Z Asset Optimizer Overview

Are you getting the most out of your mainframe investment?
**Introducing Z Asset Optimizer**

HCL Z Asset Optimize (ZAO) is a **market leading software asset discovery product** for IBM® z/OS® mainframe technology.

ZAO recognizes over **15,000+ mainframe software products and features** from IBM and other software vendors and provides comprehensive software inventory reports.

Tracks and reports usage of **In-house z/OS applications** – Batch workload, CICS, IMS transactions written in COBOL, PL/I, C/C++, REXX, Java.

Software assets and their usage are **discovered automatically** by a batch inquisitor and a real-time usage monitor.

**Audit and compliance** – Effectively used for discuss licensing and audit compliance with software vendors.

**Optimize Mainframe software cost** by eliminating less frequently used software and ensuring supported software is being used.

**Flexible Pricing** options.
Z Asset Optimizer Value Proposition

Asset & License Management
- Support complete End to End Software inventory management and reporting
- Detail analysis and reporting of Product, Vendor, Version, Release, Feature code (state all versions if multiple versions are installed), LPAR(s) they run on, Status of the product, Installation Libraries & Data set naming conventions.

Software Cost Optimization
- Analyze the Software usage of all IBM & ISV Products and Optimize Mainframe Software licensing cost
- Key Software usage Reports to negotiate licensing cost with vendors.
- Eliminate Less frequently Software products or Not used products
- Consolidate Product with overlapping capabilities

Auditing & Compliance
- Audit the usage of z/OS load modules and Unix executables
- Comply with License and Contracts and demonstrate compliance to software vendors
- Automate the process of up-to-date software inventory

Infrastructure Operation Management
- Report Product usage by LPARS, Sysplex and CEC’s
- Detail Impact on Applications, Batch Jobs & Users that helps in Planning, Validation & Testing stages
- Go-to tool for Sysprogs on Software/Hardware Upgrade or Migration projects (e.g., COBOL Upgrade)

APIs’ for Operational Analytics
- Integrate ZAO Software asset data with local Configuration management database for better insights on Change Impact
- Integrate ZAO data for Operational Analytics with SMF & Syslog data for Problem diagnosis and best practice implementation
- Automation and alerts on non-compliant situations
ZAO Deployment option on z/OS

Remote Mainframe Components

- STC
- TSO
- Batch
- JAVA
- CICS
- IMS

Central Mainframe Components

- Usage Monitor
- Inquisitor
- IQImport
- Repository
- Analyzer
- GKB Global Knowledge Base
- LKB Local Knowledge Base
- Vendor product registry (maintained by HCL)
- In-House Application registry (maintained by customer)

Raw Usage Data
Raw IQ Data
All DASD

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ZAO Deployment option on “Container technology on Linux on Z”

- **Simpler Maintenance**: ZAO for Containers is built ready for deployment into a target container environment.

- **Reduce Cost**: ZAO for Containers runs on Linux on Z instead of z/OS – which can be an LPAR or as simple as a z/VM guest.

- **Proven Reliability**: The Usage Monitor and Inquisitor are proven components of ZAO product with <1% overhead to monitor your mainframe systems.

- **License Validation**: Identify areas of improvement & concerns to keep your mainframe systems optimal.

- **APIs to Extract Data**: APIs are provided to extract asset management data from ZAO for Containers – consume data when you need them.
### ZAO Sample Reports

#### Inventory report:
Reporting a list of software products discovered on your systems

<table>
<thead>
<tr>
<th>Vendor Product</th>
<th>Version Title</th>
<th>Version PID</th>
<th>SW/SI Feature</th>
<th>EBD</th>
<th>synergy Name</th>
<th>NLC/PLA SURCAP</th>
<th>Discovered Association</th>
<th>Systems Last</th>
<th>Systems Last Used</th>
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#### Usage report:
Reporting the trending of software usage

- Aqua highlight % increase from previous month
- Yellow highlight % decrease from previous month
- Red highlight % decrease from previous month
Input required:

- The following information must be imported into ZAO interactively or in XML file:
  - **Software Details**: product ID, product name, feature, version, etc
  - **License Datils**: Scope (LPAR, Machine, Enterprise), License Date, License Renew Date, Capacity, etc
  - **Vendor details**: name, contact info

License Verification Insights:

- The following reports are produced:
  1. **Products with a License**: no attention is required immediately
  2. **License without a product**: product licensed but not on the system → candidate for removal
  3. **Products without a license**: possibly installed due to bundled solution by a vendor
  4. **Entitled and Not Used**: candidates for removal to reduce cost
  5. **Entitled and used**: no attention is required immediately
  6. **Not Entitled and Used**: Need immediate attention to avoid audit penalty
New: License Verification Feature

Sample 1: All License Report
New: License Verification Feature

Sample 2: Not Entitled and Used

| Vendor   | Product               | Feature         | Version | PID      | ID       | SYSPLEX | System | Capacity | License Type | Machine       | License Date   | Renewal Date | Last Used | Verified |
|----------|-----------------------|------------------|---------|----------|----------|----------|---------|----------|------------|---------------|----------------|---------------|-------------|-----------|----------|
| IBM      | DB2                   | DB2 12 for z/OS  | V12     | 5665-B62 | AUPLEX   | AUS1     | 133     | Machine  | 2964-N63 A1EB7 | 2018-10-01      |               |             |           |          |
| IBM      | DB2                   | DB2 12 for z/OS  | V12     | 5665-B62 | AUPLEX   | AUS2     | 133     | Machine  | 2964-N63 A1EB7 | 2018-10-01      |               |             |           |          |
| IBM      | DB2 Administration Tool | DB2 Administration Tool V11 | V11     | 5655-DAT | AUPLEX   | AUS1     | 133     | Machine  | 2964-N63 A1EB7 | 2018-10-01      |               |             |           |          |
| IBM      | DB2 Administration Tool V12 | DB2 Administration Tool V12 | V12     | 5655-D72 | AUPLEX   | AUS2     | 133     | Machine  | 2964-N63 A1EB7 | 2018-08-01      |               |             |           |          |
| IBM      | DB2 Administration Tool V12 | DB2 Administration Tool V12 | V12     | 5655-D72 | AUPLEX   | AUS2     | 133     | Machine  | 2964-N63 A1EB7 | 2018-10-01      |               |             |           |          |
| IBM      | Enterprise PL/I       | Enterprise PL/I for z/OS | V4      | 5655-WG7 | AUPLEX   | AUS1     | 133     | Machine  | 2964-N63 A1EB7 | 2018-10-01      |               |             |           |          |
| IBM      | Connect Direct z/OS Std Ed | BASE                | V5      | 5655-X09 | AUPLEX   | AUS2     | 132     | EMP      | 2964-N63 A1EB7 | 2018-10-01      |               |             |           |          |
| BMC Software | CATALOG MANAGER for DB2 | BASE                | V12     | 1SW-005619 | AUPLEX   | AUS1     | 133     | Enterprise | 2964-N63 A1EB7 | 2018-10-01      |               |             |           |          |
| BMC Software | CATALOG MANAGER for DB2 | BASE                | V12     | 1SW-005619 | AUPLEX   | AUS2     | 133     | Enterprise | 2964-N63 A1EB7 | 2018-10-01      |               |             |           |          |
| BMC Software | CHANGE ACCUMULATION PLUS | BASE                | V3      | 1SW-005480 | AUPLEX   | AUS2     | 133     | Enterprise | 2964-N63 A1EB7 | 2018-07-01      |               |             |           |          |
- ZAO pricing illustration

IBM z14 3906-404

118 MSU

Machine Capacity

49 VU

MSU converted into Value units (VU)

ZAO Pricing is based on per VU

Mainframe machine model#

ZAO Term License option

ZAO Perpetual License option

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**Success story** : US based Banking customer

**The Challenge & need**
Reduce the overall mainframe software license expense with a largest Independent software vendor

**HCL Approach**
Establish facts around software assets and usage to enable the customer to re-negotiate the overall software license cost within the context of overall Enterprise License Agreement.

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**Vendor Contract Summary**
- $71M 3-year EULA ending March 30, 2018
- 153 non-IDMS mainframe products usage up to 41,138
- 31 IDMS mainframe products up to 6,917
- 36 distributed products (various levels)
- No cost access to additional mainframe products

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**Mainframe product utilization level is 30%:**
- Only 56 of the 189 mainframe products are in use
  - 78% of non-IDMS mainframe products are not in use (only 34 out of 158 non-IDMS mainframe products in use)
  - 29% of IDMS mainframe products are not in use (only 22 out of 31 IDMS products in use)

**Overlicensed mainframe software:**
- 82% of non-IDMS products are using less than 40,000 MIPS – less than originally licensed!
  - Max MIPS used is 43,955 by only 1 product
  - 62% (22 out of 34) using less than 20,000 MIPS
- 81% of IDMS product MIPS are unused
  - IDMS products licensed to 6,917 MIPS, but only using 1,325 MIPS

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ZAO Asset Management Reports reveal significant cost savings in software license

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Top Financial services company – One of Largest banking institution in United States with over US $3 trillion in client assets.

**Business challenge**

Monitor the usage of 40,000+ in-house developed applications in ChangeMan which was written in Assembler, COBOL, PL/I, C/C++, Java and need for an in-depth analysis of program execution in z/OS environments.

▪ Where the application are executing in Mainframe environment – LPARs?
▪ What are the libraries names and DASD volumes (location of programs)?
▪ What workloads are calling these application – Batch, Transactions, users?
▪ What Programming language (COBOL, C/C++, PL/1) and compiler version?
▪ List the dependency of application to IBM & other vendor Mainframe software’s
▪ Data & Time of program execution

**Solution benefits**

✓ Simplified the monitor of thousands of in-house applications.
✓ Increased Productivity by reducing manual & complex efforts.
✓ Automation in discovery and usage reporting of application programs

**Automated Solution**:

The company exploited the Local Knowledge Base (LKB) feature to register their thousands of in-house applications through the “Batch Tagger” utility and wrote an simple REXX program to automatically identify the new in-house programs from the Loadlibrary.
$8.4 BILLION ENTERPRISE | 132,000 IDEAPRENEURS | 44 COUNTRIES

Contact us: ZI0@hd.com
Are you getting the most out of Z software investment?

- How are you currently monitoring your System z software assets, usage and licenses?
- Do you know how many software products you have currently deployed?
- Do you know what they are and what they cost?
- Do you know who is using those software products?
- Do you know how often those products are being used?
- Do you have a clear understanding of the multiple versions of products installed?
- Do you have a clear understanding of products that may be installed in multiple locations?
- Do you know if you are over or undersubscribed?
- Do you know if there are any applications that are redundant, out of date or not being used?
- Can any applications be eliminated or consolidated?
- Are all of your software licenses up to date?
- Would you be in legal or financial danger if you were audited?

Enhance asset reliability and availability to deliver the most optimal service to the business.

- Improve Service
- Software Asset Management
- Reduce Cost
- Manage Risk

Avoid software over-purchases and financial impact of failed license compliance audits.

Improve compliance with licensing requirements.
Additional Information

Need help?

▪ Our SME consultants can help to install and configure the product with minimal disruption of your daily tasks

▪ Recommendation based on consultation to implement the product most effectively based on your requirements

▪ Customization to ensure ISV software products as well as in-house applications are correctly reported

▪ Review product reports and assist in preparing project plan to optimize your mainframe systems