

# System Requirements for Private Agents

## Introduction

These system requirements apply to Jitterbit Harmony Private Agents. These requirements are also covered in the installation guides for Private Agents on [Linux](#) and [Windows](#) systems. Prior to installation, we recommend reviewing [Agent Groups High Availability and Load Balancing](#).

## Best Practices

- **Supported systems:** Install the Private Agent on a tested and supported system as listed on this page. For optimal results, we recommend you follow these prerequisites and requirements for the operating system, PostgreSQL database, and hardware.
- **High availability and load balancing:** Prior to installation, review the recommendations for high availability (active/active) and load balancing as described in [Agent Groups High Availability and Load Balancing](#).
- **Server installation:** For production environments, we recommend installing the Private Agent on a server. Agent installation on a desktop machine is recommended only for development, quality control, or testing environments.
- **Clean installation:** Do not install the Private Agent on a server that is already running another database. The agent installs and runs its own PostgreSQL database. Running the agent on a server that is already running an Oracle or SQL Server database may cause performance issues.
- **Same timezone:** We recommend that all agents in a Private Agent Group have the same timezone. Because the timezone of configured schedules is dependent upon the Private Agent timezone, schedule runs may be unpredictable if the timezones are different.
- **Uninstalling:** Before uninstalling, we recommend you copy the config files and security certificates of your current installation in the event you want to reinstall with the same configuration at a later time.

## Operating System Requirements

Jitterbit requires that operating systems used for Jitterbit Harmony Private Agents meet these specifications:

### Linux

The Linux version of the Jitterbit Harmony Private Agent requires a 64-bit OS. It is supported for these distributions derived from Debian Linux and Red Hat Enterprise Linux for Intel hardware:

- Debian 8.10 ("jessie") and 9.4 ("stretch")
- Ubuntu 14.04 LTS and 16.04 LTS
- Red Hat Enterprise Linux (CentOS) 6 and 7
- [Amazon Linux AMI](#)

The Harmony Private Agent has *not* been certified against other similar distributions with Debian or RPM package distributions derived from the Debian and Red Hat distributions. [Amazon Linux](#) provides multiple Linux versions, of which only [Amazon Linux AMI](#) has been certified. [Amazon Linux 2](#) is not currently supported.

### Windows

The Windows version of the Jitterbit Harmony Private Agent requires a 64-bit OS and is supported for these versions:

- Windows 8 and 8.1
- Windows 10
- Windows Server 2012 and 2012 R2
- Windows Server 2016
- Windows Server 2019



**NOTE:** Jitterbit does not test against or support software versions no longer supported by Microsoft.

## Prerequisite Software Requirements

### Required Java Version

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The Jitterbit Harmony Agent package is bundled with a 64-bit version of the Java 8 Runtime Environment (JRE) and does not require a separate Java runtime. Jitterbit automatically installs the required Java Runtime Environment specifically for Jitterbit to use so that it does not conflict with other Java installations that may already be installed. As of Harmony 9.8, the version of Java shipped with the Agent is the [AdoptOpenJDK JRE](#). This JRE is licensed as described at the [OpenJDK website](#).

## Unlimited Strength Java Cryptography Extension Requirement

For the agent to securely communicate with resources such as servers, the Java Runtime Environment used by the agent should be using the Java Cryptography Extension (JCE) with Unlimited Strength Jurisdiction Policy Files. If you are using the JRE that is shipped with the agent, it is using JCE with Unlimited Strength Jurisdiction Policy Files.

If you substitute a different JRE for the one shipped with the agent, you will need to replace the policy files included with the JRE with Unlimited Strength Jurisdiction Policy Files, if it is not already using them. To install the Java Cryptography Extension Unlimited Strength Jurisdiction Policy Files:

1. Go to the [Oracle website](#) to download the ZIP file containing Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files.
2. Unpack the ZIP to extract the `local_policy.jar` and `US_export_policy.jar` JAR files.
3. Copy and replace the existing JAR files found in `<JITTERBIT_HOME>\jre\lib\security`, replacing `<JITTERBIT_HOME>` with the path to your Private Agent root directory.
4. Restart the Jitterbit Private Agent.

## Linux

Linux prerequisites are detailed in [Installing a Jitterbit Harmony Linux Agent](#). In summary, these are required for Private Agent installation on a Linux system:

- **Commands:** These commands must be available: `python`, `sed`, `sudo`, `tar`, `unixodbc`, `unzip`.
- **Libraries:** Though a Private Agent must be run on a 64-bit OS, it requires certain 32-bit libraries as specified under [Prerequisites](#) in [Installing a Jitterbit Harmony Linux Agent](#).

## Windows

The Windows version of the Jitterbit Harmony Private Agent requires:

- **Windows updates:** Install all Windows security and "critical" updates prior to installing or upgrading Jitterbit Harmony Private Agents. There are known Microsoft issues when installing on systems that don't have the latest updates (such as [KB2966870](#) and [KB3140245](#)).
- **.NET:** Microsoft .NET Framework 4.5 or above may be required.
- **NTFS:** The install partition must be NTFS-formatted.
- **Compression:** *Do not use Windows compression* on the Jitterbit folder, PostgreSQL folder, or temp folder on the machine where the Jitterbit Private Agent is installed and running. Using Windows compression will drastically slow down processing of Jitterbit operations and transformations.



**WARNING:** If installing an agent that is prior to version 10.3, please review [Troubleshoot Error 1722](#) prior to installing the agent.

## PostgreSQL Requirements

PostgreSQL is installed as part of the Harmony Private Agent installation. This instance of PostgreSQL is for use only with and by Jitterbit.

- **Do not install** PostgreSQL separately prior to installing Jitterbit. The Jitterbit installation automatically installs the 64-bit, 9.6.11 version of PostgreSQL with the PostgreSQL 9.3 ODBC driver. (Jitterbit Agent upgrades do not upgrade an existing PostgreSQL installation to this version; they are left as-is.)
- **Do not use** a plus sign (+) as part of the PostgreSQL password when installing a Harmony Private Agent.
- **Do not have** any other databases configured or running on the Jitterbit PostgreSQL instance.
- **Do not use** the Jitterbit PostgreSQL database/server as part of any Jitterbit operations and transformations.
- **Do not use** Windows compression on the Jitterbit folder, PostgreSQL folder, or temp folder on the machine where Jitterbit is installed and running. Using Windows compression will drastically slow down processing of Jitterbit operations and transformations.
- [PgBouncer](#) may be required for high-load environments. Jitterbit Harmony Linux Private Agent [version 10.6](#) and later and Jitterbit Harmony Windows Agent [versions 8.21](#) and later automatically install [PgBouncer](#). If you already have an existing installation of [PgBouncer](#) and experience issues upgrading, please [contact support](#) for assistance.

## Hardware Requirements

These are the minimum requirements for hardware and virtual machines for Jitterbit Harmony Private Agents:

- Quad-core processor
- 8 GB RAM
- 50 GB hard drive space free; this includes space for the software, parallel processing, and temporary storage that can grow quite large while running an operation
- Minimum of 50 megabytes/second transfer rate on the hard drive
- High-speed Internet connection
- A direct hardware installation or an installation on a virtual machine from VMWare, VirtualBox, Amazon AWS, or Rackspace that is configured for the specific requirements outlined above
- Optimal configuration of the system and overall environment; if not optimally configured, sporadic and unpredictable problems can result from poor disk IO, limited/out of memory, limited /out of disk space, power failures, and/or abrupt system restarts
- Access to outbound port 443 (HTTPS) to communicate with Harmony. Port 443 is normally allowed by corporate server firewalls.
  
- Access to specified inbound ports as needed; generally, inbound ports do not need to be opened

It is recommended that the Jitterbit API platform be used for inbound messages or data. Where a Private Agent is used to receive a message directly (such as an outbound message from Salesforce) in lieu of the Jitterbit API platform, then the inbound ports 443 (with SSL) or 46909 (HTTPS) could be opened. Custom ports may be used for specific requirements if they are redefined in the Private Agent configuration and are allowed by any corporate firewall.