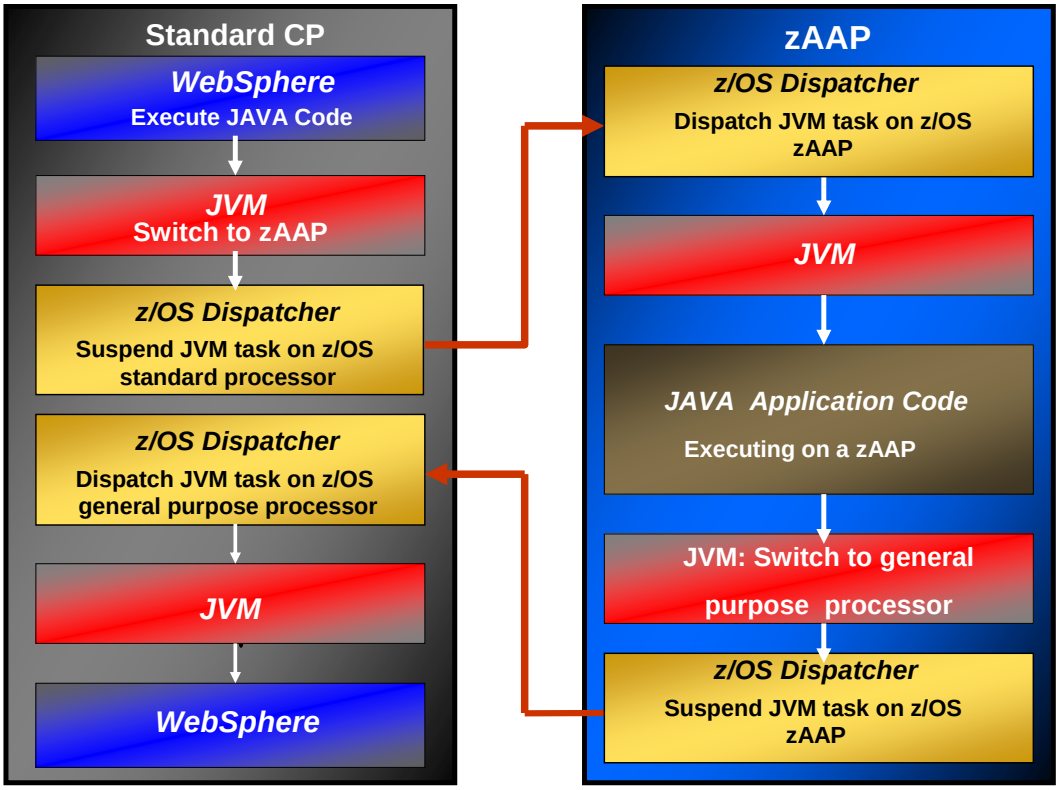
Exhibit 1: zAAP Workflow Diagram



Source: IBM

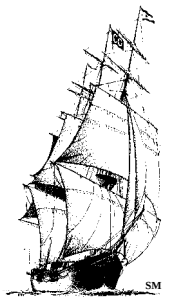
Reducing the Cost of Application Delivery

zAAP engines will be priced the same as IFL engines, regardless of the underlying engine capacity; i.e., zAAP will cost the same for the z990 and the z890, even though the z990 CP engine has a greater processing capacity than the z890. On either platform, zAAP is significantly less expensive than a standard CP. As with the IFLs, **the Java applications running on zAAP engines will not affect the capacity determination and licensing of software on the CP engines that run traditional z/OS, z/VM, and z/VSE workloads.** So your WebSphere and Java applications can have the benefits of mainframe scalability, granular security and high availability. When the database that back-ends the Web applications is also integrated within the same z/OS instance on zSeries, the additional benefits of running the Web application closer to the data are obvious.

This is a good deal – a good enough deal that it may be worth consolidation workloads from lightly-used application servers, to the flexible, *industrial strength* environment of a mainframe. In some situations, zAAP may let you eliminate the Web application server tier altogether, reducing both hardware and networking by further simplifying the network infrastructure.

Check It Out

To let you explore your options, IBM offers the z*AAP Projection Tool for Java 2 Technology Edition, SDK 1.3.1* along with an accompanying *Excel* workbook tool to help the customer determine how much of their workloads could be executed on a zAAP. An available white paper describes how to use the tool, and discusses sizing and planning methodologies. **Once again, zSeries adds tailoring options that make the environment work better – and make the mainframe a better buy.**



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Anne MacFarland **is Director of Enterprise Architectures and Infrastructure Solutions for The Clipper Group.** Ms. MacFarland specializes in strategic business solutions offered by enterprise systems, software, and storage vendors, in trends in enterprise systems and networks, and in explaining these trends and the underlying technologies in simple business terms. She joined The Clipper Group after a long career in library systems, business archives, consulting, research, and freelance writing. Ms. MacFarland earned a Bachelor of Arts degree from Cornell University, where she was a College Scholar, and a Masters of Library Science from Southern Connecticut State University.

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