Leveraging Mainframe Specialty Engines:
zIIP, zAAP, IFL

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ca technologies

A **Broadcom** Company

Support for Specialty Processors

IBM z Systems is an optimized environment to address key business requirements for cloud, analytics, mobility and security. Specialty engines, including IFL (Integrated Facility for Linux), zIIP (z Systems Integrated Information Processor) and zAAP (z Systems Application Assist Processor), are processors that can help you expand the use of your mainframe for new workloads, while lowering cost of ownership. Broadcom Inc. provides numerous solutions that leverage the features and functionality of these specialty processors to help you further reduce costs and optimize your z Systems environment. CA Data Content Discovery is a prime example of how Broadcom is directly addressing these cost savings and growth opportunities with relevant, modern and high value solutions.

Overview

- Broadcom has over 40 products that run on an IFL, including the CA VM:Manager™ Suite of 15 products that also help you manage the underlying z/VM virtual environment.

- Broadcom provides over 30 products that support zIIP processors and 15 that run on zAAP processors. It should be noted that the IBM zEC12 is planned to be the last high-end System z server to offer support for zAAP but beginning with z/OS V1.11, zAAP eligible workloads will run on the zIIP engine.[1]

- Any Broadcom that uses Java or XML on z/OS is a candidate for zAAP (and post V1.11 zIIP) such as CA NetMaster® Solution Suite.

- For zAAP and zIIP engines, Broadcom offers real-time and historical reporting and visibility from CA SYSVIEW® Performance Management. In addition, for zAAP, zIIP and IFL processors we also offer historical reporting and visibility with CA MICS Resource Management.

Examples of Reducing TCO with Specialty Engines - p1

Portfolio Area	Products*	zIIP Enablement / Platform Exploitation Success
Performance Management	CA SYSVIEW CA NetMaster Product Suite	• Average 70-80% offload with some customers reporting 90% • 80 – 95% as baselined at a large financial institution
Database tools	CA Datacom CA IDMS	• Average 85 – 90% offload with customers reporting up to 96% • Average 55 – 75% Offload with some reporting 90%
Workload Automation	CA 7 CA Workload Automation Restart Option for z/OS Schedulers (formerly CA-11)	• 80 – 90% of the database processing (leverages Datacom) • 80 – 90% of the database processing with reports of up to 98%
Storage Management	CA Disk CA Spool Transformers CA Vantage CA VTAPE	• 80 – 90% of the database processing (leverages Datacom) • 90 – 95% of the in transforming print formats • Up to 25% • Up to 85%
Security Management	CA Data Content Discovery	• Up to 95%

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Examples of Reducing TCO with Specialty Engines - p2

Portfolio Area	Products*	zIIP Enablement / Platform Exploitation Success
DB2 Utilities	CA Database Analyzer™ CA Fast Unload® CA Rapid Reorg® CA Fast Load	• Up to 25% • Up to 50% • Up to 50% • Up to 50% (Planned)
DB2 Performance Suite	CA Detector® CA SYSVIEW® for DB2 CA Subsystem Analyzer	• Up to 25% • Up to 90% - if the collected SQL runs under zIIP, the captured statistics also run under zIIP • Combination of approaches reduce overhead by up to 50%
DB2 Administration Suite	CA RC/Migrator™	• Up to 90% • The Cloning process leverages flash copy and has provided a customer 98% CPU and elapsed time savings (not directly using zIIP processors)
DB2 Recovery Suite	CA Quick Copy	• Up to 50%
IMS Tools	CA Database Analyzer for IMS CA Database Copier for IMS	• Up to 99% • Up to 40% and up to 80% when using copy calling DBA in parallel

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zIIP

Solutions that enable significant benefits from using zIIP:

- CA CMDB Connector for z/OS
- CA Cross-Enterprise Application Performance Management
- CA Database Analyzer for DB2 for z/OS
- CA Database Analyzer for IMS for z/OS
- CA Database Copier for IMS for z/OS
- CA Data Content Discovery
- CA Datacom® 2 See footnote
- CA Detector® for DB2 for z/OS
- CA Fast Load
- CA Fast Unload
- CA IDMS™
- CA IDMS™ Server
- CA MIM™ Resource Sharing
- CA NetMaster® Solution Suite
- CA OM Web Viewer

- CA Quick Copy for DB2 for z/OS
- CA Rapid Reorg for DB2 for z/OS
- CA SOLVE:Operations® Automation
- CA SOLVE:Access™ Session Management
- CA Spool™ - Transformers Options
  - CA Spool™ Option for AFP to PCL Transformer
  - CA Spool™ Option for AFP to PDF Transformer
  - CA Spool™ Option for AFP to Postscript Transformer
  - CA Spool™ Option for Metacode to PCL Transformer
  - CA Spool™ Option for Metacode to PDF Transformer
  - CA Spool™ Option for Metacode to Postscript Transformer

- CA Subsystem Analyzer for DB2 for z/OS
- CA SYSVIEW® Performance Management
- CA Tape Encryption
- CA Vantage™ Storage Resource Manager
- CA Vtape™ Virtual Tape System
- CA Web Administrator for CA ACF2
- CA Web Administrator for CA Top Secret
- CA Workload Automation ESP Edition
- CA Workload Automation CA 7® Edition
- CA XCOM™ Data Transport® for z/OS

[2] CA Datacom makes wide use of the zIIP engine and provides information on its zIIP utilization. Many CA Technologies software products issue database requests, serviced by CA Datacom®/AD, and can take advantage of the zIIP, though not specifically used by the products themselves.

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zAAP

Products that use Java or XML on z/OS are candidates for zAAP:

- CA Data Content Discovery
- CA Gen
- CA IDMS™ Server
- CA OM Web Services v2.0
- CA OM Web Viewer
- CA Web Administrator for CA ACF2
- CA Web Administrator for CA Top Secret

- CA Spool™ - Transformers Options
  - CA Spool™ Option for AFP to PCL Transformer
  - CA Spool™ Option for AFP to PDF Transformer
  - CA Spool™ Option for AFP to Postscript Transformer
  - CA Spool™ Option for Metacode to PCL Transformer
  - CA Spool™ Option for Metacode to PDF Transformer
  - CA Spool™ Option for Metacode to Postscript Transformer

zIIP and zAAP monitoring and reporting

Real-time and historical reporting and visibility for zIIP and zAAP, including:

- CA Insight™ Performance Monitor for DB2 for z/OS
- CA Mainframe Application Tuner
- CA MICS® Resource Management
- CA SYSVIEW® Performance Management

[1] Beginning with z/OS V1.11, z/OS added a capability that enables System z Application Assist Processor (zAAP) eligible workloads to run on z Systems Integrated Information Processors (zIIPs). This function allows you to run zIIP- and zAAP-eligible workloads on the zIIP and is ideal for customers without enough zAAP- or zIIP-eligible workload to justify a specialty engine today; the combined eligible workloads may make the acquisition of a zIIP cost effective, and may simplify planning activities. This capability is also intended to provide more value for customers having only zIIP processors by making Java and XML-based workloads eligible to run on existing zIIPs. Its purpose is not as an overflow capability for zAAP eligible workload to run on the zIIP, rather it enables zAAP eligible work to run on a zIIP engine when no zAAP is defined on the server.

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IFL

A broad range of management solutions for Linux on Z and z/VM:

- CA ACF2™ for z/VM
- CA Aion® Business Rules Expert
- CA Application Performance Management
- CA Privilege Identity Manager
- CA Datacom® Server
- CA Dynam®/T Tape Management for z/VM
- CA Earl™
- CA Easytrieve®
- CA Explore® Performance Management for z/VM
- CA Gen
- CA Harvest Software Change Manager
- CA IDMS™ Server
- CA Mainframe Operational Intelligence
- CA MICS® Resource Management Analyzer Option for VM/CMS

- CA OM Web Services v2.0
- CA OM Web Viewer
- CA OPS/MVS° Event Management and Automation
- CA Output Management OM Web Viewer
- CA PAM Client for Linux on Z
- CA Single Sign-On
- CA SOLVE:Operations® Automation
- CA Spool™ - Transformers Options
- CA Top Secret® for z/VM
- CA VM:Account™
- CA VM:Archive™
- CA VM:Backup
- CA VM:Batch
- CA VM:Director

- CA VM:Manager™ Suite for Linux on Z
- CA VM:Operator™
- CA VM:Prorexx
- CA VM:Schedule™
- CA VM:Secure
- CA VM:Sort™
- CA VM:Spool™
- CA VM:Tape
- CA VTERM
- CA Workload Automation Agents
- CA Workload Automation iDash
- CA XCOM™ Data Transport® for Linux on Z
- CA XMENU

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