There is a change under zOS REL.8 intended to allow more JVMs to execute Java programs. This change includes the following:

- Each JVM must have at least one CP and may have one or more zAAPs and zIIPs up to a maximum of 54 total processors.
- Regardless of processor type, dedicated and shared processors may be used by a single JVM.
- Dedicated zIIPs and zAAPs are defined independently of the JVM.
- Each zIIP and zAAP logical processor comprises processor hardware, microcode, and LPAR firmware controls which collectively rephase the physical processor.
- As with CPs, each zAAP and zIIP logical processor contains a complete set of physical processor controls and associated operating states necessary to execute the logical processor on the hypervisor-selected physical processor.

### Controlling execution of zAAPs and zIIPs

- The hypervisor creates and maintains separate processor pools for each processor type—CPs, zAAPs, and zIIPs. Integrated Facility for Linux (IFLs), and Integrated Coupling Facility processors (ICFs) use proprietary virtualization technology provided by System z to define, initiate, and control the execution of zAAP and zIIP logical processors on their corresponding physical CPUs.
- This architecture provides a logical processor state description that is loaded into the physical zAAP and zIIP instruction processing controls when the SIE instruction is executed by the hypervisor.
- In turn, the SIE instruction activates the physical processor on behalf of its associated LPAR.
- Once activated, zAAP and zIIP logic processors typically remain active on behalf of their associated partitions until certain OS conditions are encountered (i.e., OS WAIT STATE or an IO Interrupt).

### Using and Delay Samples

- The hypervisor maintains individual sample values for each zAAP and zIIP shared processor, stored in the hypervisor's memory, which it uses to control the percentage of physical processor capacity from each processor pool.

### Controlling Service Request Blocks (SRBs)

- zAAPs execute z/OS programs that are structured to operate under an interpreted execution environment (SIE) virtualization technology provided by System z to simulate an execution environment similar to that of a distributed relational database architecture (DRDA) request for DB2 to be assigned a goal by the z/OS WLM on the basis of rules. The execution threads, such as SRBs, that perform the transaction are assigned priority and are actively managed by WLM to achieve the assigned goal.
- The process of assigning and executing zIIP-eligible SRB programs is similar to the four-phase process used for zAAP-eligible programs, as described in the preceding subsection. However, unlike zAAPs, which execute z/OS programs that are structured to operate under control of z/OS-preemptable enclave service request blocks (SRBs), zIIPs are not restricted to specific programming languages, but rather to a specific type of z/OS-dispatchable unit.

### IFACROSSOVER & IFAHONORPRIORITY

- By default, a zAAP is a new resource type that is WLM-directed of aware of and manages itself.
- zAAP work is dispatched automatically to zAAP-eligible processors.
- zAAP utilization is reported by RMF (SPE OA05731).
- zAAP circumstances apply