

# Crystal Reports: Java Licensing & Log4j Vulnerability

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# Contents

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<b>Introduction</b> .....	<b>3</b>
Audience.....	3
<b>Background</b> .....	<b>3</b>
Java Licensing and Log4j Vulnerability: Clarifications for SYSPRO Users .....	3
<b>Statement from SYSPRO: Java Licensing</b> .....	<b>4</b>
What does SAP Product Support say? .....	4
<b>Statement from SYSPRO: Log4j vulnerability</b> .....	<b>5</b>
Does this vulnerability affect SYSPRO? .....	5
Why does it not affect SYSPRO? .....	5
<b>FAQs</b> .....	<b>6</b>
Java .....	6
Why does SYSPRO ship Java?.....	6
Which version of Java is shipped with SYSPRO?.....	6
Does SYSPRO support newer versions of Java? .....	6
Are there any plans to support more current versions of Java?.....	6
Can SYSPRO clients upgrade from JRE 8u66 to a newer version of Java? .....	6
Can customers use a different version of Java than what is shipped with SYSPRO? .....	7
How should customers handle Java updates and potential security concerns?.....	7
Reporting and Drivers .....	8
When should I use client or server-side reporting, and which driver should I choose? ...	8
How does switching to the SQL driver for client-side reporting affect performance and functionality?.....	8
How do I switch between client-side and server-side reporting?.....	9
General .....	9
What if I have more questions?.....	9



# Introduction

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## AUDIENCE

This statement is aimed at the entire SYSPRO community.

This includes SYSPRO end-users, partners and SYSPRO personnel.

## Background

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### **JAVA LICENSING AND LOG4J VULNERABILITY: CLARIFICATIONS FOR SYSPRO USERS**

In 2018, Oracle announced its intention to charge business users for utilizing Java technology. This shift in Java licensing raised concerns among users of Crystal Reports technology, an integral part of the SYSPRO installation. Crystal Reports, maintained and supported by SAP Business Objects, is a crucial component for client and server-side reporting in SYSPRO 8 and previous versions.

Parallel to the Java licensing developments, a significant security concern emerged in late 2021. A widely used Java library, Log4j, known for its logging capabilities in Java applications, was found to have a severe vulnerability. This vulnerability, easily exploitable by malicious entities, posed a global threat due to the library's extensive usage.

Amidst these developments, it's crucial to address the implications for SYSPRO users.

Despite Crystal Reports incorporating the Log4j library, which harbors this vulnerability, we assure our users that this specific library is not employed by the Crystal Reports BI technology included with SYSPRO.

This document aims to clarify these concerns, ensuring that SYSPRO users remain informed about their software's security and licensing status.



# Statement from SYSPRO: Java Licensing

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**Crystal Reports 2013 SP 8, Crystal Reports 2016, and Crystal Reports 2020** as included in the SYSPRO installation, does not require additional payments, over-and-above existing license fees due to SYSPRO.

It should be noted that **Crystal Reports** has an embedded version of Java and this runtime is not chargeable by **Oracle**.

## WHAT DOES SAP PRODUCT SUPPORT SAY?

We have confirmation from Support Engineers at **SAP Product Support** that there is an **SAP Knowledge Base Article (KBA) number 2652335** that contains a statement indicating that there are no additional payments due when using **Java** compatible with:

- SAP Crystal Reports 2013 SP 8, Crystal Reports 2016 or Crystal Reports 2020
- SAP Crystal Reports Runtime engine for .NET Framework (32 bit)  
(The native XML driver is used with this runtime)
- SAP Crystal Reports Server 2013 SP 8 OEM Edition  
(The native XML driver is used with this run time)
- SAP BusinessObjects BI Platform .NET SDK Redistributable 4.2 (32 bit and 64 bit)

In all cases, **Crystal Reports 2013, 2016 and 2020** are supported without additional charges.

# Statement from SYSPRO: Log4j vulnerability

## DOES THIS VULNERABILITY AFFECT SYSPRO?

The answer is no.

## WHY DOES IT NOT AFFECT SYSPRO?

SYSPRO uses SAP BusinessObjects BI 4.1 for Crystal Reports 2013 and SAP BusinessObjects BI 4.2 for Crystal Reports 2016. These product lines are not impacted by CVE-2021-44228.

On December 15, 2021, SAP BusinessObjects released **3129956** KB article confirming that SAP BusinessObjects Business Intelligence platform is not affected by the CVE-2021-44228 **Log4j** vulnerability.

See screen image taken from their web site December 2021:

The screenshot shows a document titled "SAP Product-Specific Information". A red box highlights the text "No Known Impact". Below this, a paragraph states: "At the time of publication (time stamped above), the following non-exhaustive list of SAP products do not contain components affected by this CVE." A bulleted list follows, with "SAP BusinessObjects Business Intelligence" also highlighted by a red box. The list includes:

- SAP S/4HANA On-Premise on ABAP
- SAP S/4HANA Cloud Customer systems
- SAP S/4HANA, Digital Payments Add-On
- SAP Adaptive Server Enterprise (Sybase ASE)
- SAP BTP SDK for Android
- SAP BusinessObjects Business Intelligence
- SAP BusinessObjects Explorer
- SAP BusinessObjects Data Services
- SAP BusinessObjects Financial Information Management
- SAP BusinessObjects Knowledge Accelerator
- SAP Business Technology Platform, Kyma runtime
- SAP Business Technology Platform, Neo environment
- SAP Business ByDesign
- SAP Cloud for Utilities Foundation

At the bottom left of the screenshot, it says "© 2021 SAP SE or an SAP affiliate company. All rights reserved." and "Classification: Internal". At the bottom right, it says "< Page 1 of 7 >".

The impacted component resides in the main JNDI package **which is not used in the SAP Business Objects BI platform.**

The **Log4j** file can be deleted from a customer's environment without affecting the operation of Crystal Designer within SYSPRO. The file is not used, merely packaged with the Crystal Report Designer files.

# FAQs

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## JAVA

### WHY DOES SYSPRO SHIP JAVA?

SYSPRO includes Java to support customers who use **Additional Reporting Software 2020** (i.e., SAP Crystal Reports 2020) for client-side printing with an XML driver.

It is important to note that Java is not required for using the SQL driver, either for client or server-side printing.

**Note:** Server-side reporting, client-side reporting using SQL, and the report designer utilize a SAP-specific version of Java.

### WHICH VERSION OF JAVA IS SHIPPED WITH SYSPRO?

SYSPRO 8 includes **Java 8 Update 66** and **Java 8 Update 102 (64-bit)**, specifically for use with the **Additional Reporting Software 2020** (i.e., SAP Crystal Reports 2020):

Name	Publisher	Version	Installed On	Size
Java 8 Update 66	Oracle Corporation	8.0.660.18	27/04/2022	88.9 MB
Java 8 Update 102 (64-bit)	Oracle Corporation	8.0.1020.14	05/07/2022	107 MB

SYSPRO is licensed to distribute these Java versions, ensuring no additional license costs for our end-users.

### DOES SYSPRO SUPPORT NEWER VERSIONS OF JAVA?

Although SYSPRO is not licensed to ship versions of Java later than **Java 8 Update 66** or **Java 8 Update 102 (64-bit)**, the SYSPRO development team tested **Java 8 Update 391** during November 2023 and confirmed that it works as expected.

However, it is important to note that not all versions have been tested and verified to work with the product. Therefore, there may be cases where the native XML driver fails to work with a newer Java version.

### ARE THERE ANY PLANS TO SUPPORT MORE CURRENT VERSIONS OF JAVA?

Currently, there are no plans to upgrade the version of Java shipped with the SYSPRO product.

### CAN SYSPRO CLIENTS UPGRADE FROM JRE 8U66 TO A NEWER VERSION OF JAVA?

Clients are free to upgrade to a newer version of Java. However, it is important to note that we cannot guarantee the functionality of the native XML driver with versions of Java other than those shipped or verified.

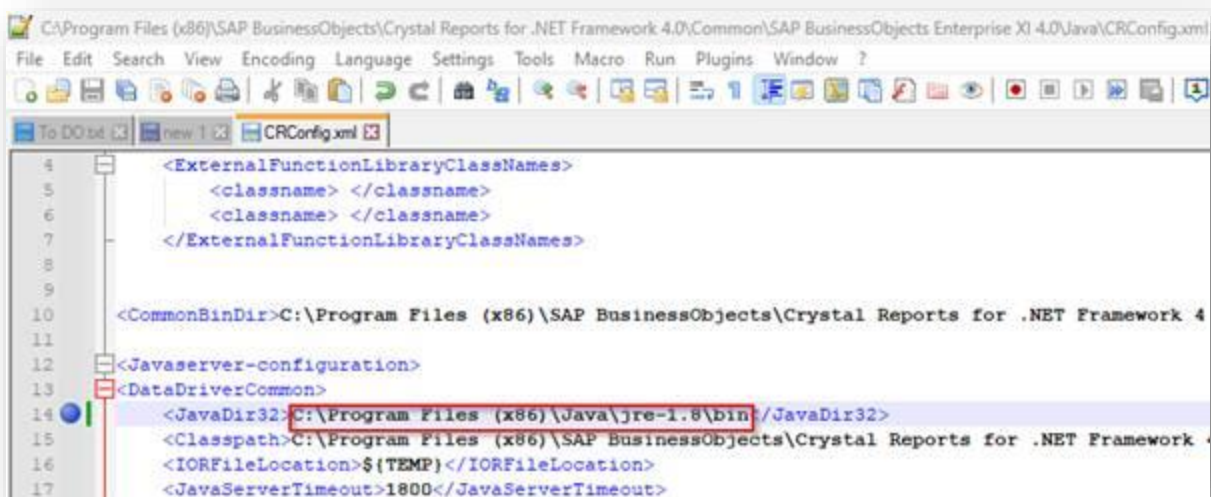
## CAN CUSTOMERS USE A DIFFERENT VERSION OF JAVA THAN WHAT IS SHIPPED WITH SYSPRO?

Yes, customers can install their own version of Java. However, it is important that they first uninstall the previous version.

Therefore, the process to follow is:

1. Uninstall the provided version of Java (i.e., **Java 8 Update 66**).
2. Obtain a license for the version of Java intended to install.
3. Download and install the respective version on each client PC intending to use the XML driver.
4. Run a Crystal Report within SYSPRO on each client PC to detect the Java version and update the CrConfig.xml file to point to the relevant version.

In the event that the CrConfig.xml file fails to update, customers may need to manually update it with the correct path to their installed java.exe to look as follows:



```
4 <ExternalFunctionLibraryClassNames>
5   <classname> </classname>
6   <classname> </classname>
7 </ExternalFunctionLibraryClassNames>
8
9
10 <CommonBinDir>C:\Program Files (x86)\SAP BusinessObjects\Crystal Reports for .NET Framework 4
11
12 <Javasever-configuration>
13 <DataDriverCommon>
14   <JavaDir32>C:\Program Files (x86)\Java\jre-1.8\bin\JavaDir32>
15   <Classpath>C:\Program Files (x86)\SAP BusinessObjects\Crystal Reports for .NET Framework
16   <IORFileLocation>${TEMP}</IORFileLocation>
17   <JavaServerTimeout>1800</JavaServerTimeout>
```

The CrConfig.xml file can be found in the following location:

*C:\Program Files (x86)\SAP BusinessObjects\Crystal Reports for .NET Framework 4.0\Common\SAP BusinessObjects Enterprise XI 4.0\Java*

**Note:** This update is necessary, particularly when printing an SRS report.

## HOW SHOULD CUSTOMERS HANDLE JAVA UPDATES AND POTENTIAL SECURITY CONCERNS?

Various Java update versions may have reported vulnerabilities from time to time. Any potential vulnerabilities should be periodically reviewed for relevance. When required, customers should consider updating to a more recent version, for which a separate license will be required.

We recommend first running any Java update in a limited (non-production) environment before it is rolled out to businesses as a whole.



## REPORTING AND DRIVERS

### WHEN SHOULD I USE CLIENT OR SERVER-SIDE REPORTING, AND WHICH DRIVER SHOULD I CHOOSE?

#### CLIENT-SIDE REPORTING

**XML driver:** Client-side reporting using the XML driver is best suited for environments that print reports with formulas to printers that are either dispersed or on different networks.

**SQL driver:** Client-side reporting using the SQL driver is best suited for environments that have client logins that print to dispersed printers or printers that span across different networks.

#### SERVER-SIDE REPORTING

Server-side reporting exclusively makes use of the SQL driver. It should be used in instances of high-volume printing through centralized printers that are managed on a separate server, or when using the **Web UI** instead of the **Desktop UI**.

### HOW DOES SWITCHING TO THE SQL DRIVER FOR CLIENT-SIDE REPORTING AFFECT PERFORMANCE AND FUNCTIONALITY?

#### PERFORMANCE

The SQL driver promotes faster previewing and printing when compared to using the native XML driver.

The processing times when using the native XML driver, however, can be expedited. If required, refer to [Upgrading to SYSPRO Reporting Software 2020](#).

#### FUNCTIONALITY

Certain reports, namely those with formulas, can only be printed using the XML driver. Switching to the SQL driver will therefore prevent these reports from being printed.

You can view a list of the reports that can only use the XML driver from the following file within your SYSPRO installation:

Base\Store\IMPSRE.IMP

## HOW DO I SWITCH BETWEEN CLIENT-SIDE AND SERVER-SIDE REPORTING?

To switch your reporting from client-side to server-side, proceed as follows:

1. Using the SYSPRO Installer application ([SYSPRO Installer](#)), install the **SYSPRO 8 Reporting Host Service**.
2. In SYSPRO, open the **Setup Options (IMPCFG)** program from the Ribbon bar:
  - a. Navigate to the **Reporting** form (*Categories > System Setup > Reporting*).
  - b. Within the **Reporting configuration** field, select **Server-side reporting using SQL**.
  - c. Select **Save and Exit**.  
The **Setup Options** window displays, notifying you that your changes will only take effect after exiting from SYSPRO.
  - d. Select **OK**.
  - e. Exit SYSPRO and re-launch for the change to be effective.

To switch your reporting from server-side to client-side, proceed as follows:

1. Using the SYSPRO Installer application ([SYSPRO Installer](#)), install the **SYSPRO 8 Reporting Components** required for each client machine.
2. In SYSPRO, open the **Setup Options (IMPCFG)** program from the Ribbon bar:
  - a. Navigate to the **Reporting** form (*Categories > System Setup > Reporting*).
  - b. Within the **Reporting configuration** field, select your preferred option:
    - Client-side reporting using SQL
    - Client-side reporting using XML
  - c. Select **Save and Exit**.  
The **Setup Options** window displays, notifying you that your changes will only take effect after exiting from SYSPRO.
  - d. Select **OK**.
  - e. Exit SYSPRO and re-launch for the change to be effective.

## GENERAL

### WHAT IF I HAVE MORE QUESTIONS?

If you have any additional questions about this complex subject, please speak to your **SYSPRO** support partner or regional office.



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