IBM z Integrated Information Processor Exploiter (zIIP) List

This is a compilation of the known IBM software offerings that can exploit IBM zIIPs as of this time of writing and may not be totally inclusive. IBM representatives, Business Partners, Independent Software Vendors (ISVs) and clients should also refer to IBM's terms and conditions as to what applications and software are eligible to run on zIIPs at: https://www.ibm.com/support/pages/authorized-use-table

IBM z/OS®:

- IBM z/OS Container Extensions (zCX)
- IBM System Recovery Boost
- Java™ on z/OS
- IBM Open Enterprise SDK for Python 3.11
- IBM z/OS CIM (Common Information Model) Monitoring
- Applications that us a preemptable service request block (PSRB) - often used by ISVs
- IBM z/OS Management Facility (z/OSMF)
- System Display and Search Facility

IBM z/OS Connect EE

- API Enablement for Hybrid Cloud
- RESTful API access to and from IBM Z® assets including CICS® TS, IMS™, Db2® and MQ® resources on IBM Z

XML

- XML System Services under z/OS (non-Java)
- Java XML parsing

IBM Communications Server

- z/OS Communications Server exploits the zIIP for portions of internet protocol security (IPSec) network encryption and decryption. z/OS Communications Server also exploits zIIP for select HiperSockets™ large message traffic. z/OS Global Mirror enables DFSMS™ System Data Mover processing for zIIP.

IBM CICS TS

- Liberty applications, Java SE applications and Web Services that use the Java framework (Axis 2). Offload rates vary.
- WebSphere® Liberty also allows Type 4 JDBC connections to Db2 so that can drive additional offload in Db2.
- Minor exploitation from XML System Services parser for non-Java Web Services

IBM CICS Connectors

- CICS Transaction Gateway on z/OS. Java based and much of the workload is offload eligible, all use cases.

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IBM IMS

- Java applications in IMS
- DRDA® Workload*
- CSLDMI Workload - The processing of ODBM address space threads for requests arriving through the CSLDMI API
- SOAP Workload - The processing of IMS Connect address space SOAP message threads for SOAP messages arriving via TCP/IP
- MSC Workload - The processing of IMS Connect address space Multiple System Coupling (MSC) threads for MSC messages arriving via TCP/IP
- ISC Workload - The processing of IMS Connect address space InterSystem Communication (ISC) threads for ISC messages arriving via TCP/IP

IBM Db2

- Db2 DRDA* offload
- SQL request workloads that use DRDA* to access Db2 for z/OS® over TCP/IP connections and native REST calls over HTTP
- Parallel query child processes
- Utility processes
- XML processing
- Db2 zAI

IBM Db2® for z/OS® Data Gate

IBM Db2 for z/OS Data Gate (Db2 Data Gate) allows users with existing z/OS Db2 core systems to use their z/OS Db2 data real time for read-only access on different platforms at minimal cost. No longer do users need to work with old data off-platform to avoid IBM Z® charges. Db2 Data Gate technology enables users to extract new Db2 data from their z/OS Db2 database and synchronize it with previously copied data on the other platform. Furthermore, Db2 Data Gate leverages z Integrated Information Processor (zIIP) technology, an IBM Z specialty engine, to offload general process work to avoid incremental Central Processor (CP) usage. The technology delivers real time data for read-only tasks at minimal cost, so businesses can generate new business opportunities affordably.

IBM Db2 Sort for z/OS

- IBM Db2 Sort for z/OS (also referred to as Db2 Sort) is a Db2 Tool that provides high-speed utility sort processing for data that is stored in Db2 for z/OS databases. It runs on an IBM zIIP.
- Db2 Sort improves the sort performance of many of the Db2 utilities in the IBM D2 Utilities Suite and of several other Db2 management tools. The way Db2 Sort improves sort performance is through enhanced sort technology and by communicating with Db2 utilities and tools and then adjusting system resources to ensure optimal sorting. This approach to sorting can result in significantly reduced sort CPU time.

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IBM Db2 Analytics Accelerator Loader for z/OS

- IBM Db2 Analytics Accelerator Loader for z/OS is a tool that you can use to load data on IBM Db2 Analytics Accelerator for z/OS and on Db2 for z/OS without stopping update activity to the production tables while the data is being loaded into the accelerator. It runs on an IBM zIIP.
- This tool allows you to load data from non-Db2 and remote Db2 sources directly to the accelerator in a single in-memory process. The source data is accessed, converted to the necessary format, and loaded to the accelerator in a single step without landing or loading the data into an intermediate file format. Accelerator Loader features provide performance and processing efficiency over the existing process in use by many z/OS installations. These features enable you to load a variety of non-Db2 data into the accelerator in a more automated manner and enable true enterprise-wide analytics.

IBM Db2 Utilities Suite for z/OS

- IBM Db2 Utilities Suite for z/OS is a comprehensive set of tools for managing Db2 data maintenance tasks. Db2 Utilities Suite helps you to minimize downtime associated with routine Db2 data maintenance while ensuring a high degree of data integrity. It runs on an IBM zIIP.

IBM Db2 Log Analysis Tool for z/OS

- The IBM Db2 Log Analysis Tool provides you with a powerful tool to ensure high availability and complete control over data integrity. It allows you to monitor data changes by automatically building reports of changes that are made to database tables. This tool runs on an IBM zIIP.
- You can specify reports by various database resource criteria, such as date, user, or table. You can isolate accidental or undesired changes to your database tables.

IBM Data Virtualization Manager for z/OS

- IBM Data Virtualization Manager for z/OS provides virtual, integrated views of data residing on IBM Z. It enables users and applications read/write access to IBM Z data in place, without having to move, replicate or transform the data and it runs largely on IBM zIIPs.

AI

- IBM Open Data Analytics for z/OS (IzODA) can exploit zIIPs for Apache Spark workloads
- IBM Watson™ Machine Learning for z/OS (WMLz) can leverage zIIPs for MLeap and Spark workloads via its exploitation of IzODA.

IBM WebSphere

- WebSphere Application Servers on z/OS is a JEE server so zIIP offload is exploited
- WebSphere Liberty profile also exploits zIIPs as part of z/OS and CICS deployment

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IBM Sterling Connect:Direct®

- IBM Sterling Connect:Direct is point-to-point (peer-to-peer) file-based integration middleware meant for 24x365 unattended operation, which provides assured delivery, high-volume, and secure data exchange within and between enterprises. It is optimized for high performance and throughput and moves files containing any type of data (text, EDI, binary, digital content, image) across multiple platforms, disparate file systems, and disparate media. It is used by many industries throughout the world to move large volumes of data and for connecting to remote offices.

IBM MQ

- IBM MQ Classes for Java / JMS
- mqweb server, which is an embedded Liberty profile used for certain MQ capabilities

IBM Z Management and Monitoring Software

- IBM Z Common Data Provider
- IBM OMEGAMON® Portfolio
  - OM XE for CICS v5.1 - CICS monitor enablement for Service Level Analysis capability. Customers have seen benefits of the OMEGAMON XE for CICS on z/OS CICS Service Level Analysis (SLA) processing off-loaded onto a zIIP
  - OM XE for z/OS v4.2 - Uses zIIP for sampling UCB scan done every 5 seconds. Amount offloaded increases with the # of DASD. OM XE for CICS 5.3 – Benchmarks show much of the CICS monitoring enablement for Bottleneck Analysis processing off-loaded onto a zIIP.
  - OMEGAMON for Db2 Performance Expert and Monitor V5.1 Near-term History (NTH) data manager will be directed to an available zIIP.
  - OMEGAMON for Storage – Uses zIIP offloading with the latest release of the product.

IBM RMF™

- *Clients* who have IBM RMF V2R1 and above and who also have at least one zIIP processor online in the partition where RMF Monitor III (RMFGAT) is running are able to run a portion of Monitor III work on zIIP engines.

IMS Tools portfolio can achieve some benefit being offload-able to zIIPs

- IMS Reorganization Expert
- IMS High Performance Unload
- IMS High Performance Load
- IMS High Performance Image Copy
- IMS Index Builder
- IMS Database Utility Solution
- IMS Database Solution Pack

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IBM Z System Automation

- The components in IBM Z Service Management Suite and IBM Z Service Automation Suite that use Java can exploit IBM zIIP engines
- IBM Z NetView® RESTful API Server is zIIP eligible
- IBM Z Workload Scheduler and Dynamic Workload Console on running on IBM WebSphere Liberty are zIIP eligible
- Archive of reporting feature is zIIP eligible

IBM Developer for z/OS Enterprise Edition

IBM Developer for z/OS Enterprise Edition provides application development productivity tools that support the design, creation, debug and maintenance of mainframe applications and is zIIP eligible. The following components of IBM Developer for z/OS Enterprise Edition include zIIP eligible components:

- IBM z/OS Explorer (used stand alone, by IBM Developer for z/OS, IBM Developer for z/OS Enterprise Edition, CICS Explorer, IMS Explorer, and other z/OS Explorer Aqua offerings)
- IBM z/OS Debugger (V14.2 or later- part of Debug for z/OS, IBM Developer for z/OS, and IBM Developer for z/OS Enterprise Edition)
  - Debug Profile Service
- IBM Dependency Based Build (available stand alone, in IBM Developer for z/OS and IBM Developer for z/OS Enterprise Edition):
  - Dependency Based Build Toolkit
- IBM Developer for z/OS and IBM Developer for z/OS Enterprise Edition
  - Code Analysis (batch code review and batch code coverage)

*Distributed Relational Database Architecture™ (DRDA) is a set of protocols that enable communication between applications and database systems on disparate platforms and enables relational data to be distributed among multiple platforms. Db2 requests that use DRDA and the processing of IMS Connect and Open Database Manager (ODBM) address space Distributed Relational Database Architecture (DRDA) threads for DRDA requests arriving via TCP/IP can run on IBM zIIPs.

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