



ZABBIX
PREMIUM PARTNER

ZABBIX
CERTIFIED TRAINER

Webinar

Upgrade to Zabbix 7.4

all your microphones are muted

ask your questions in Q&A, not in the Chat

use Chat for discussion, networking or applause

1

WHY UPGRADE



Zabbix 7.4

New feature support

- › Zabbix 7.0: Zabbix Proxy in high-availability mode
- › Zabbix 7.0: Synthetic end-user web monitoring
- › Zabbix 7.0: Proxy memory buffer
- › Zabbix 7.0: New widgets
- › Zabbix 7.0: Software update check
- › Zabbix 7.0: Sending data to Zabbix server via Zabbix API
- › Zabbix 7.2: New widgets Host card and Top items + Sparkline graph
- › Zabbix 7.2: Increasing limits for dependent items in LLD
- › Zabbix 7.2: NVIDIA GPU monitoring (7.2.1)
- › Zabbix 7.2: New and improved built-in macros and macro functions
- › **Zabbix 7.4: Nested low-level discovery**
- › **Zabbix 7.4: Host prototypes on discovered hosts**
- › **Zabbix 7.4: OAuth 2.0 authentication**

Zabbix 7.4

Improved stability and performance

- › Zabbix 7.0: Asynchronous pollers
- › Zabbix 7.0: Concurrent network discovery
- › Zabbix 7.0: Centralized control of data collection timeouts
- › Zabbix 7.0: Faster reaction to host maintenance period update
- › Zabbix 7.0: Automatic disabling of lost resources
- › Zabbix 7.0: Faster permission checks
- › Zabbix 7.2: Internal improvements and bug fixes
- › Zabbix 7.2: Enhanced Environment Variable Support for Simplified Configuration and Deployment
- › Zabbix 7.2: Improved VMware event collection by adding memory pagination
- › **Zabbix 7.4: Managing history cache**
- › **Zabbix 7.4: History syncer transaction statistics**
- › **Zabbix 7.4: LLD jsonpath now ignores anything but regular objects and arrays**

Zabbix 7.4

Improved security

- › Zabbix 7.0: Native two-factor authentication (MFA or 2FA)
- › Zabbix 7.0: JIT user provisioning
- › Zabbix 7.0: Logging of duplicate SNMPv3 Engine IDs
- › Zabbix 7.2: SSH item changes
- › Zabbix 7.2: API - Removed support for deprecated property auth
- › **Zabbix 7.4: TLS Encryption between frontend and server**
- › **Zabbix 7.4: Resolving secret vault macros by server/proxy independently**
- › **Zabbix 7.4: SAML certificates can now be stored directly in the database**
- › **Zabbix 7.4: Separate menu section for user notifications**

2

Life Cycle



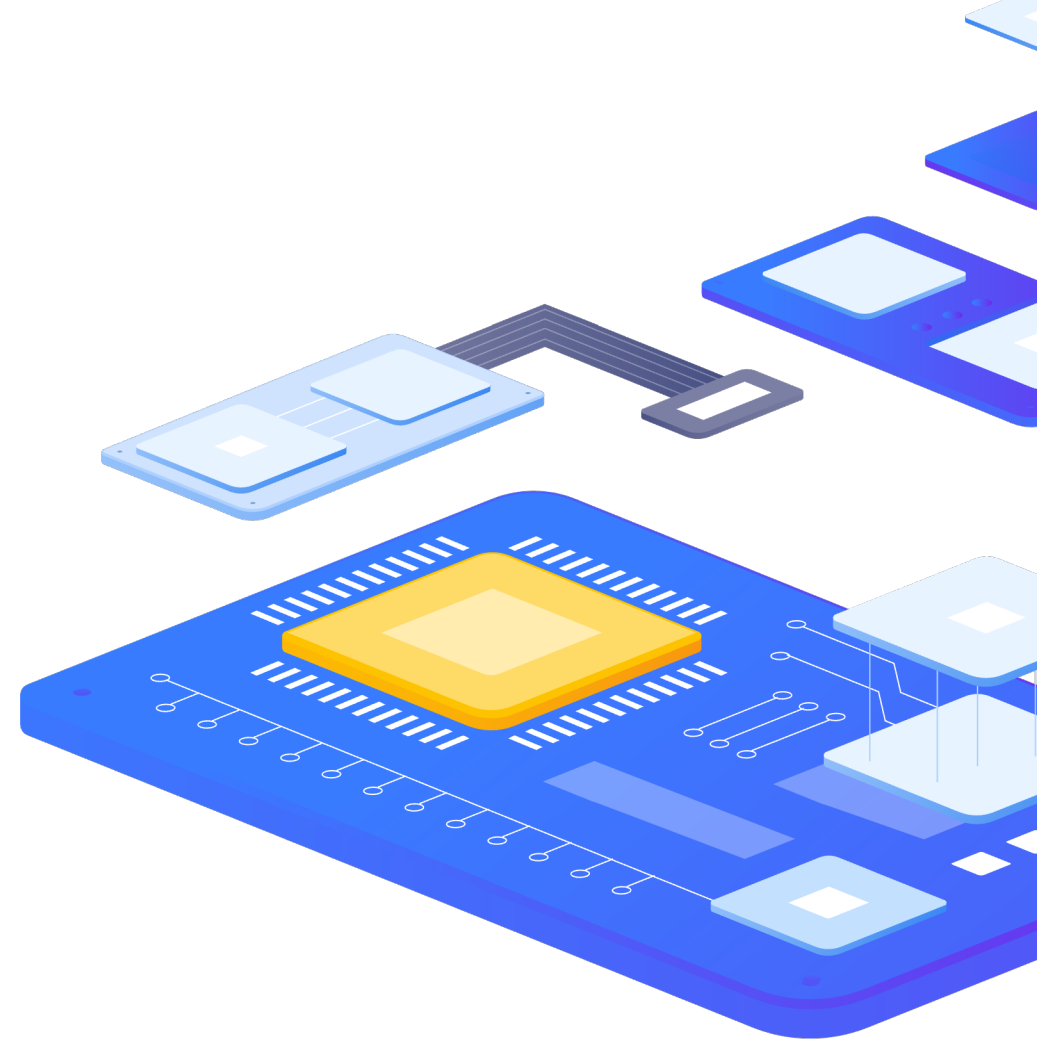
Release schedule

► Release policy:

- **LTS** (Long Term Support) release: **6.0, 7.0, 8.0** – for large environments, long term support, more thoroughly tested release.
- **Standard** release: **7.2, 7.4** – Earlier access to new features.

► Major and minor releases:

- **6.0, 6.2, 6.4, 7.0, 7.2, 7.4** – Major releases
- **6.0.37, 6.2.9, 6.4.20, 7.0.6, 7.4.0** – Minor releases

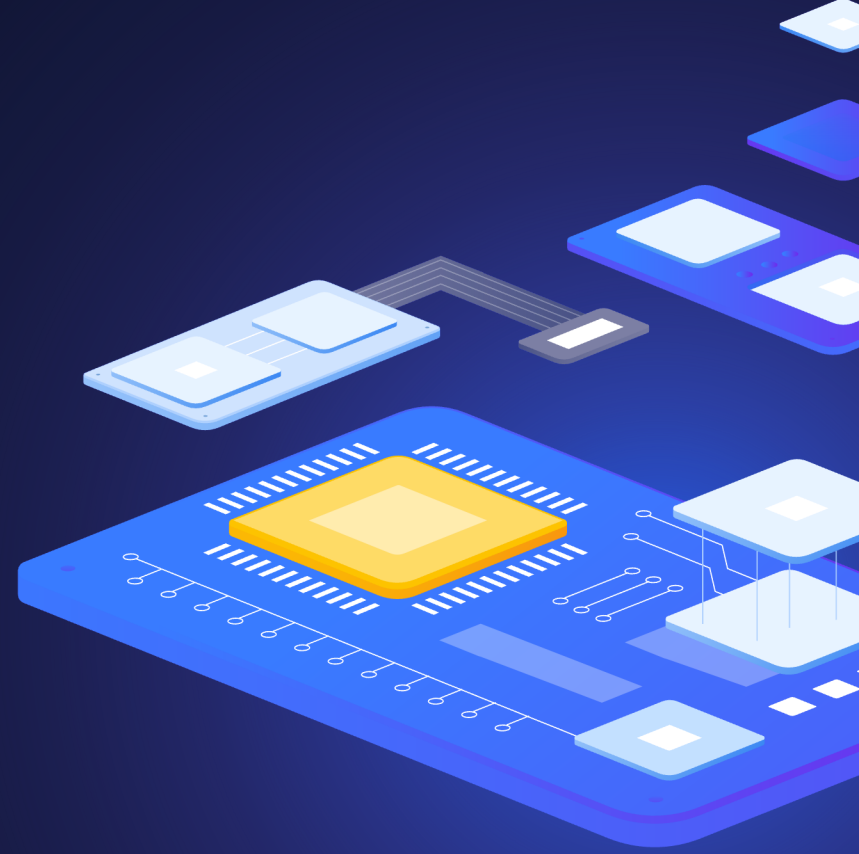


Life cycle

- ▶ Stable and unstable releases:
 - Even numbers: [6.4](#), [7.0](#), [7.2](#), [7.4](#) – Stable releases
 - Odd numbers: [6.5](#), [7.3](#) – Unstable (alpha and beta)
- ▶ All the components contained within a single major release of Zabbix are 100% backwards compatible.
- ▶ Web frontend [7.4.0](#) + Server [7.4.0](#) + Proxy [7.0.6](#) + Agent [3.4.5](#) – OK (Minimum version of Agent 7.0 is recommended for active checks and proxy HA)
- ▶ Best practice is to have the **same version** on Frontend, Server and Proxy.
- ▶ No database changes within a single major release.
- ▶ Agents are backwards compatible: [1.4](#) – [7.4](#) agents compatible with [7.4.0](#) server.
- ▶ Forward compatibility is not guaranteed: [7.2](#) – [7.4](#) agents might not be compatible with [7.0](#) server.

3

Upgrade types



Zabbix 7.4

Upgrade types

► Upgrade between **minor** versions:

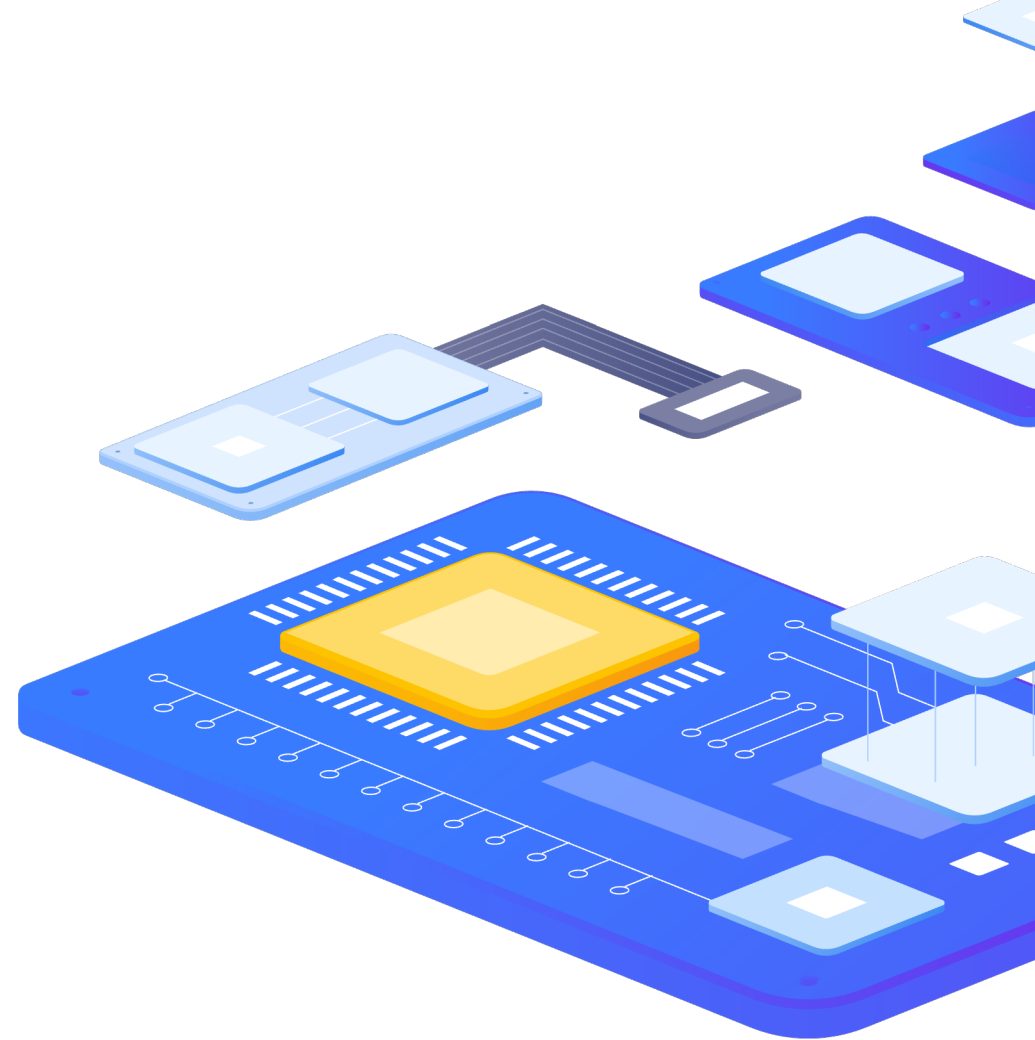
3.4.7 → 3.4.15

4.0.0 → 4.0.5

► Upgrade between **major** versions:

4.0 → 7.0

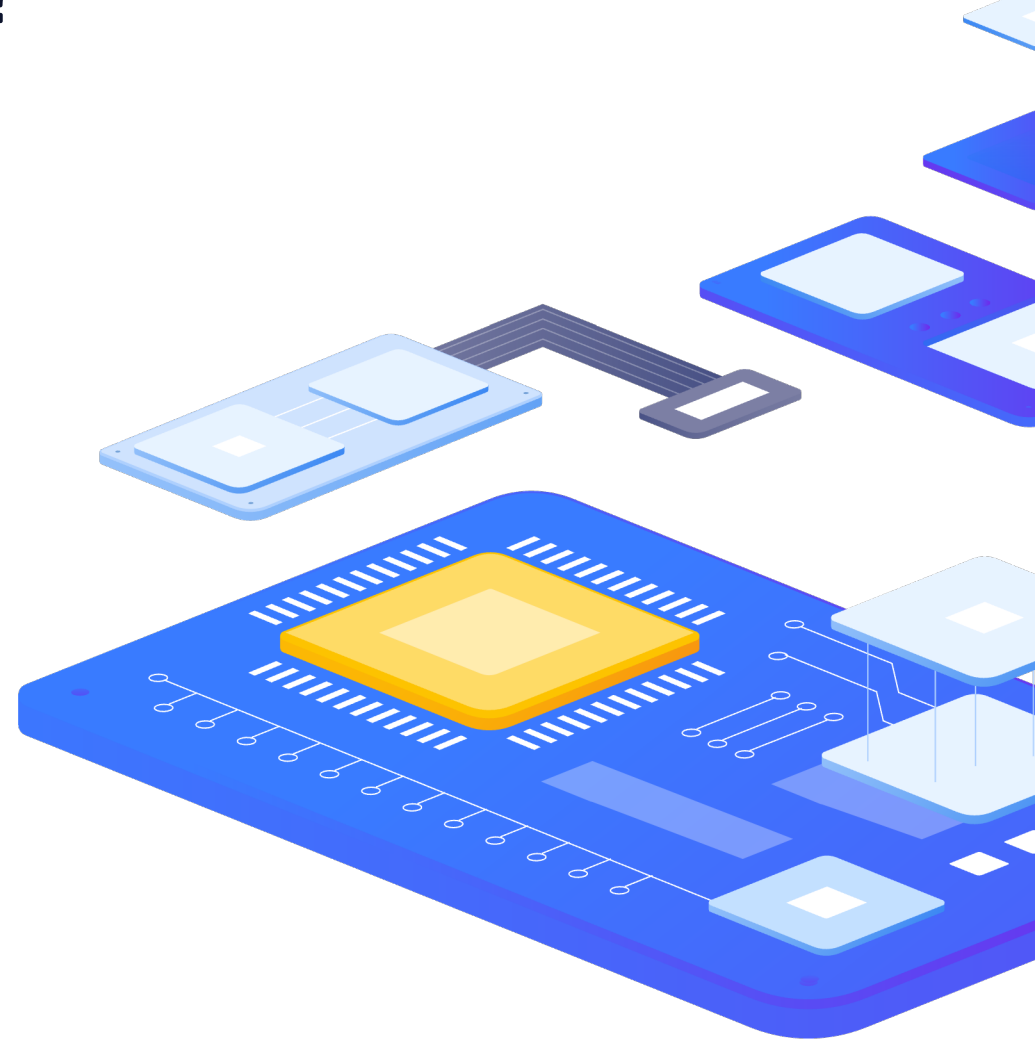
4.4 → 7.0



Zabbix 7.4

Which components to upgrade?

- › The Zabbix **minor** upgrade procedure is very simple.
- › You can upgrade a single or multiple components of Zabbix (for example, web frontend, proxy, Zabbix server).
- › Zabbix agent upgrade is not mandatory.



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Which components to upgrade?

- ▶ Zabbix **major** upgrade procedure is more complicated and requires prior preparation.
- ▶ Upgrade of **all** Zabbix components is required (Zabbix server, database, web frontend, proxy, Java Gateway, Web Service).
- ▶ Zabbix agent upgrade is not mandatory. (Minimum version of Agent 7.0 is recommended for active checks and for proxy HA)

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Minor upgrade procedure

Read the release notes!

Minor version upgrade:

- ▶ Make a backup copy (just in case)
- ▶ Upgrade the binary files and the web frontend files, restart the daemons

```
$ dnf upgrade 'zabbix-*
```

No changes in the database?! (7.0.0 → 7.0.x) - not true from 6.0.11, functionality backport from newer version

Minor upgrade procedure

!!! Consolidated documentation pages for minor releases.

Release documentation for minor versions of a major Zabbix release will now be collected in single documentation pages for new features and upgrade notes respectively.

Fix the performance issues (if you have any).

Otherwise the upgrade could take a considerable amount of time.

Read the release notes!

Breaking changes

PCRE library dropped

The  [PCRE](#) (or PCRE1) library has been dropped. Zabbix is now compiled with PCRE2.

Managing own user media

All users are now allowed to manage their own media by default.

User permissions to change media details for themselves can be granted (or revoked) based on their [user role](#) (see *Create and edit own media* option).

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Major upgrade procedure

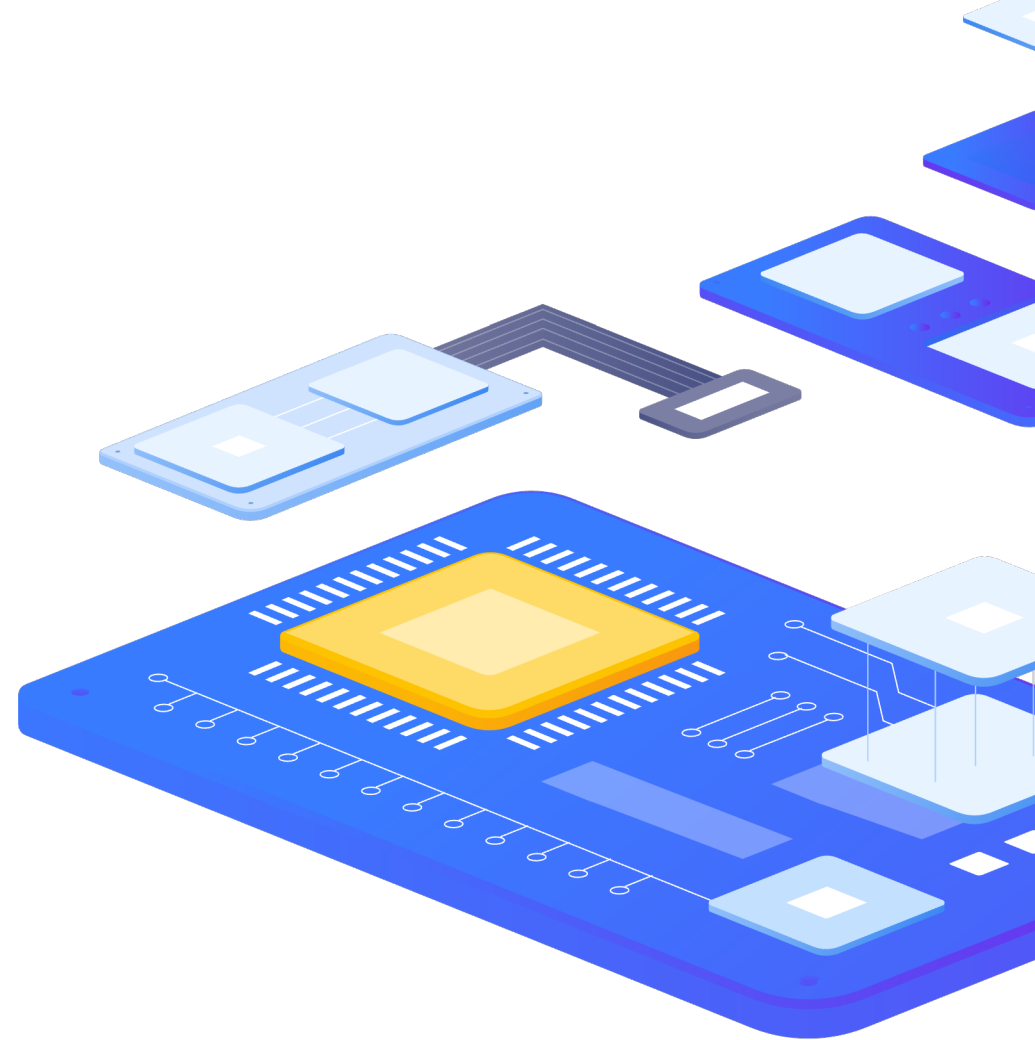
Major version upgrade:

- › Make a backup copy
- › Stop the Zabbix server
- › Upgrade the binary files and the web frontend
- › Start the Zabbix server

Automatic database upgrade (2.2.0)

Cumulative updates (2.2 → 7.4)

Update rollback is **not supported**



4

Upgrade Notes



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Upgrade notes 7.2 > 7.4

- › Check minimal DB version
- › Check minimal PHP version
- › It is recommended to use latest version of PHP
- › It is recommended to use latest version of DB
- › Zabbix agent minimum version 6.4 – Active check
- › **PCRE library dropped**
 - › The [PCRE](#) (or PCRE1) library has been dropped. Zabbix is now compiled with PCRE2.
- › **Managing own user media**
 - › All users are now allowed to manage their own media by default.
- › **Escaping of backslashes in history function parameters**
 - › [Escaping-related upgrade issues](#)
- › **MSSQL Zabbix agent 2 plugin update**
- › **Database connection parameters ([DBPort](#) and [DBSocket](#))**

Upgrade notes 7.2 > 7.4

- ▶ **Minimum required libssh2 version**

- ▶ The minimum required libssh2 version has been raised from 1.0.0 to 1.8.0.

- ▶ **Host prototypes on discovered hosts**

- ▶ Run the following SQL query in your Zabbix database

```
SELECT h.hostid,ht.templateid
FROM hosts_templates ht
JOIN hosts h ON ht.hostid=h.hostid
WHERE h.flags=4
      AND EXISTS (
        SELECT NULL
        FROM items i,host_discovery hd
        WHERE i.hostid=ht.templateid
              AND hd.parent_itemid=i.itemid
      )
ORDER BY hostid;
```

Major upgrade: how NOT to perform an upgrade

- ▶ DO NOT read the release notes.
- ▶ DO NOT test the new version.
- ▶ DO NOT make a backup copy.

```
$ dnf upgrade 'zabbix-*
```

How to plan the upgrade?

- › Type of upgrade (minor – major).
- › Changes in the structure of large tables (history, trends, events, auditlog,...).
- › Zabbix database size and performance.
- › Complexity of the infrastructure (partitioning, High Availability cluster, replication).
- › Customization (DB schema, custom PHP pages, patches, integrations, scripts, modules).

What causes errors?

Changes in the DB schema:

- › Removed or additional indexes (for example, with the goal to increase the performance).
- › Partitioning misconfiguration.
- › DB config misconfiguration.

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What affects the upgrade duration?

- ▶ Zabbix DB size and performance.
- ▶ Changes in the structure of large tables (history*, trends*, auditlog, events,...).

How to accelerate the upgrade in case of a large DB?

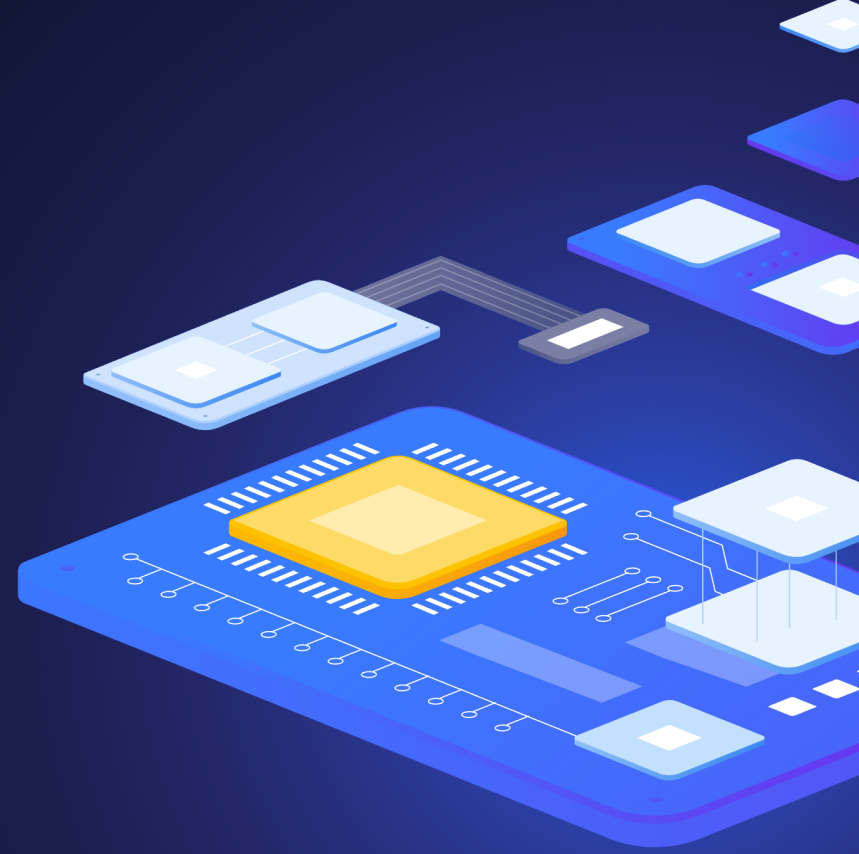
Deletion of indexes for large tables can take hours (*history_text/log*).

To accelerate Zabbix upgrade from hours to minutes - use temporary tables. Example for *history_text*:

- › Create a temporary table (for example, *history_text_tmp*).
- › Rename the existing table to *history_text_old*.
- › Rename the new table *history_text_tmp* to *history_text*.
- › Upgrade Zabbix (All the changes will be applied to empty table).
- › Copy the data from the old table *history_text_old* to the new table *history_text*.
- › Delete the old table *history_text_old*.

5

DEMO



Demonstration

- › su - postgres
- › psql
- › \c Zabbix

```
SELECT h.hostid,ht.templateid
FROM hosts_templates ht
JOIN hosts h ON ht.hostid=h.hostid
WHERE h.flags=4
      AND EXISTS (
        SELECT NULL
        FROM items i,host_discovery hd
        WHERE i.hostid=ht.templateid
              AND hd.parent_itemid=i.itemid
      )
ORDER BY hostid;
```

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Demonstration

- › `php-fpm -v`
- › `psql -V`
- › `systemctl stop zabbix-server zabbix-agent2 zabbix-web-service`
- › `systemctl stop httpd php-fpm`
- › `rpm -Uvh https://repo.zabbix.com/zabbix/7.4/release/rocky/9/noarch/zabbix-release-latest-7.4.el9.noarch.rpm`
- › `dnf clean all`
- › `dnf update zabbix-* -y`
- › `systemctl start zabbix-server zabbix-agent2 zabbix-web-service httpd php-fpm`
- › `cp /etc/httpd/conf.d/zabbix.conf /etc/httpd/conf.d/zabbix.conf.bak`
- › `sed -i 's:/usr/share/zabbix:/usr/share/zabbix/ui:g' /etc/httpd/conf.d/zabbix.conf`
- › `systemctl start httpd php-fpm`
- › `tail -f /var/log/zabbix/zabbix_server.log`

6

WIKI



Zabbix 7.4

Wiki

Latest how-to for upgrading to Zabbix 7.4

- › All necessary steps can be found in a separate guide on our wiki.

<https://www.initmax.com/wiki/zabbix-upgrade-to-the-latest-version-7-4/> EN

<https://www.initmax.cz/wiki/zabbix-aktualizace-na-posledni-verzi-7-4/> CZ

How-to for upgrading to Zabbix 7.0

- › All necessary steps can be found in a separate guide on our wiki.

<https://www.initmax.com/wiki/zabbix-update-to-the-latest-version-7-0-lts/> EN

<https://www.initmax.cz/wiki/zabbix-aktualizace-na-posledni-verzi-7-0-lts/> CZ

Zabbix Rebranding

- › All necessary steps can be found in a separate guide on our wiki.

<https://www.initmax.com/wiki/zabbix-rebranding/> EN

<https://www.initmax.cz/wiki/rebranding-zabbixu/> CZ

7

Questions?



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