

The Zabbix logo consists of the word "ZABBIX" in a bold, white, sans-serif font, centered within a solid red rectangular background. The background of the entire slide is a dark blue gradient with a faint, glowing network of white lines and dots overlaid on a subtle world map.

ZABBIX

Zabbix Agent 2: Deep Dive and Key Benefits

Rudolfs Zvejs

Go Developer

This presentation?

Zabbix agent 2

Data collection

Inter-component communication

Key features

About me

Go Developer @ Zabbix

Side projects

- ▶ Static site renderer
- ▶ Discord bot

Outdoors enjoyer

What/Why is Zabbix agent 2

What?

- ▶ Data collector component
- ▶ Useless on its own

Why?

- ▶ Community involvement

Go language accessibility benefits

Statically typed

Garbage collected

Opinionated

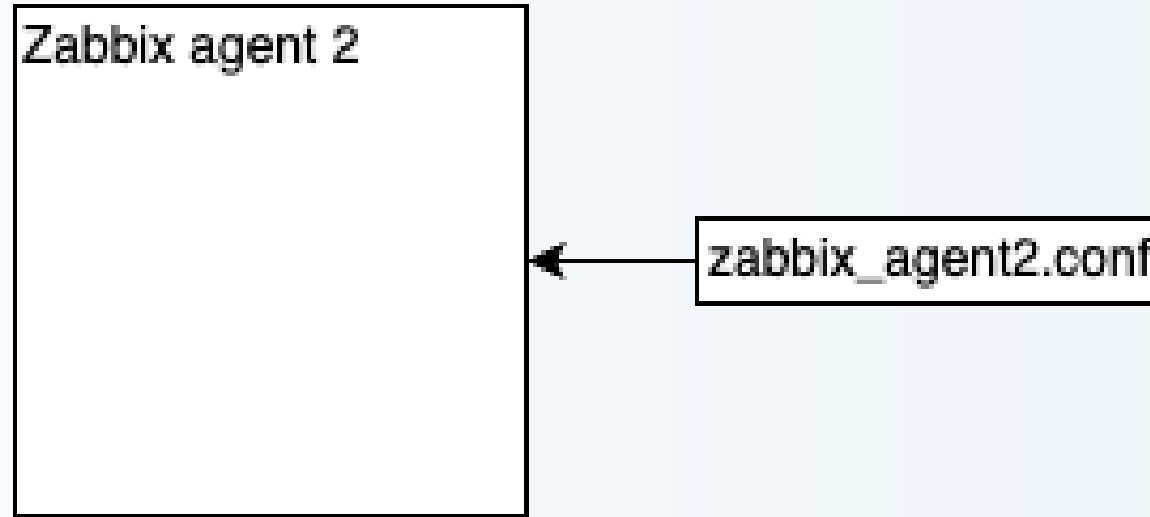
Batteries included

Agent 2

Standalone

Running it with

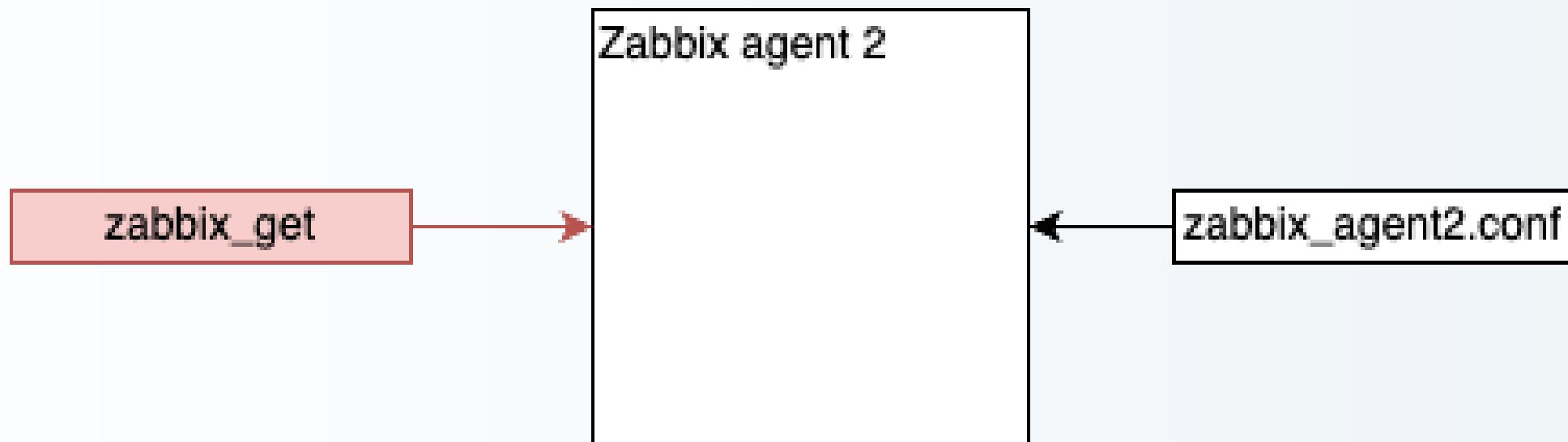
▶ `zabbix_agent2 --config '/etc/zabbix/zabbix_agent2.conf'`



Talking to the agent

Simplest method

▶ `zabbix_get -s '127.0.0.1' -p '10050' -k 'agent.version'`



Plugins

Plugin

- ▶ Data collection from some service
 - System
 - Network
 - Database
 - Etc.

Built-in plugins

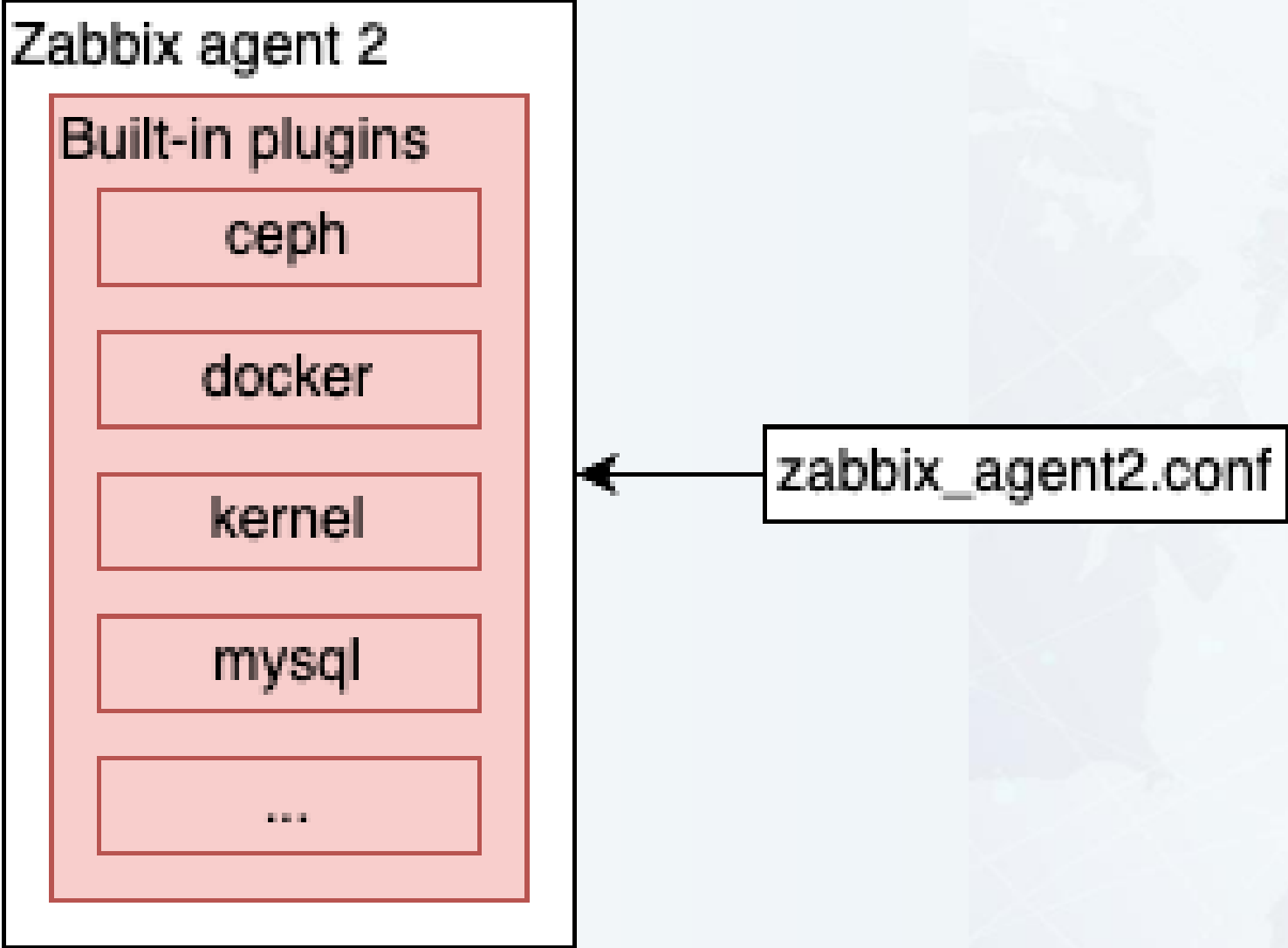
- ▶ Compiled into agent2 binary

Loadable plugins

- ▶ Separate binary for each plugin

Built-in plugins

Availability dependent on OS



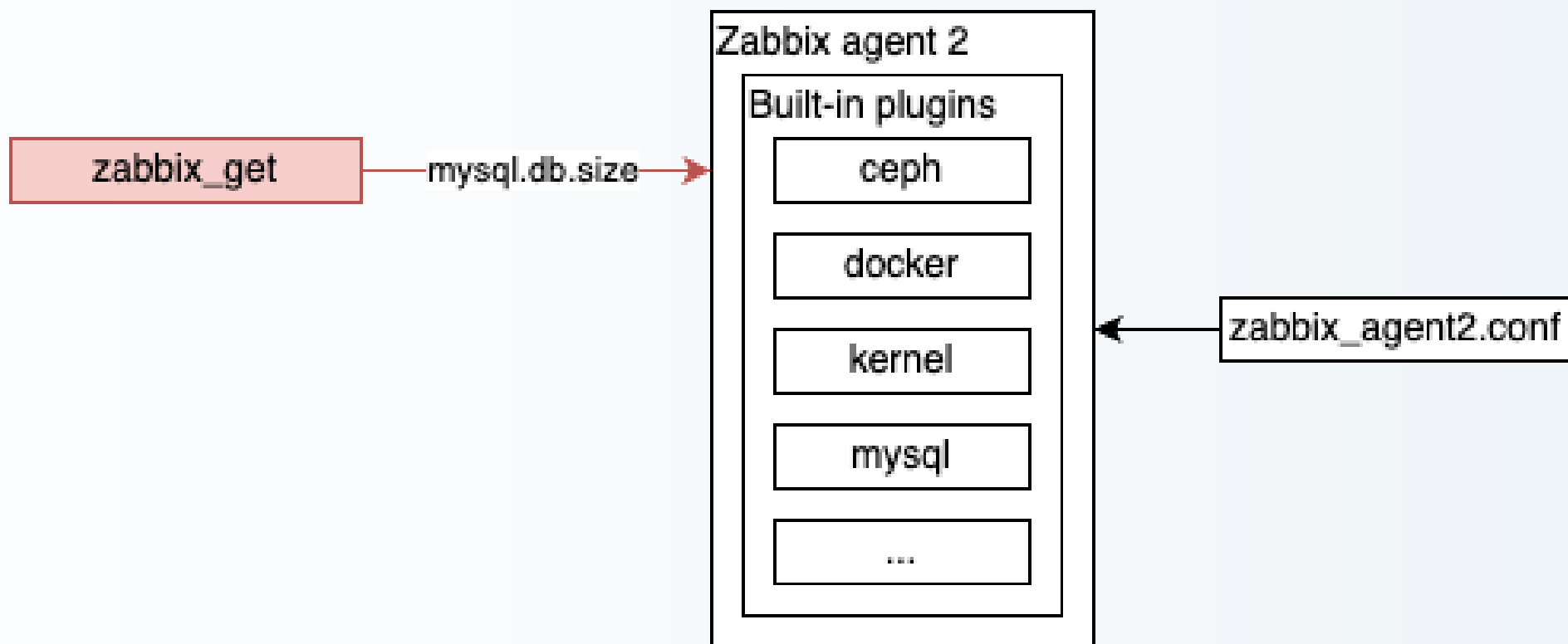
Collecting data (1)

Following a single passive check via zabbix_get

```
▶ zabbix_get \  
  -s '127.0.0.1' \  
  -p '10050' \  
  -k 'mysql.db.size[localhost:3306,root,passwd,a_database]'
```

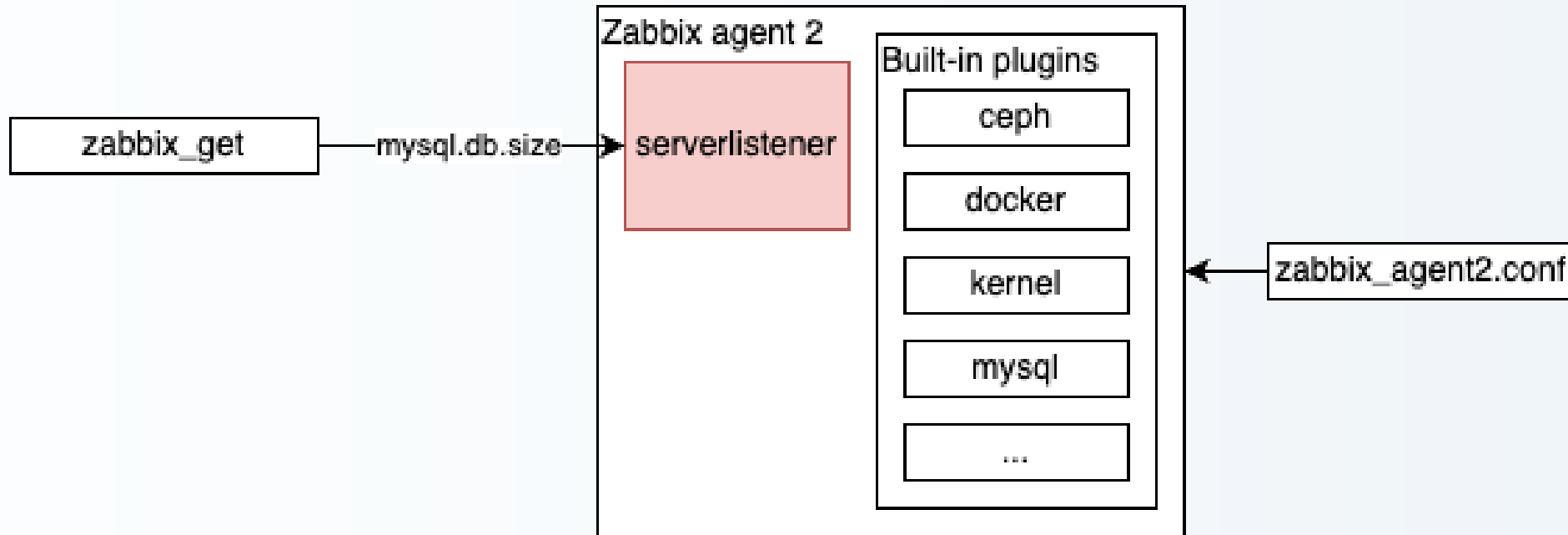
Collecting data (2)

Application `zabbix_get` establishes a connection



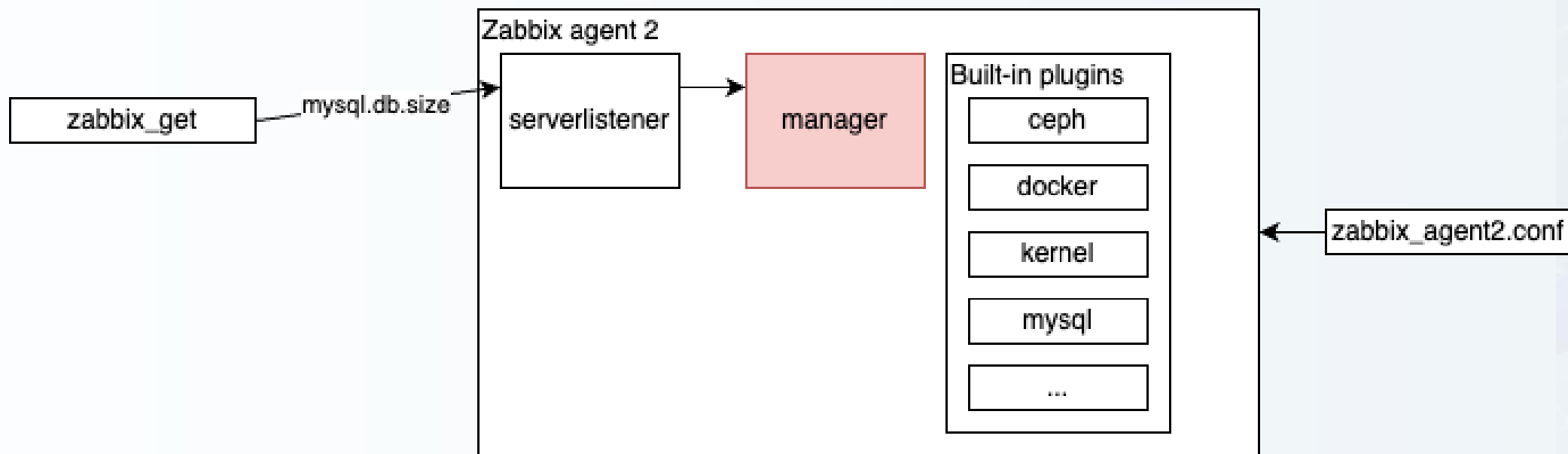
Collecting data (3)

serverlistener



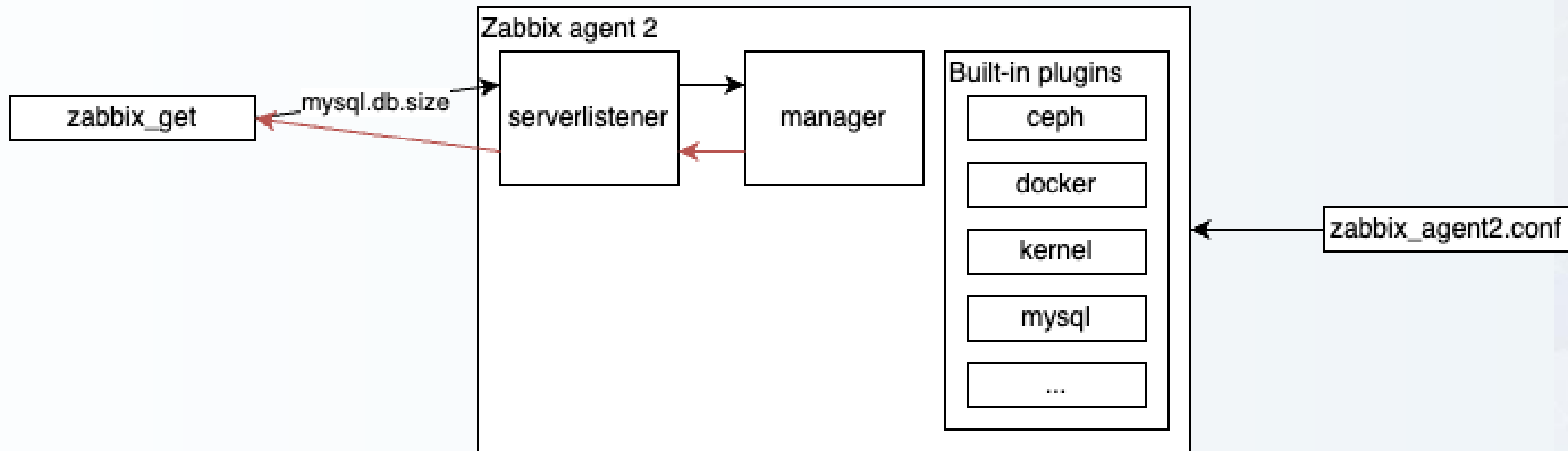
Collecting data (4)

Request gets handed of to manager



Collecting data (5)

Reply from manager gets sent back to client

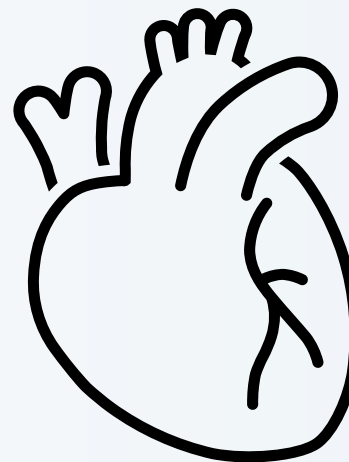


Manager (1)

The heart of agent 2

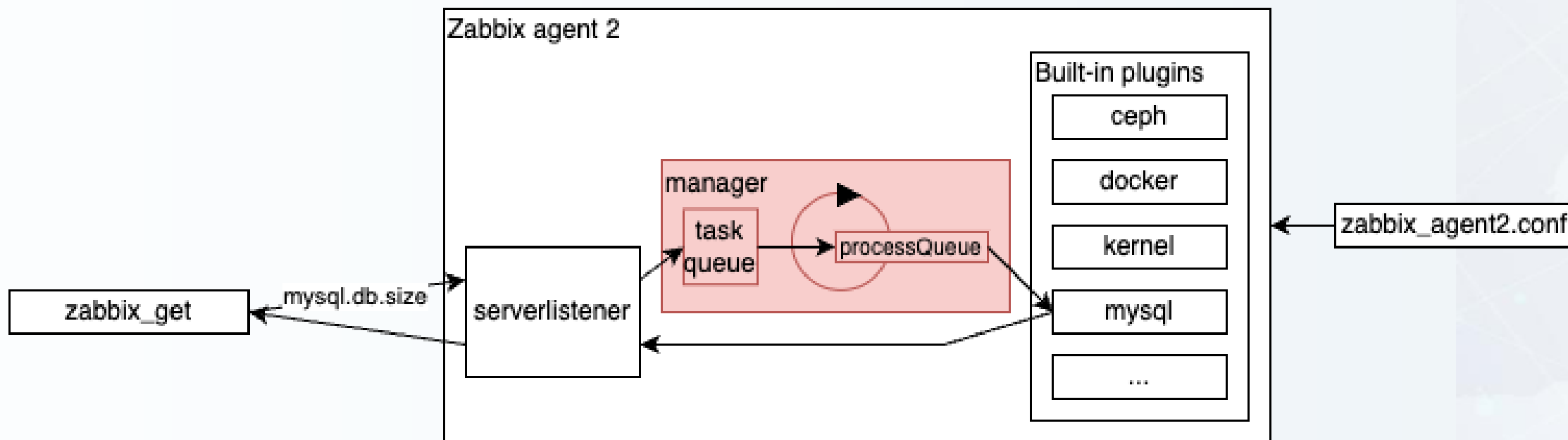
A Loop

```
▶ t := time.NewTicker(time.Second)
  for {
    select {
      case <-t.C:
        processQueue() // perform queued data collection tasks
    }
    // handle other events
  }
}
```



Manager (2)

Process queue performs data collection tasks



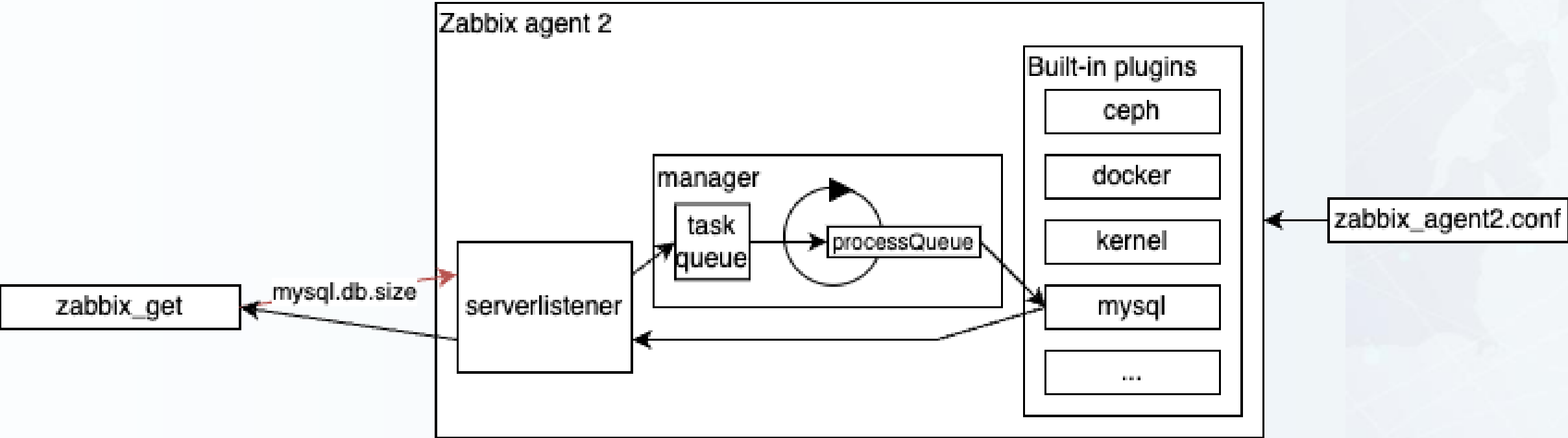
Manager (3)

Process queue performs data collection tasks

- ▶ Looks up the plugin
 - `mysql.db.size` - `mysql`
 - `ceph.status` - `ceph`
- ▶ Invokes `Export` method of plugin
 - `Export("mysql.db.size", ...)`
- ▶ Replies to the caller

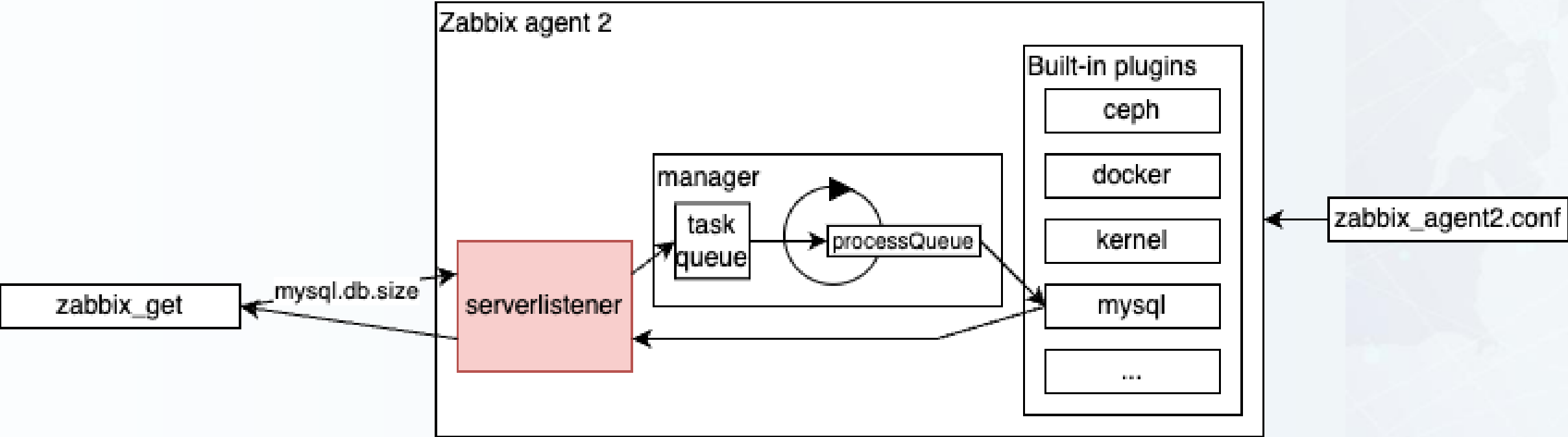
Manager (4.1)

Full data collection cycle



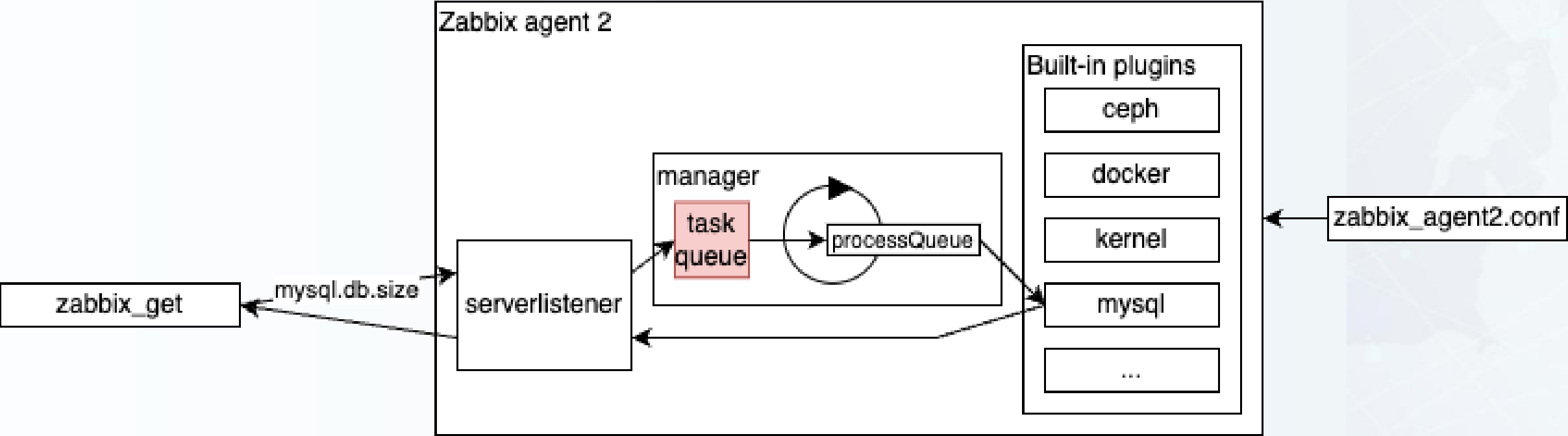
Manager (4.2)

Full data collection cycle



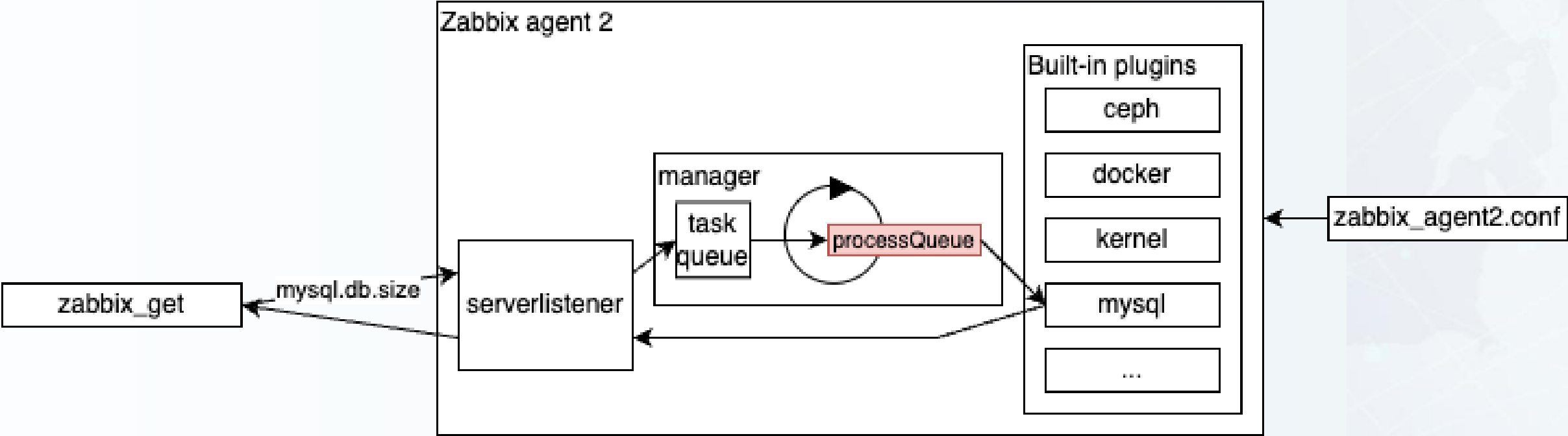
Manager (4.3)

Full data collection cycle



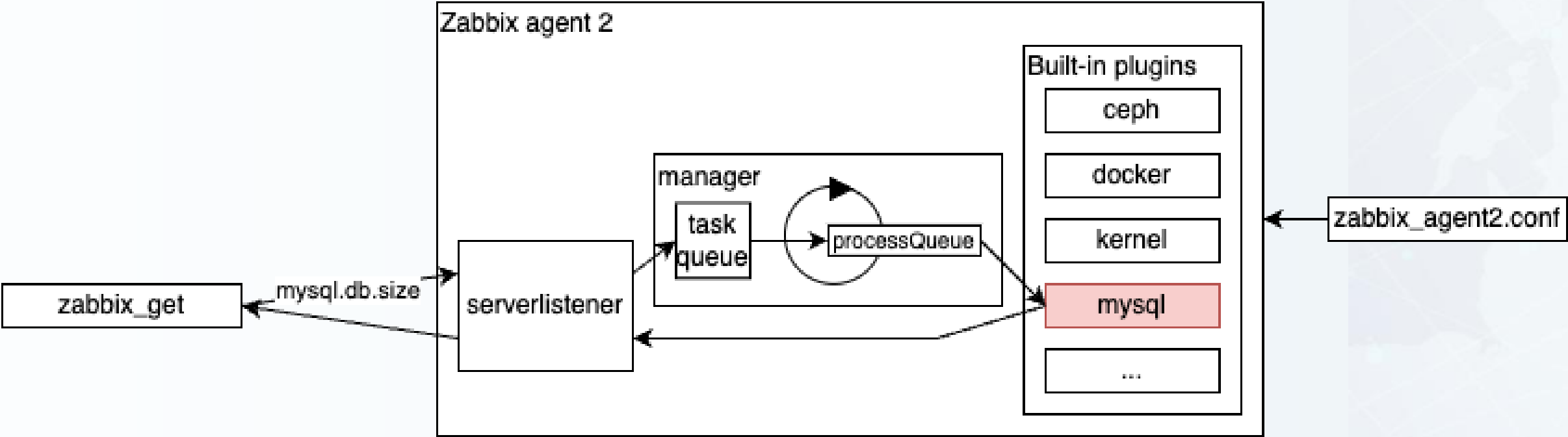
Manager (4.4)

Full data collection cycle



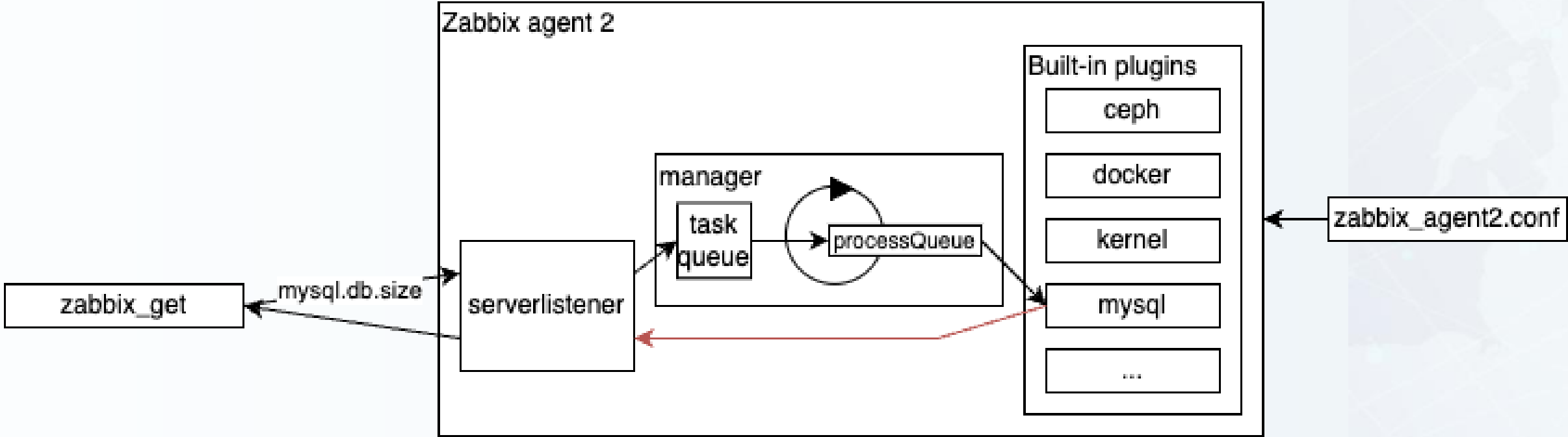
Manager (4.5)

Full data collection cycle



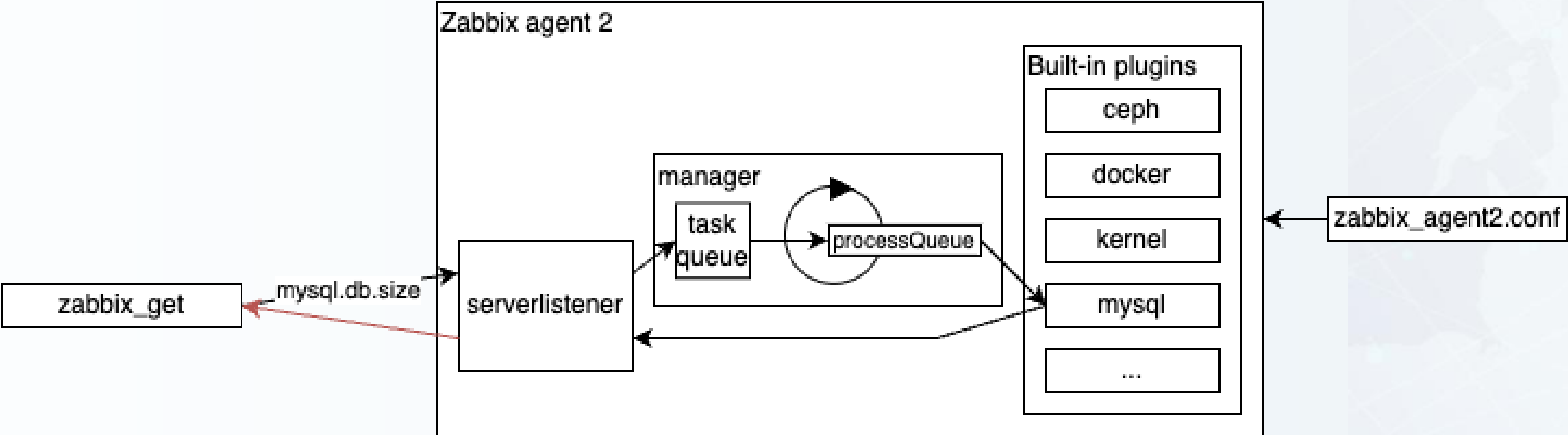
Manager (4.6)

Full data collection cycle



Manager (4.7)

Full data collection cycle



Loadable Plugins (1)

Key feature

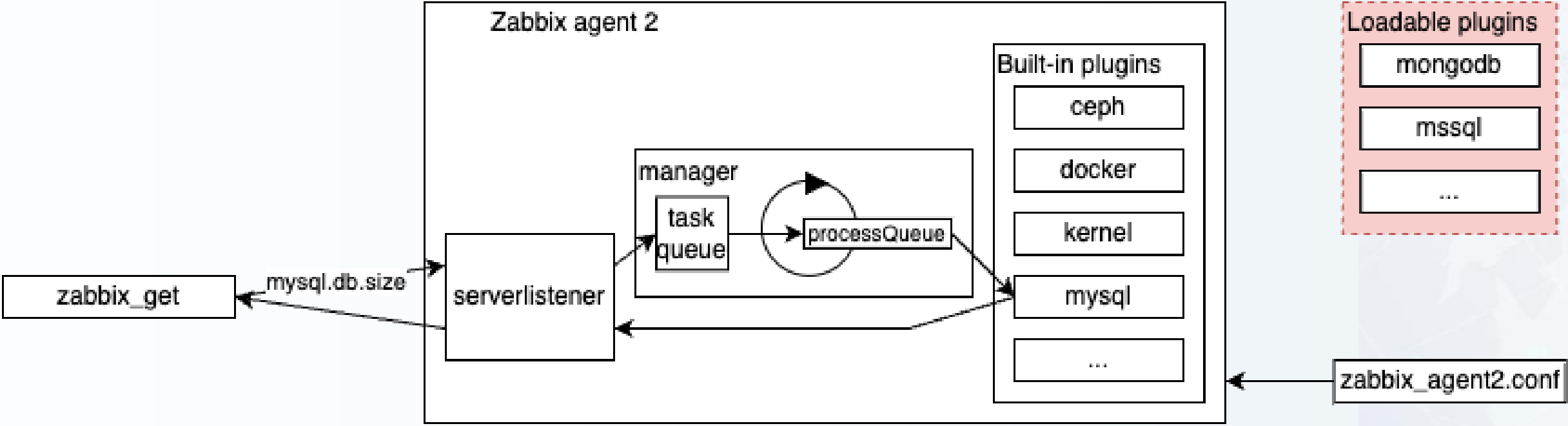
Separate components

Different license

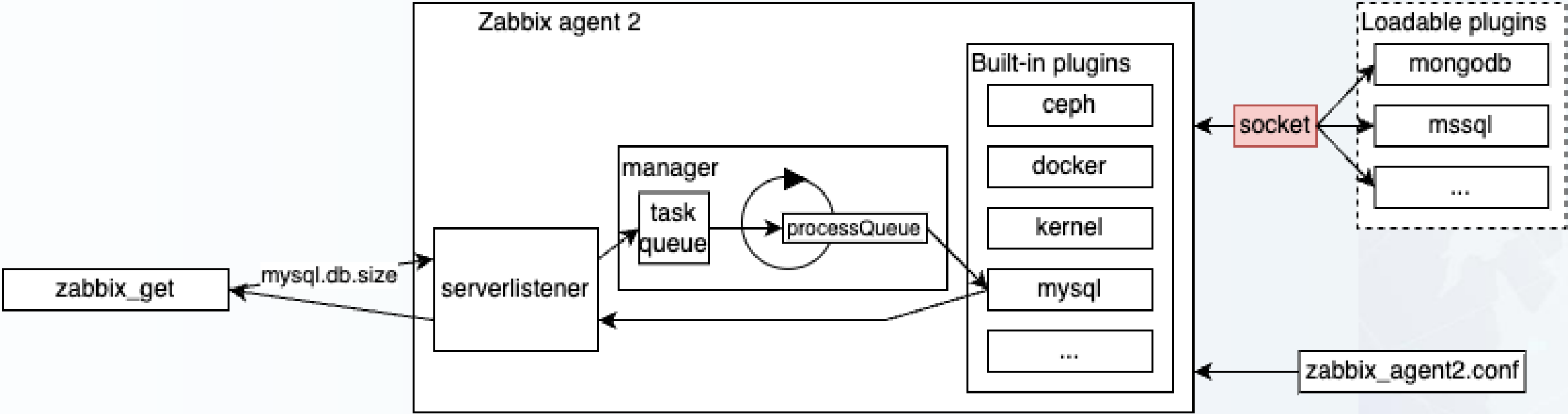
Customizability

New plugins

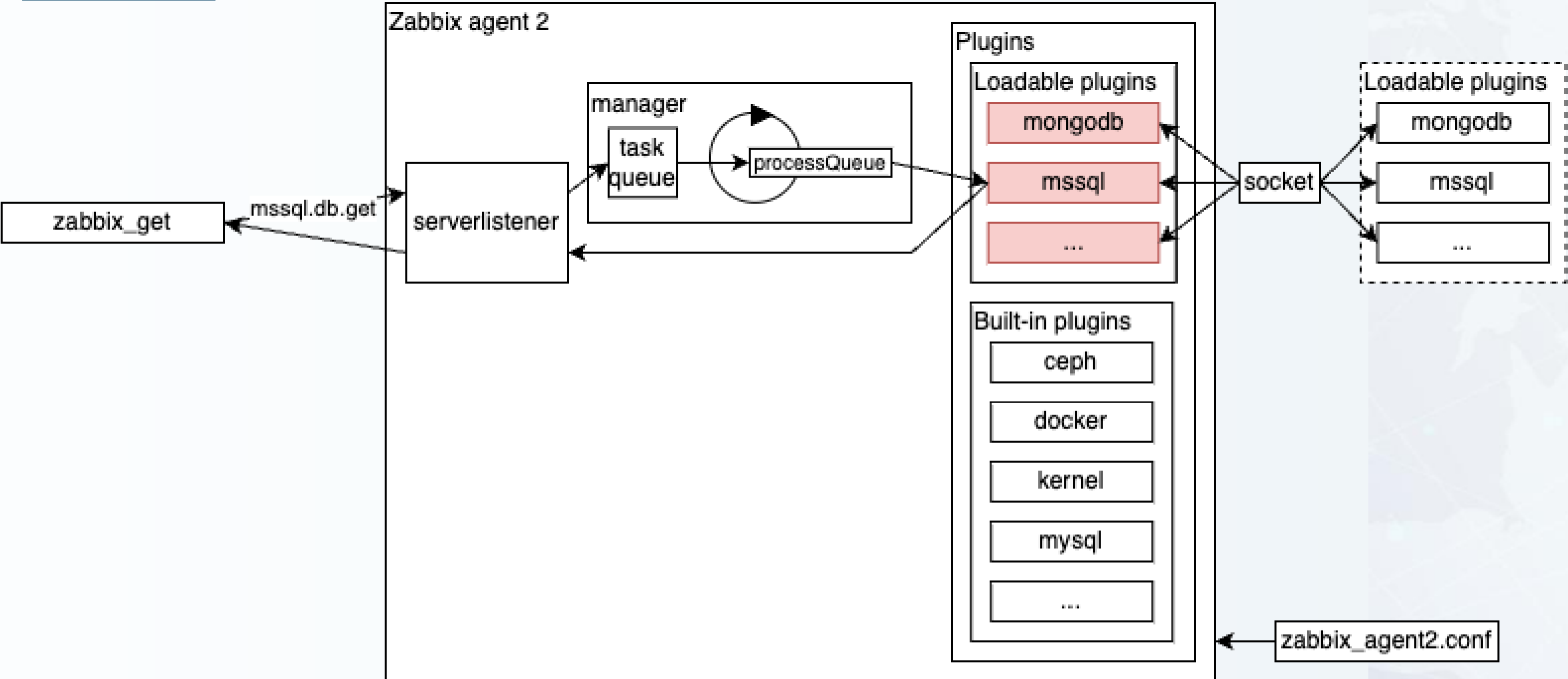
Loadable Plugins (2)



Loadable Plugins (3)



Loadable Plugins (4)



Using the collected data

`zabbix_get` - troubleshooting, development

Zabbix server

Server communication (1)

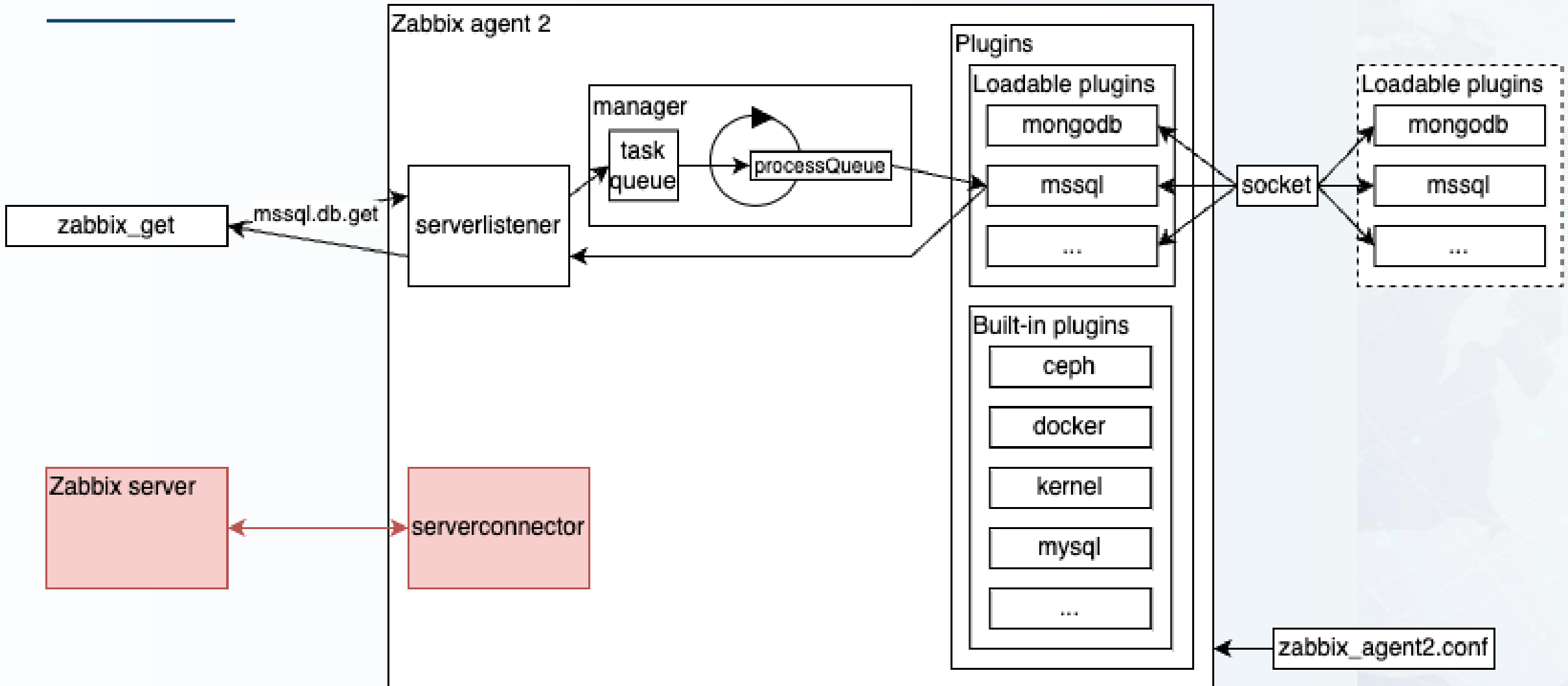
Multiple servers

Connection between agent 2 and server

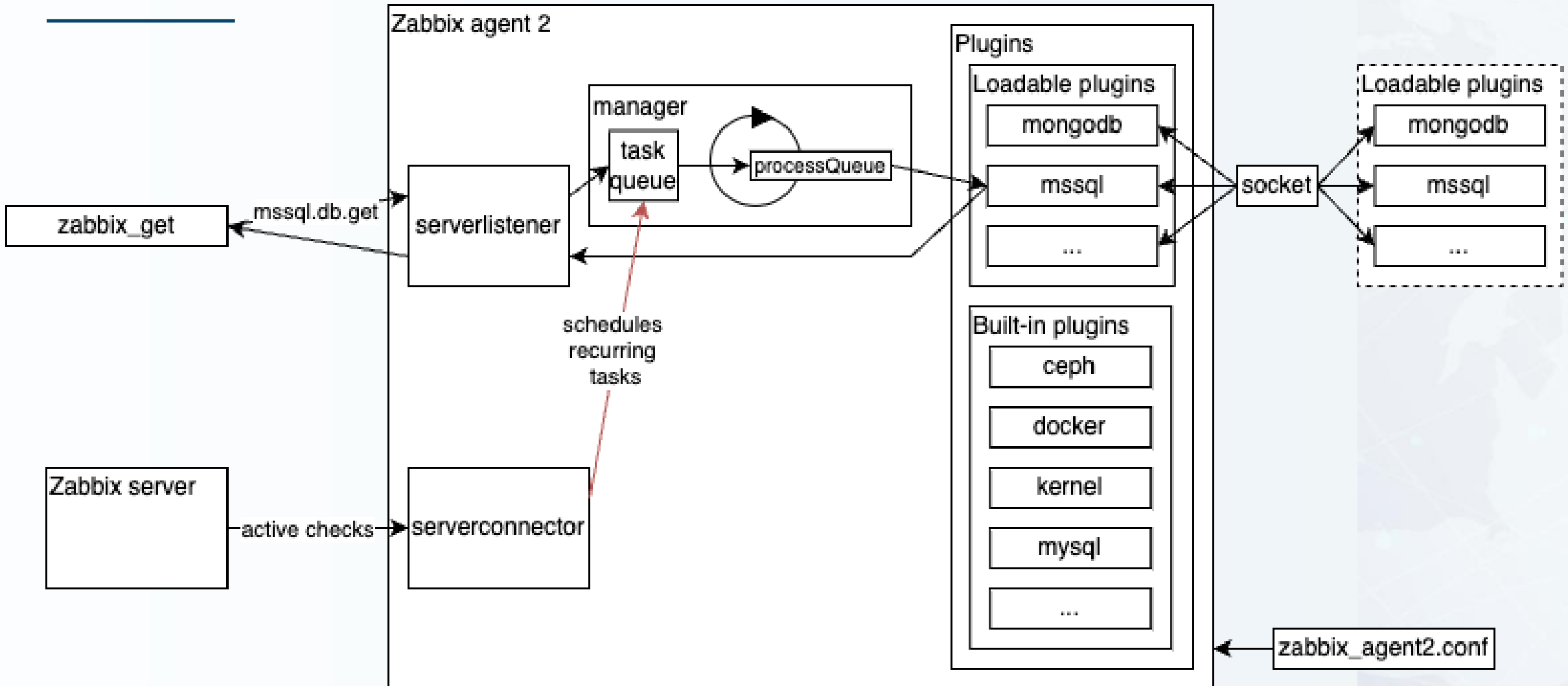
Server connector

- ▶ Maintaining the connection
- ▶ Retreating active checks
- ▶ Transmitting collected data

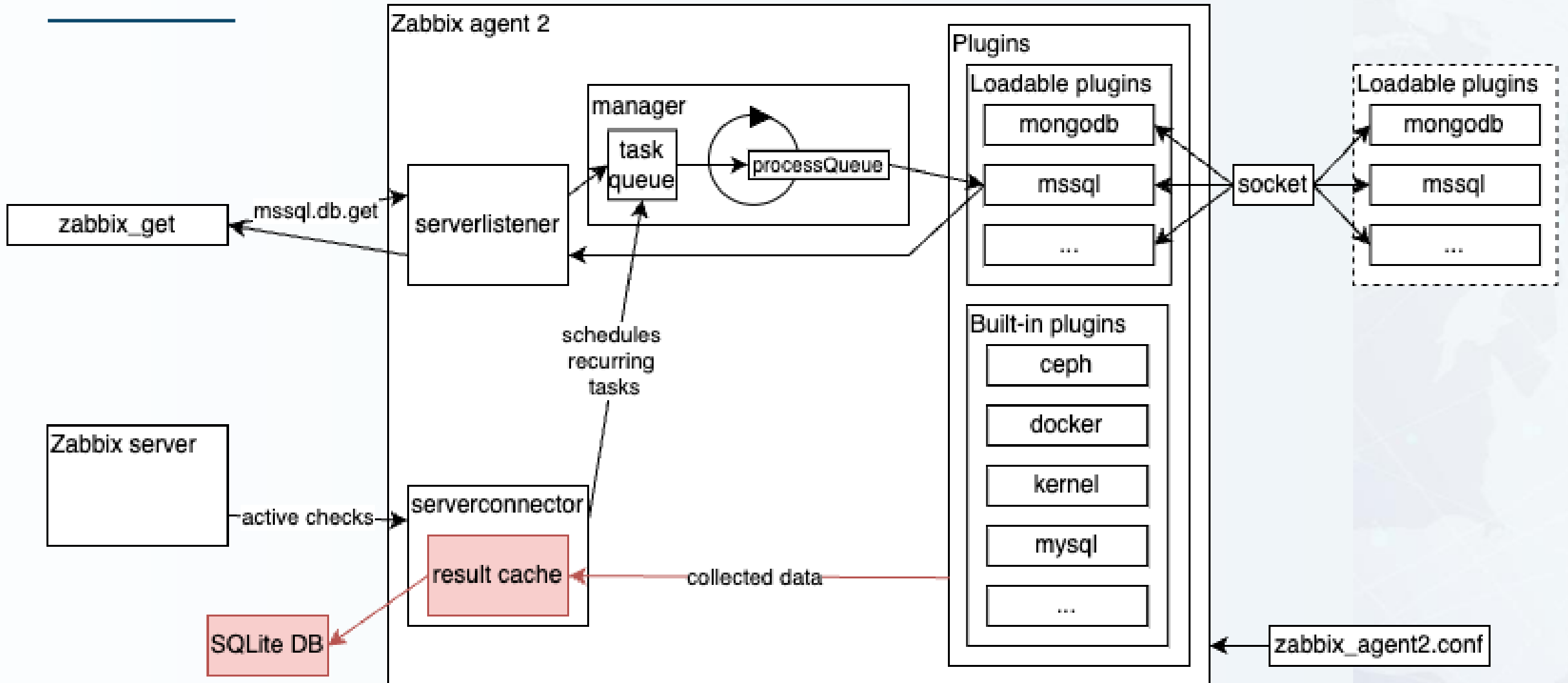
Server communication (2)



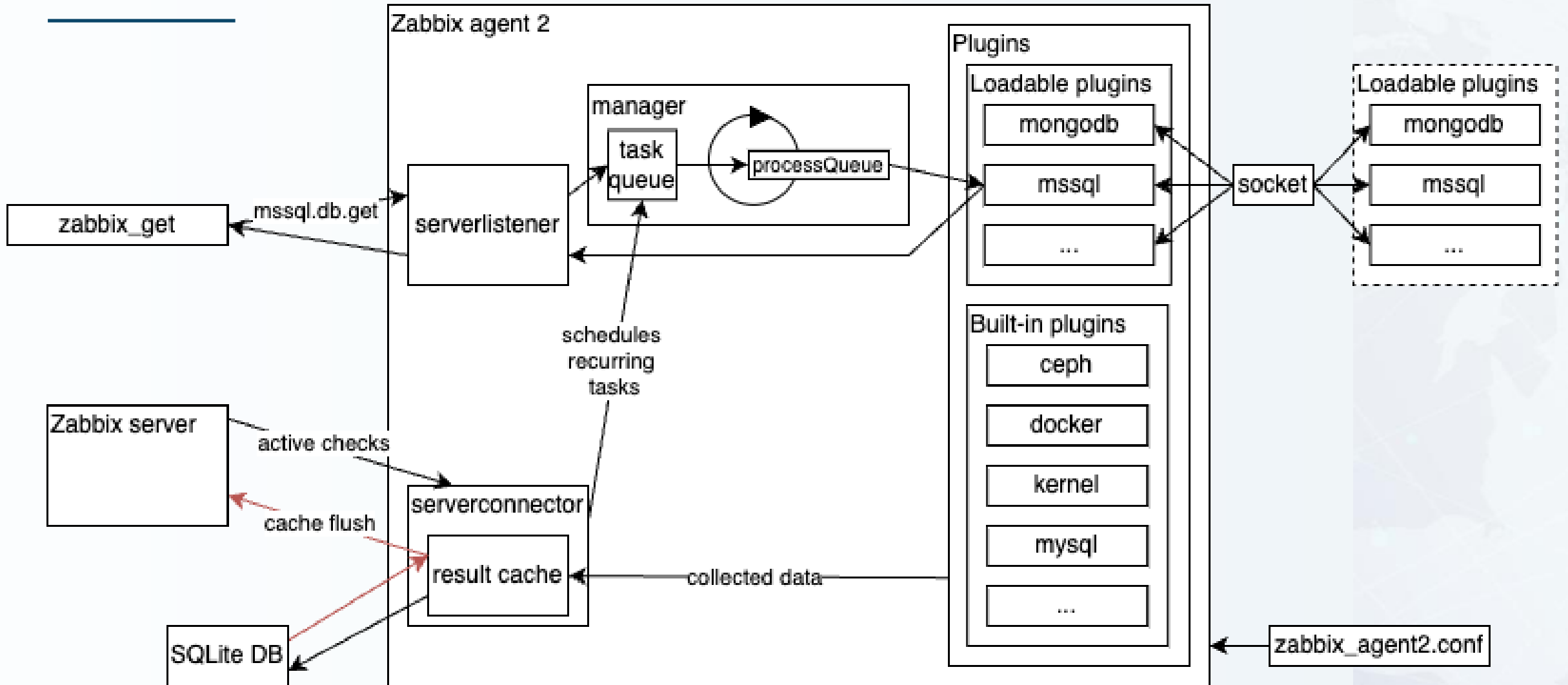
Server communication (3)



Server communication (4)



Server communication (5)



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Thanks for listening!

Rudolfs Zvejs

Go Developer

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Questions?
