

# *SAM Monthly Best Practices Webinars*

*Session 20: Java*

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# Agenda

1. Last session's pointers and answers to questions
2. News
  1. Updates in the Best Practice Hub
  2. ITAM 2022R2.5 / FNMS 2023R1
3. Java
  1. The Java challenges and January changes
  2. How Flexera helps you keep Java under control
    1. Inventory normalization
    2. Transparency
    3. Exemption by file path (Embedded instance)
    4. Licenses

# Last Session: SAM Operations Hub

- Useful pointers
  - Recording and PowerPoint: [here](#)
- Answers to questions
  - No question for last session!

# News

- ITAM 2023 R1
  - End Of May / June
  - Will include
    - Some fixes for Cloud Customers (versus 2022R2.4)
    - For on-premises customers
      - The SAM Operations Hub (Snapshot, trend, Enterprise Filter)
      - Oracle Java Worksheet
      - Trends in the SAM Optimization Hub
      - Operations Hub reports (vCenter Inventory Troubleshooting, Unrecognized Installer Evidence Analysis, Oracle Inventory Troubleshooting, License Issues Analysis...)
      - Intune Inventory Adaptor
      - Inventory and compliance for Linux VMs on zOS
      - Allocation Reason
- The “[Best practice Hub](#)”
  - Gives many pointers to existing best practice and visibility on the 3 coming Hubs.
  - Information on the new Cloud Migration License Impact Simulation Engine
- Please check if you received the
  - Flexera April ITAM Newsletter

KPI	Explanation	Value	Total scope	%Age of scope	Performance
Number of failed tasks in run (Details)	A system task that file leads to inaccurate / not up to date information and must be fixed (More info)	1	7	15%	Red
Beacons that don't report correctly (Details)	All inventory files transit through beacons (More info)	0	0	0%	Green
Number of orphan VMs (Details)	Non cloud VMs without host are the sign of decommissioning process issue or vCenter import issue (More info)	400	10,000	4%	Green
Number of merged devices (different sources) (Details)	Big cause of false positives (More info)	4,000	20,000	20%	Orange
Number of merged devices (same source) (Details)	(More info)	300	6,000	5%	Orange
Unlicensed Commercial Installations (Details)	These installations are under the radar (More info)	20,000	200,000	10%	Orange
Unprocessed Purchases (Details)	(More info)	20	100	2%	Green

Operations KPI (Trend)

Can I trust my inventory?  
Are my inventory import system tasks successful?  
This should be the first check of the day. The system tasks screen shows on failing task. This requires a fix.

## Flexera ITAM Best practice information available in Flexera Community

 nrousseau1  
Level 8 Flexeran

Apr 19, 2022 02:40 AM

👍 13    💬 20    👁 7,687

### This is all about sharing and applying best practices

You may have seen here and there interesting KB articles, using the powerful customizations possibilities of FNMS to provide extensions to the out of the box value for reporting or automations... The issue is that the articles are spread and unless you know what you look for you may miss some interesting information.

The purpose of this post, that will be extended over the time, is to provide you with a "SAM Best Practices Hub", a single pane of glass to understand and use the published solutions and the coming features: SAM Optimization Hub in 2022 Q3, SAM Operations Transparency Hub in Q4 2022, a SAM Data Transparency Hub in 2023... where these best practices will be progressively incorporated.

The solutions are addressing both ends of the "SAM Maslow Pyramid" (from bottom to top) and are anticipating where Flexera goes with SAM:

- Provide data and KPIs to monitor the health of your SAM Project. The custom reports will gradually be included in the **SAM Operations Transparency Hub**... Planned for 2023 Q1
- Provide transparency on your SAM data (usage, Oracle instances and options details, overview on SAP inventory...). The **SAM Data Transparency Hub** is planned for 2023 Q2
- Provide the high end value that does beyond compliance, with a focus on Optimization. Most of reports have been productized in 2021/2022. The **SAM Optimization Hub** delivered in 2022 Q4 summarizes and articulate these reports.

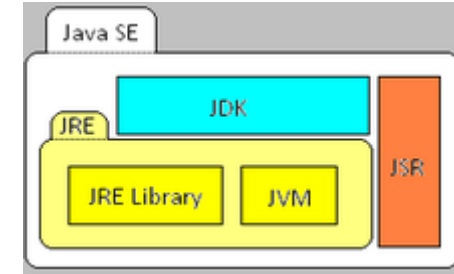
# Java: the new paradigm and how Flexera keeps things under control

# Agenda

- The Java challenges...
  - Multiple licensing changes, various counting logics
  - Licensable / freeware versions challenging to track
  - Java can be embedded
- The Flexera One ITAM / FlexNet Manager answer
  - Normalization
  - Transparency
  - Exemption by file path feature for Embedded instances
  - Step by step approach on creating licenses
  - Demo

# Context: the Oracle Java challenges

- Oracle has made JDK / JRE licensable for all editions in 2019
  - Java JDK 11 (That includes JRE) is licensable...
  - JDK / JRE legacy versions get licensable for new updates for corporations
- An option is to use OpenJDK, but this is a complex migration project
- Java is included in some Oracle Licensed applications:  
<https://www.oracle.com/technetwork/java/javase/terms/oaa.html>
- In January 2023, [Oracle has made Java an enterprise-wide subscription](#)
  - Customers with existing contracts stay under the same agreement (Users for desktops / Oracle processor for servers)
  - For new agreements: 1 licensable installation requires the full employee scope to be licensed. Focus is now: “ 0 licensable installation”.





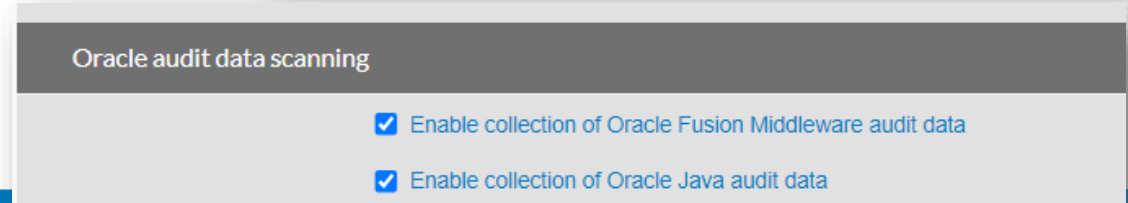
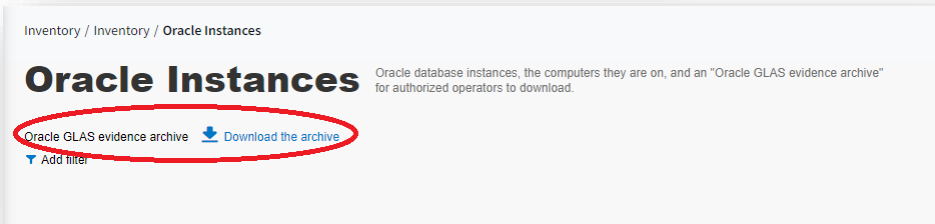
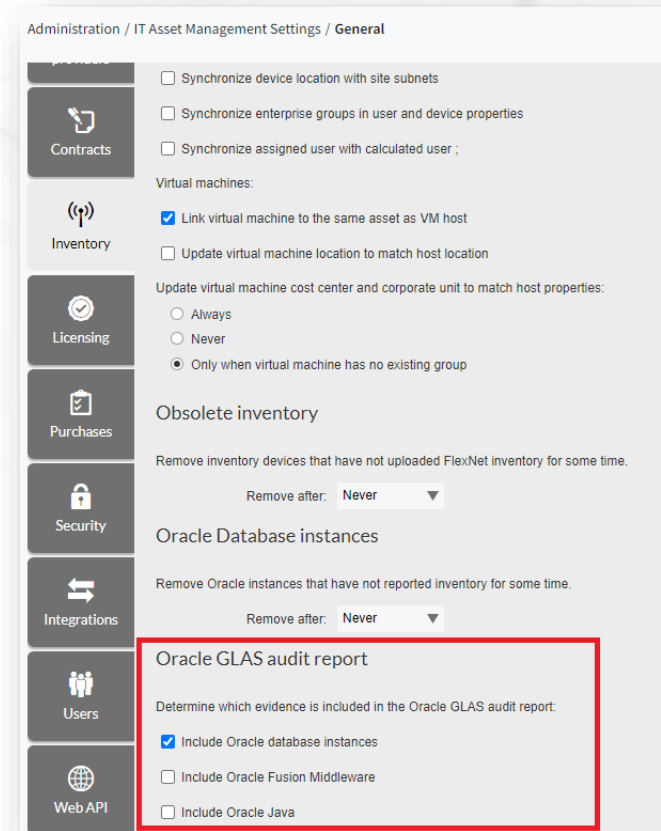
# How Flexera helps you keep Java under control

- Flexera is Java verified
- Provides transparency
  - Oracle Java Worksheet (New!)
  - Application transparency report
- Recognizes Licensable / Non-Licensable versions of Java
- Manages Embedded instances
- Computes your consumption
  - If you are on an existing Oracle Master Agreement Contract (with Java Subscription before January 2023): Desktop (/user) versus Server (Oracle Processor)
  - If you have no subscription prior to January 2023: 1 licensable installation = a subscription for all Full time / part time employees



# Flexera is Java verified

- <https://www.oracle.com/corporate/license-management-services/tooling.html>
- What Java Verified means
  - Flexera agent collects the data needed for Java tracking
    - File evidence only
    - Additional fields – full transparency in Java Worksheet Report
  - Flexera ITAM / FlexNet Manager include Java in the GLAS evidence file



# Flexera normalization: Java public / restricted patterns

1. Source of truth: <https://www.oracle.com/java/technologies/downloads/archive/>
2. Java SE 5:
  1. Java 5 Until (& incl.) update 22 => "PUBLIC"
  2. Java 5 update 23 & up => "RESTRICTED"
  3. Java 5 (all update) where build >30 => "RESTRICTED"
3. Java SE 6:
  1. Java 6 Until (& incl.) update 45 => "PUBLIC"
  2. Java 6 update 51 & up => "RESTRICTED"
  3. Java 6 (all update) where build >30 => "RESTRICTED"
4. Java SE 7:
  1. Java 7 Until (& incl.) update 79 => "PUBLIC"
  2. Java 7 update 80 & up => "RESTRICTED"
  3. Java 7 (all update) where build >30 => "RESTRICTED"
5. Java SE 8:
  1. Java 8 Until (& incl.) update 202 => "PUBLIC"
  2. Java 8 update 211 & up=> "Restricted" (License change – 16/04/2019)
  3. Java 8 (all update) where build >30 => "RESTRICTED"
6. Java SE 9 / 10
  1. Java 9 & 10 => Public
  2. Java 9 & 10 (all update) where build >30 => "RESTRICTED"
7. Java 11
  1. Java 11 Until (&incl.) update 2 => Public
  2. Java 11 update 3 => "RESTRICTED"
8. Java 12 and more => "Restricted" (Licensing modification – 16/04/2019)
9. Java 17: Public: for a period and depends on your contract. "Oracle Master Agreement (OMA)" will not be free because it already includes a Java subscription, or "Oracle No-Fee Terms and Conditions" (NFTC) license will be free

# How this is reflected in the ARL

## Application Properties Oracle Java Platform 8 Standard

### Evidence

Source:  
Suite containing appl

- Installer
- File
- WMI
- Access
- Suite and member

### File evidence

Search for file evidence to add  Search

Remove

1 of 40 results selected 100 rows per page

Name	Version	Description	Company	Recognition rule	Product version	Size (bytes)	Product name	Language
<input type="checkbox"/> java.exe	8.0.%61	Java(TM) Platform SE binary	Oracle%	At least one			Java(TM) Platform SE	All
<input type="checkbox"/> java.exe	8.0.212%	Java(TM) Platform SE binary	Oracle%	At least one			Java(TM) Platform SE 8	All
<input type="checkbox"/> java.exe	8.0.241%	Java(TM) Platform SE binary	Oracle%	At least one	8.0.241%		Java(TM) Platform SE 8	All
<input type="checkbox"/> java.exe	8.0.251%	Java(TM) Platform SE binary	Oracle%	At least one	8.0.251%			
<input type="checkbox"/> java.exe	8.0.211%	Java(TM) Platform SE binary	Oracle%	At least one				
<input type="checkbox"/> java.exe	8.0.231%	Java(TM) Platform SE binary	Oracle%	At least one	8.0.231%			
<input type="checkbox"/> java.exe	8.0.2210.%	Java(TM) Platform SE binary	Oracle%	At least one	8.0.2210.%			
<input type="checkbox"/> java.exe	8.0.2910.%	Java(TM) Platform SE binary	Oracle%	At least one	8.0.2910.%			
<input type="checkbox"/> java.exe	8.0.2610.%	Java(TM) Platform SE binary	Oracle%	At least one	8.0.2610.12			
<input type="checkbox"/> java.exe	8.0.2710.%	Java(TM) Platform SE binary	Oracle%	At least one				
<input type="checkbox"/> java.exe	8.0.%41	Java(TM) Platform SE binary	Oracle%	At least one				
<input type="checkbox"/> java.exe	8.0.%48	Java(TM) Platform SE binary	Oracle%	At least one				
<input type="checkbox"/> java.exe	8.0.%54	Java(TM) Platform SE binary	Oracle%	At least one				
<input type="checkbox"/> java.exe	8.0.%31	Java(TM) Platform SE binary	Oracle%	At least one				

Updates

Builds

- Recent changes
  - Installer evidence is no longer used
  - Javaw.exe comes with java.exe

Name	Description	Recognition rule	Version	Path	Proc
<input type="checkbox"/> %/bin/java	Java(TM)%	At least one	1.8.0_%-b31		
<input type="checkbox"/> %/bin/java	Java(TM)%	At least one	1.8.0_%-b32		
<input type="checkbox"/> %/bin/java	Java(TM)%	At least one	1.8.0_%-b33		

Unix

# Java changes in ARL 2740

- Content Blog [post](#)
- A new Oracle Java Unmanaged application has been created
  - It gathers all installer evidence of commercial versions of Java
  - It is a good reference for Java but only Java Platform Commercial using file evidence should be use
  - You can flag the app as “Import detailed evidence”
- Installer evidence is no longer used
  - Prevented from using the [Exemption by file path](#)
  - Was causing false positives (OUI particularly)
- Java.exe AND javaw.exe are now used

**Application Properties** Oracle Java Unmanaged Application

Possible issues for this application

Evidence Source: Flexera

Installer File WMI Access Suite and member

Installer evidence

Search for installer evidence to add Search

Remove Open

1,442 results returned 100 rows per page Search Export

Name	Version	Publisher	Type	Added evidence	Ignored	Matches	Assigned	Overlapping evidence
<input type="checkbox"/> ant/MGS-APP-0000469824			FlexeraID	No	No	0	Yes	No
<input type="checkbox"/> Sun Java 6.0.191%	1.%	Sun%	Any	No	No	0	Yes	No
<input type="checkbox"/> Sun Java 6.0.181%	1.%	Sun%	Any	No	No	0	Yes	No
<input type="checkbox"/> Sun Java 6.0.113%	1.%	Sun%	Any	No	No	0	Yes	No
<input type="checkbox"/> Sun Java 6.0.115%	1.%	Sun%	Any	No	No	0	Yes	No
<input type="checkbox"/> Sun Java 6.0.111%	1.%	Sun%	Any	No	No	0	Yes	No
<input type="checkbox"/> Sun Java 6.0.151%	1.%	Sun%	Any	No	No	0	Yes	No
<input type="checkbox"/> Sun Java 6.0.81%	1.%	Sun%	Any	No	No	0	Yes	No
<input type="checkbox"/> Sun Java 6.0.75%	1.%	Sun%	Any	No	No	0	Yes	No
<input type="checkbox"/> Sun Java 6.0.91%	1.%	Sun%	Any	No	No	0	Yes	No

**Details**

Status: Unmanaged

Start of life: None

Release date: None

End of sales: None

End of support: None

End of extended support: None

End of life: None

Import detailed evidence

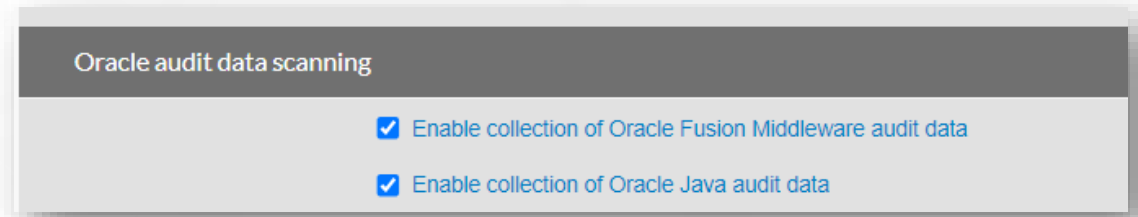
Information: Java commercial applications are recognized through File Evidence. This is here to hide the Installer Evidence, so that it wont cause false positive.

<https://www.oracle.com/in/java/>

This application is for an unspecified version of this software. Most inventory systems do not return sufficient information to be able to accurately determine details of what version of the product has been installed.

# Use a recent agent & File evidence!

- On Unix, the agent has been enhanced in 2021 R1 to run Java –version and collect
  - Full version information
  - File evidence with path
- For all versions, 2022R2 extends Java verified data collection
  - AMC agent
  - Mission Control data
  - Unlock Commercial Feature
- You need to collect File evidence
  - All files
  - Or specific file: [IncludeFile](#) Java.exe, javaw.exe

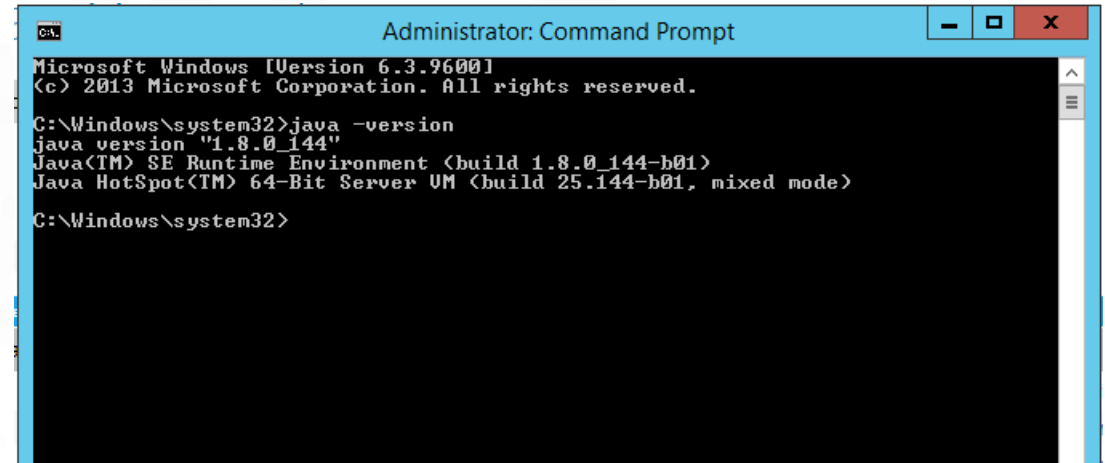


```
-- Create the new setting that will be pushed to the target: Target Windows
INSERT INTO BeaconTargetPropertyValue
(BeaconTargetID, KeyName, Value)
VALUES
(2, 'CTrackerIncludeFile', 'java.exe,javaw.exe')-- Target 2 is "ALL Windows". Please CHECK!

INSERT INTO BeaconTargetPropertyValue
(BeaconTargetID, KeyName, Value)
VALUES
(1, 'CTrackerIncludeFile', 'java')-- Target 1 is "ALL Unix". Please CHECK!
```

# Don't accept when asked to upgrade Java!

- An old free version of Java in a test system
- Every month, it was suggested to upgrade (with a warning of change in licensing)
- January 2023: **Upgrade or Uninstall?**



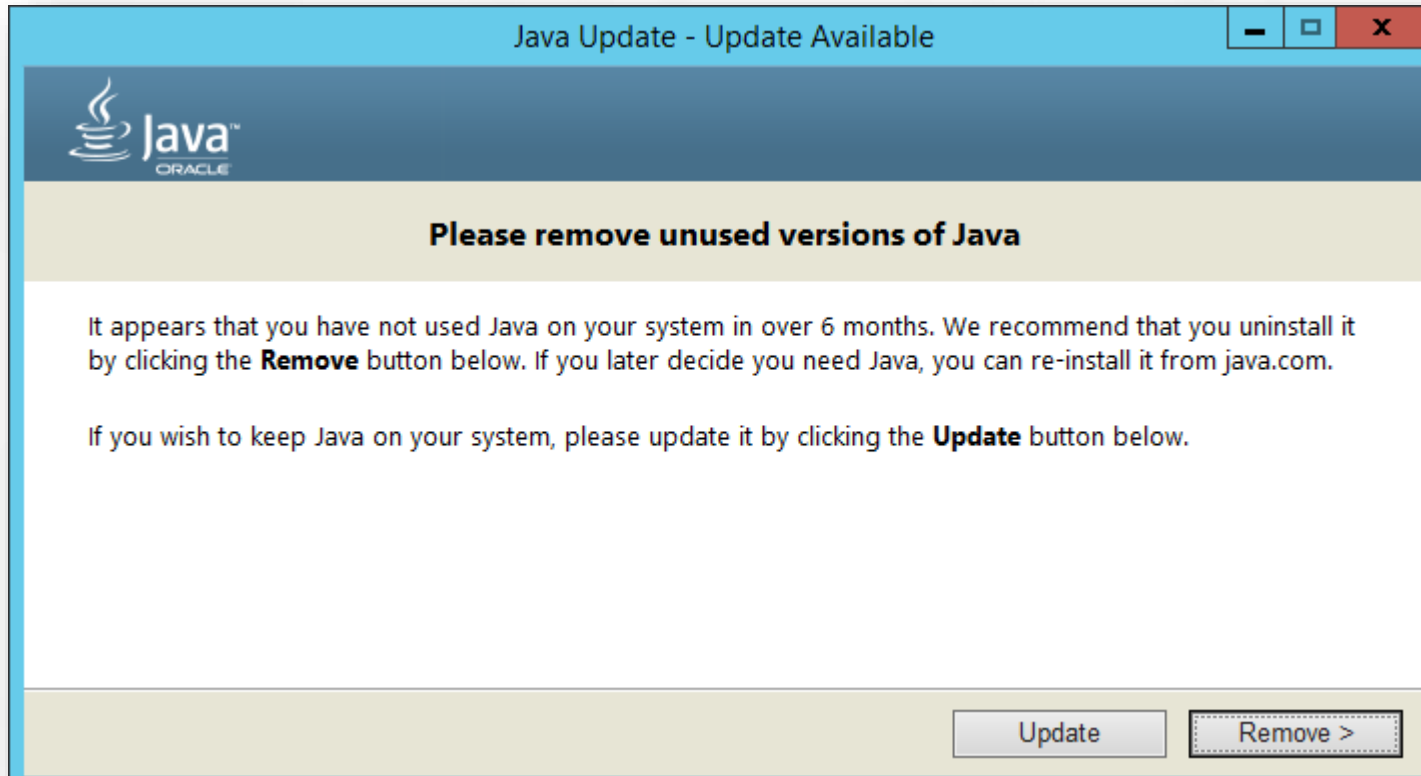
```
Administrator: Command Prompt
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Windows\system32>java -version
java version "1.8.0_144"
Java(TM) SE Runtime Environment (build 1.8.0_144-b01)
Java HotSpot(TM) 64-Bit Server VM (build 25.144-b01, mixed mode)

C:\Windows\system32>
```



# Another variation





# Automated exemption of embedded Java instances

Application Recognition transparency Report

Ability to define the "embedded path"

Automated exclusion from license consumption

### Application Transparency Report

Displays a list of installations with details about evidences used for recognition and whether the evidence matches a file path exemption.

Search  Run report

▼ Add filter

results returned 20 rows per page

Evidence type	Raw installer evidence type	Inventory date	Raw evidence name	Raw evidence version	Raw file path	Raw evidence publisher	Raw description	Raw file size	Path exemption reason	Connection name
<input type="checkbox"/> File		7/8/2021	java.exe	8.0.2710.9	C:\Program Files\Java\jdk1.8.0_271\bin\	Oracle Corporation	Java(TM) Platform SE binary	276.608		FlexNet Manager
<input type="checkbox"/> File		7/8/2021	java.exe	8.0.2710.9	C:\Program Files\Java\jdk1.8.0_271\bin\	Oracle Corporation	Java(TM) Platform SE binary	276.608		FlexNet Manager
<input type="checkbox"/> File		7/8/2021	java.exe	8.0.2910.10	C:\Program Files (x86)\Common Files\Oracle\Java\javapath_target_2864041375\	Oracle Corporation	Java(TM) Platform SE binary	276.256		FlexNet Manager
<input type="checkbox"/> File		7/8/2021	java.exe	8.0.2910.10	C:\Program Files (x86)\Java\jre1.8.0_291\bin\	Oracle Corporation	Java(TM) Platform SE binary	245.536		FlexNet Manager
<input type="checkbox"/> File		7/8/2021	java.exe	8.0.2910.10	C:\Program Files\Java\jre1.8.0_291\bin\	Oracle Corporation	Java(TM) Platform SE binary	276.256		FlexNet Manager
<input type="checkbox"/> File		7/8/2021	java.exe	8.0.2510.8	C:\Program Files (x86)\Common Files\Oracle\Java\javapath_target_2721846218\	Oracle Corporation	Java(TM) Platform SE binary	208.040		FlexNet Manager
<input type="checkbox"/> File		7/8/2021	java.exe	8.0.2510.8	C:\Program Files (x86)\Java\jre1.8.0_251\bin\	Oracle Corporation	Java(TM) Platform SE binary	192.680		FlexNet Manager
<input type="checkbox"/> File		7/8/2021	java.exe	8.0.2510.8	C:\Program Files\Java\jre1.8.0_251\bin\	Oracle Corporation	Java(TM) Platform SE binary	208.040		FlexNet Manager
<input type="checkbox"/> File		7/8/2021	java.exe	6.0.210.51	E:\Siebel\15.0.0.0\appweb\jdk\bin\	Sun Microsystems, Inc.	Java(TM) Platform SE binary	139.264	Part of a Siebel install	FlexNet Manager
<input type="checkbox"/> File		7/8/2021	java.exe	6.0.210.51	E:\Siebel\15.0.0.0\appweb\jdk\bin\	Sun Microsystems, Inc.	Java(TM) Platform SE binary	139.264	Part of a Siebel install	FlexNet Manager
<input type="checkbox"/> File		7/8/2021	java.exe	6.0.210.51	E:\Siebel\15.0.0.0\ises\jdk\bin\	Sun Microsystems, Inc.	Java(TM) Platform SE binary	139.264	Part of a Siebel install	FlexNet Manager
<input type="checkbox"/> File		7/8/2021	java.exe	6.0.210.51	E:\Siebel\15.0.0.0\ises\jdk\bin\	Sun Microsystems, Inc.	Java(TM) Platform SE binary	139.264	Part of a Siebel install	FlexNet Manager
<input type="checkbox"/> File		7/8/2021	java.exe	6.0.750.13	C:\Users\leglc_006_a_kubicza\AppData\Local\Temp\deinstall2016-05-17_01-47-05PM\jdk\bin\	Sun Microsystems, Inc.	Java(TM) Platform SE binary	172.944		FlexNet Manager

### Exemption by file path

Installations with the following file paths do not contribute to license consumption:

3 results returned 20 rows per page

Path	Exemption Reason	Version	Actions
Paths			+
C:\Users\EGLC_006_a_schiseb%	schiseb User exemption (dummy)		🗑️ ✎️
E:\Siebel%	Part of a Siebel install	%	🗑️ ✎️

### License Properties oracle Java Platform All Versions

License type: Oracle Processor

Save Close

Compliance Identification Use rights & rules Applications Purchases Financial Contracts Consumption

Device name	Consumed points	Licensable	Installed	Used	Allocation type	Exemption reason
s1220001307a	1	Yes	No	No	Unallocated	Exempted by file path
sedcmfcs001	2	Yes	Yes	No	Unallocated	
sgagavvum01	1	Yes	Yes	No	Unallocated	
lgicbgav0004	1	Yes	Yes	No	Unallocated	

# What are the embedded paths?

- Famous [Oracle product](#)'s paths
  - DB client:
    - %\oracle\product%\client\_1\jdk\jre\bin\
  - Siebel:
    - Siebel%bin/
    - Siebel%bin\
  - WebLogic:
    - %/Weblogic/%/bin/
    - %\Weblogic%\%bin\
- All paths related to IBM products: [IBM Java FAQ](#)
  - %IBM%jre%bin/
  - %IBM%jre%bin\
- Symantec: [Symantec Java FAQ](#)
  - Endpoint Protection manager agent: %Symantec Endpoint Protection Manager\jre\bin\ (rmq: embedded version: JRE 1.8u25)
- Flexera is not going to deliver this as part of content but can aggregate « Community Contributions » (KB article to come)

\*The definitions used in the Oracle Technology Network License Agreement for Oracle Java SE have the same meaning in this document.

## Schedule A Products and Schedule B Products

The following list of Schedule A Products and Schedule B Products is the exclusive list of products for the purposes of the definition of Oracle Approved Product Use under the [Oracle Technology Network License Agreement for Oracle Java SE](#). The Oracle Technology Network License Agreement for Oracle Java SE does not grant You any right to use the Schedule A Products or Schedule B Products.

Program	Approved Schedule A Products	Approved Schedule B Products
Oracle Java SE Development Kit (Oracle JDK), Oracle Java SE Runtime Environment (Oracle JRE)	Oracle SQL Developer	Oracle Forms, and applications that contain Oracle Forms. Oracle E-Business Suite, and applications that contain Oracle E-Business Suite. Oracle WebLogic Server Product client applications. Oracle Coherence Product client applications. JD Edwards products. Oracle AutoVue products. Oracle Secure Global Desktop. Oracle Demantra products.
Any other Programs not listed above including the Oracle Java SE Subscription Enterprise Performance Pack (EPP)	None	None

# More transparency with the Oracle Java Worksheet

Reporting / Compliance Reports / Oracle Java Worksheet

## Oracle Java Worksheet

Detailed information about your Oracle Java deployment, gathered by the Flexera agent and modeled on Oracle's own spreadsheet.

Java Vendor: All Enterprise: All [Run Report](#)

187 results returned 20 rows per page  [Export](#)

Physical machine name	Virtual machine name	Machine type	Operating system	Environment type	Incomplete data	Java publisher/runtime vendor	Java release/version/build	Installation path	Installation date	Release file exists	Processor model	Sockets	Cores	Version 8 and earlier	Open source	Unlo
ComputerE		D	Microsoft Windows 10 Enterprise	PROD	Yes	Oracle	8.0.2510.8	C:\Program Files\Java\jdk1.8.0_251\jre\bin\			Intel(R) Core(TM) i7-7820HQ CPU @ 2.90GHz	1	4	No	No	
computerc		D	Microsoft Windows 10 Enterprise	PROD	Yes	Oracle	8.0.2710.19	C:\Program Files (x86)\HyperionClient\jvm\bin\			Intel(R) Core(TM) i7-7820HQ CPU @ 2.90GHz	1	4	No	No	
ComputerF		D	Microsoft Windows 10 Enterprise	PROD	Yes	Oracle	8.0.2510.8	C:\Program Files\Java\jdk1.8.0_251\jre\bin\			Intel(R) Core(TM) i7-7820HQ CPU @ 2.90GHz	1	4	No	No	
computerd		D	Microsoft Windows 10 Enterprise	PROD	Yes	Oracle	8.0.2510.8	C:\Program Files\Java\jdk1.8.0_251\jre\bin\			Intel(R) Core(TM) i7-7820HQ CPU @ 2.90GHz	1	4	No	No	
ComputerB		D	Microsoft Windows 10 Enterprise	PROD	Yes	Oracle	8.0.2510.8	C:\Program Files\Java\jdk1.8.0_251\jre\bin\			Intel(R) Core(TM) i7-7820HQ CPU @ 2.90GHz	1	4	No	No	
computera		D	Microsoft Windows 10 Enterprise	PROD	Yes	Oracle	8.0.910.00	C:\oracle\product\12.2.0\client_1\jdk\bin\			Intel(R) Core(TM) i7-7820HQ CPU @ 2.90GHz	1	4	No	No	

- Reflects what is in the GLAS file
- “Coming from other product” field is coming from “Oracle Embedded by File Path Exemption”
- Provides information that is not directly used in reconciliation yet: AMC agent, Mission Control data, Unlock Commercial Feature. Consider rows with these flags as “Additional Licensable installations”

# End to end process in ITAM / FNMS (contract signed prior to Jan 2023)

- Create two licenses (one for Servers, One for Desktops)
- Make sure Server consumes first
- Use the Intelligent restriction for the server license
- Observe raw file evidences in the “Application transparency” report and their path to identify “embedded paths”
- Tweak the “Exemption by path” of the two licenses
- Wait for next import, observe, tweak again...

# End to end process in ITAM / FNMS (NO contract signed prior to Jan 2023)

- Create one license (per user)
- Observe raw file evidences in the “Application transparency” report and their path to identify “embedded paths”
- Tweak the “Exemption by path” of the license
- Wait for next import, observe, tweak again...
- The license will not count the consumption... One licensable installation (consumption is not 0) will mean all employees (Full time, part time, contractors) must be licensed.



# Demo



**Thank you!**



# About Flexera

Flexera delivers SaaS-based IT management solutions that enable enterprises to accelerate digital transformation and multiply the value of their technology investments. We help organizations ***inform their IT*** with definitive visibility into complex hybrid IT ecosystems, providing unparalleled IT insights that allow them to seize technology opportunities. And we help them ***transform their IT*** with tools that deliver actionable intelligence across an ever-increasing range of dimensions to effectively manage, govern and optimize their hybrid IT estate.

More than 50,000 customers subscribe to our technology value optimization solutions, delivered by 1,300+ passionate team members worldwide. To learn more, visit [flexera.com](https://flexera.com)

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