



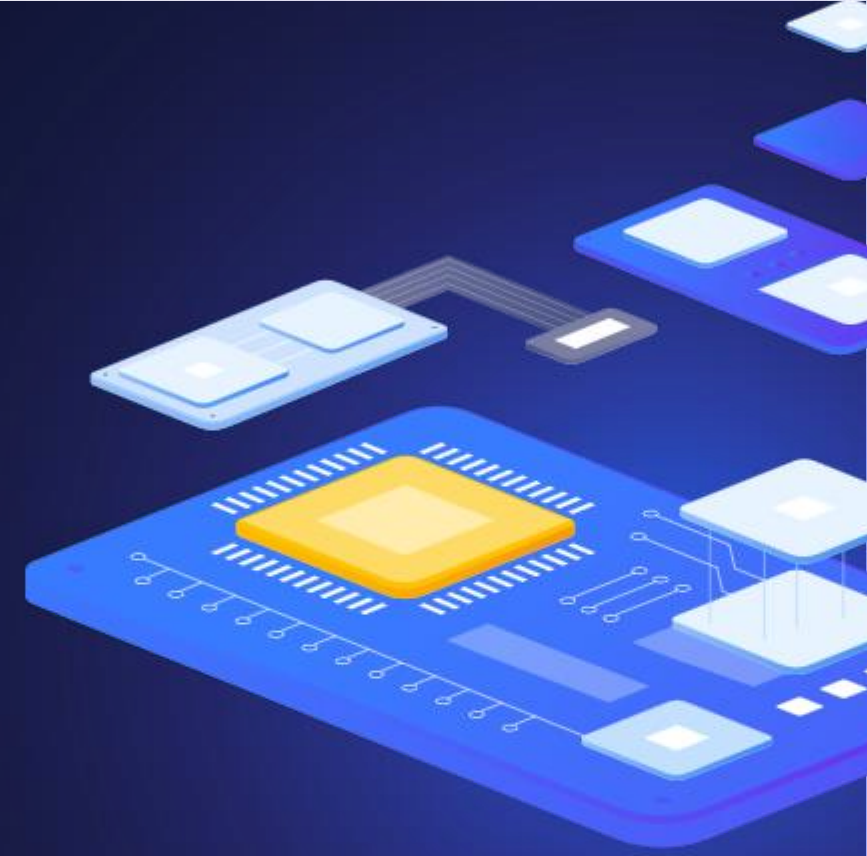
Service monitoring with Zabbix

# Services and SLA

all our microphones are muted

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

use Chat for discussion, networking or applause



1

The purpose

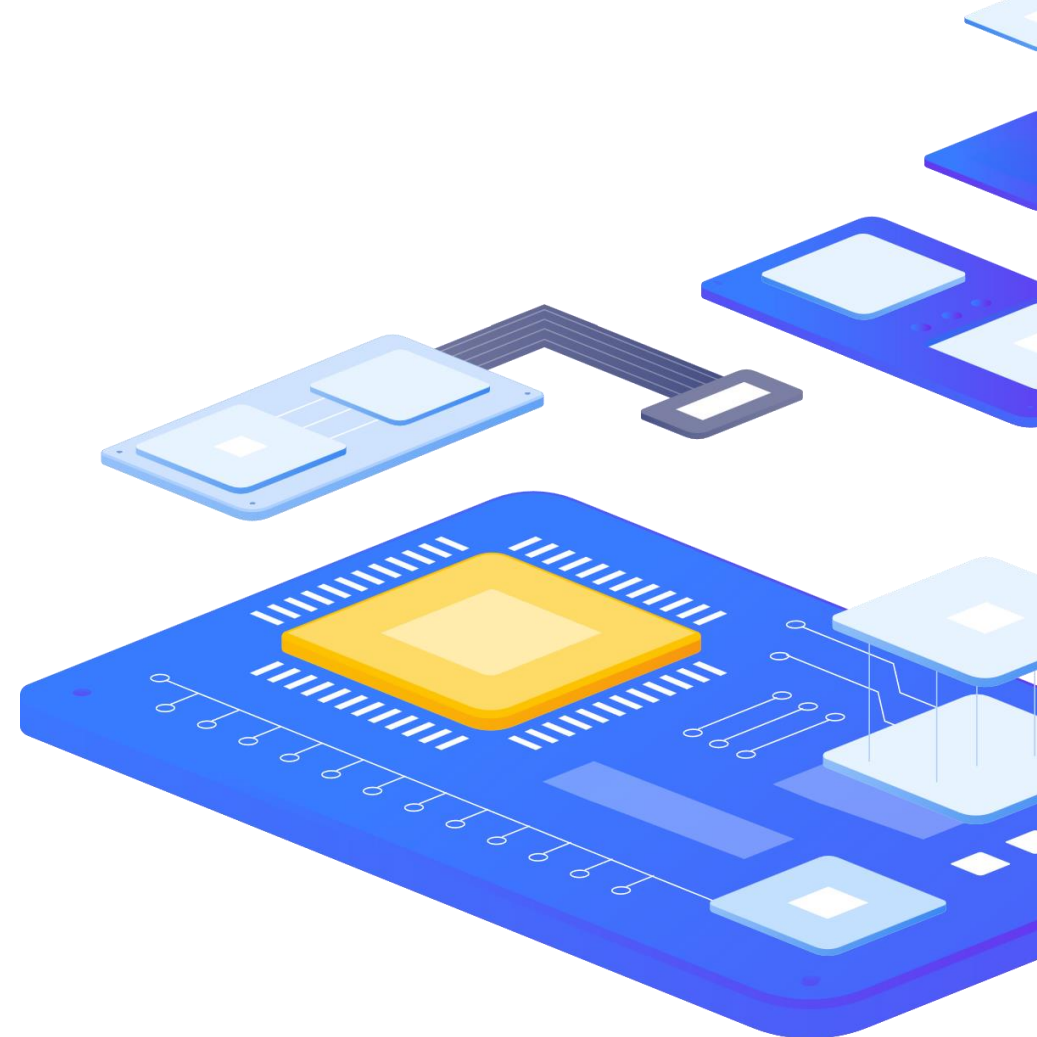
# Service monitoring

What is business service monitoring?

- › In Zabbix, business service monitoring provides a way to monitor your IT infrastructure from a business perspective. It allows you to translate technical details into insights relevant to your business operations.
- › Display business structure using IT Service Tree
- › Show root causes of business impact
- › Calculate SLI for each SLA

Service Terminology:

- › Service-Level Objective (SLO)
- › Service-Level Agreement (SLA)
- › Service-Level Indicator (SLI)



## Services and SLA

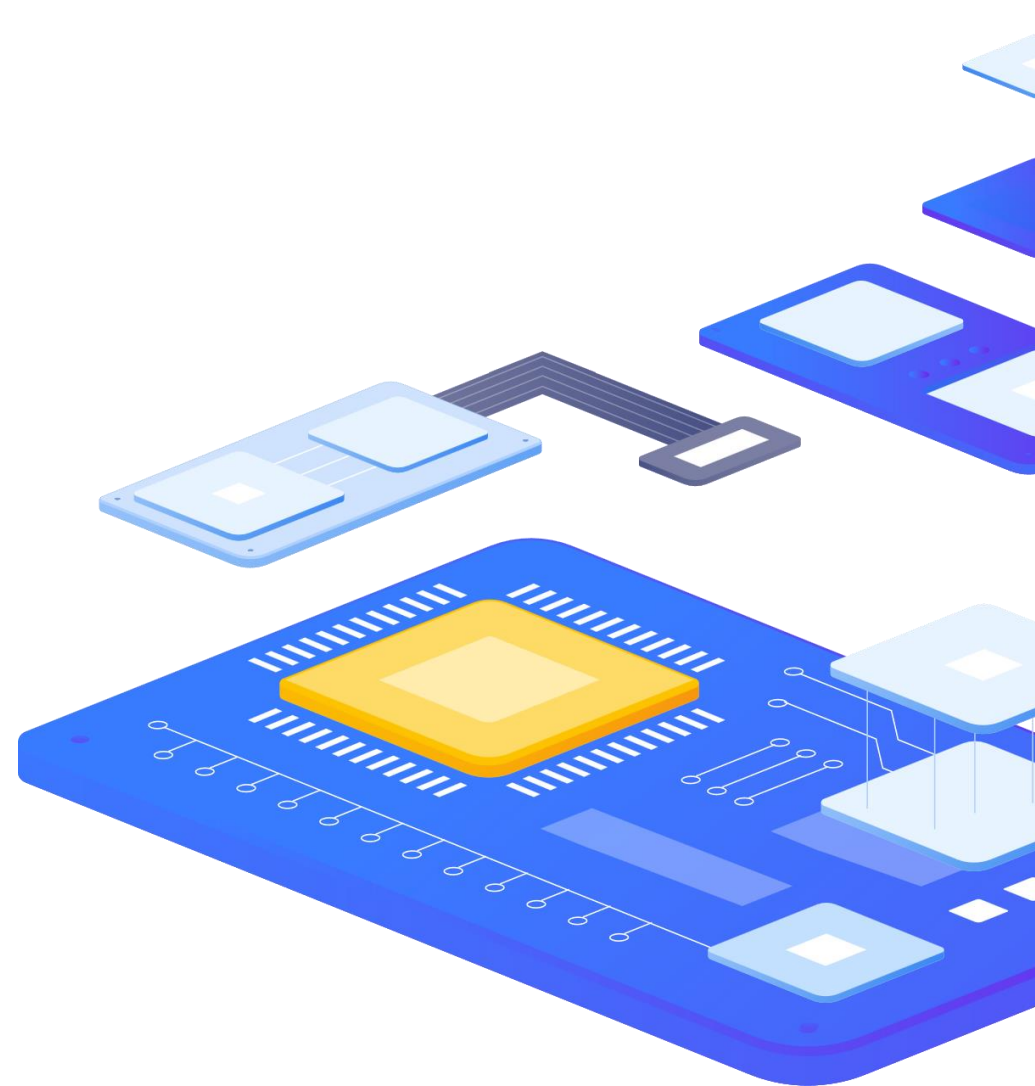
# The Purpose of Services

### Service state and SLA

- › Reliability measurement
- › Customer point of view
- › Management point of view

### Based on:

- › Event Tags.
- › Service Tags.
- › Separate DB structure.



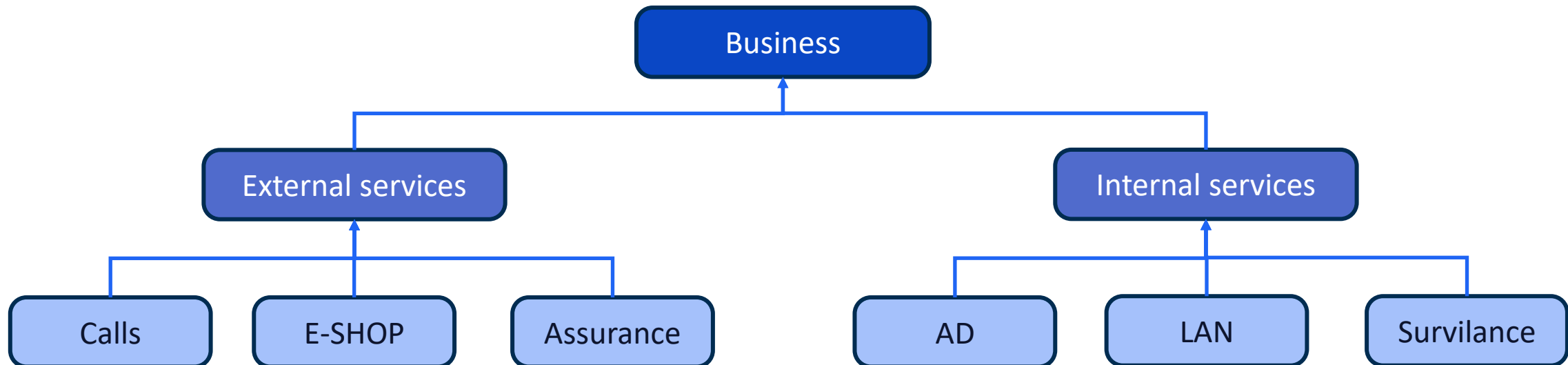
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Service monitoring



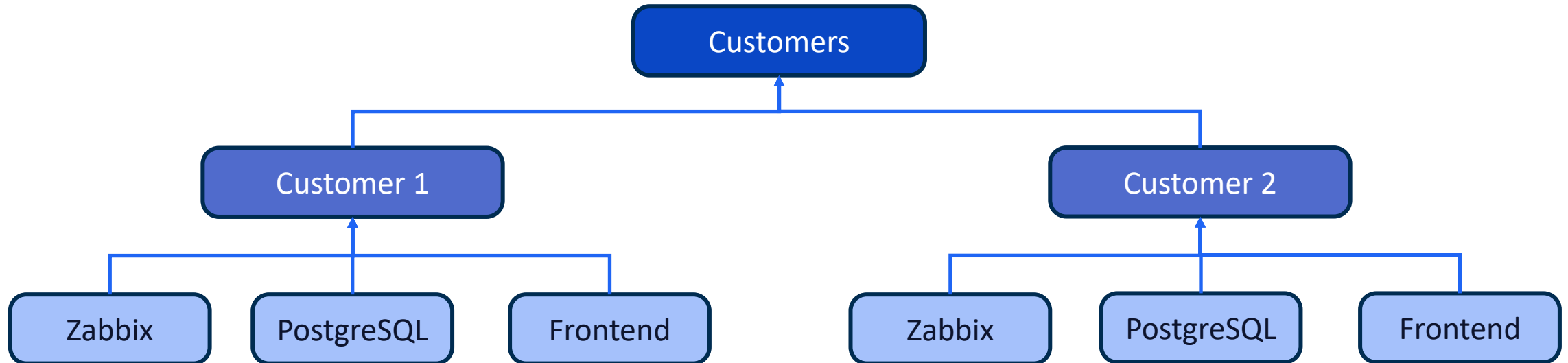
# Service Tree

- ▶ Service tree represents your service business infrastructure
- ▶ Each node of the structure has attribute status. The status is calculated and propagated to upper levels according to the selected algorithm. The status of individual nodes is affected by the status of the mapped problems. Problem mapping is accomplished with tagging.

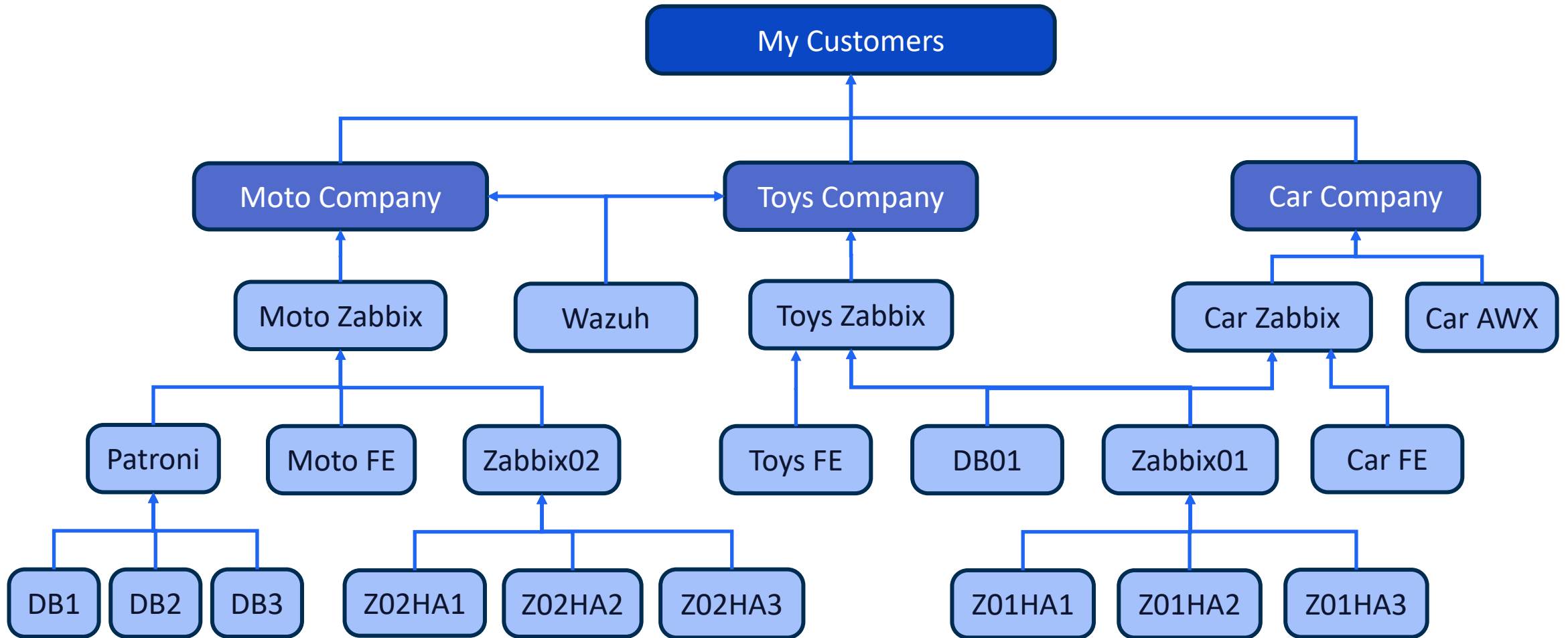


# MSP Services

- ▶ Service tree represents your customers

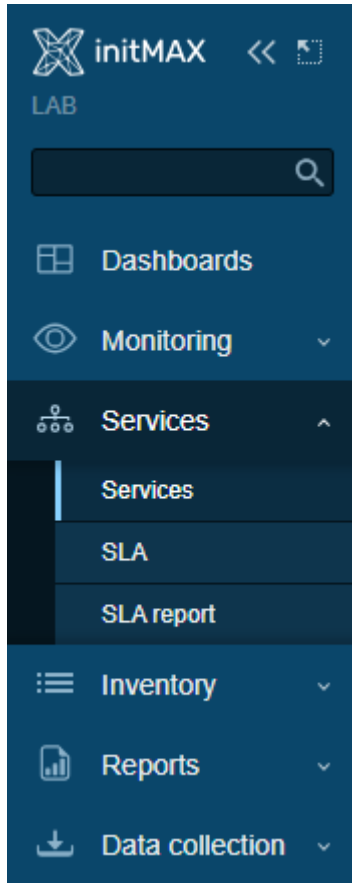


# Demonstration tree

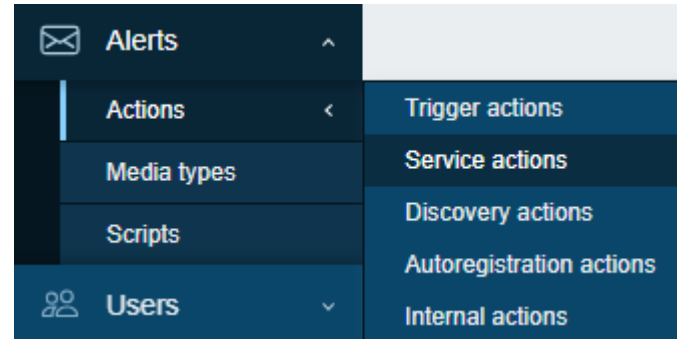




# Service Tree Configuration



- ▶ Services
  - ▶ Services
  - ▶ SLA
  - ▶ SLA report

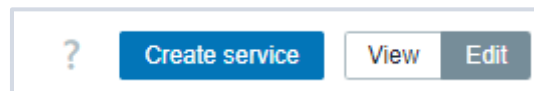


- ▶ Alerts
  - ▶ Actions
    - ▶ Service actions

## Services and SLA

# Service Creation

- ▶ View and Edit mode of Services
- ▶ Status Filtering
- ▶ Tag Filtering



Services ? Create service View Edit

Filter

Name  Tags Any Service Problem

Status Any OK Problem And/Or Or

Only services without children

Only services without problem tags

tag  Does not contain  value  [Remove](#)

[Add](#)

Apply Reset

<input type="checkbox"/> Name	Status	Root cause	Created at	Tags	
<input type="checkbox"/> Demonstration App Service 2	OK		2024-04-23		+ ↙ ×
<input type="checkbox"/> My Customers 3	OK		2024-04-19	sla: allCustomers	+ ↙ ×
<input type="checkbox"/> Zabbix Lab 2	OK		2024-04-23	service: ZabbixLab	+ ↙ ×

0 selected Mass update Delete

Displaying 3 of 3 found

# Service Creation

- › Service Name
- › Parent / Child services
- › Problem tags

### New service

Service Tags Child services

\* Name

Parent services    
type here to search

Problem tags

Name	Operation	Value	Action
<input type="text" value="service"/>	Equals ▼	<input type="text" value="frontend"/>	<a href="#">Remove</a>
<input type="text" value="impact"/>	Equals ▼	<input type="text" value="outage"/>	<a href="#">Remove</a>

[Add](#)

\* Sort order (0->999)

Status calculation rule ⓘ

Description

▼ [Advanced configuration](#)

# TAGs

## Event Tags

- › Specify tags to map problem data to the service:
  - › Equals - include the specified tag names and values (case-sensitive)
  - › Contains - include the specified tag names where the tag values contain the entered string (substring match, case-insensitive)
- › Tag name matching is always case-sensitive.
- › All Problem tags must match a problem event

Problem tags	Name	Operation	Value	Action
	<input type="text" value="service"/>	Equals <input type="button" value="v"/>	<input type="text" value="frontend"/>	<a href="#">Remove</a>
	<input type="text" value="impact"/>	Equals <input type="button" value="v"/>	<input type="text" value="outage"/>	<a href="#">Remove</a>
	<a href="#">Add</a>			

## Service Tags

- › Used to match services with service actions and SLAs.
- › Specified at the Tags service configuration tab.

Service	Tags 1	Child services
	Tags	
	Name	Value
	<input type="text" value="internal"/>	<input type="text" value="monitoring"/>
	<input type="text" value="tag"/>	<input type="text" value="value"/>
	<a href="#">Add</a>	

# Parent / Child tree nodes

## Parent nodes

- › status is calculated from child nodes by using set of rules
- › Status calculations:
  - › Most critical of child services (default)
  - › Most critical if all children have problem
  - › Set status to OK - used with advanced configuration

## Child nodes

- › status is calculated based on problems matched by event tags

# Advanced Service Configuration

- ▶ Status propagation
  - ▶ Increase severity by 1-5
  - ▶ Decrease severity by 1-5
  - ▶ Ignore this service
  - ▶ Set the status to the predefined severity
- ▶ Weight

^ Advanced configuration

Additional rules	Name	Action
	<a href="#">Add</a>	

Status propagation rule

Decrease by

1 2 3 4 5

\* Weight

# Advanced Service Configuration

- ▶ Additional rules
  - ▶ At least N or N% child services have status above / below some severity
  - ▶ If total weight of child services with some severity is above / below a threshold

**Service**

**New additional rule** ✕

Service

Set status to

Condition

N

Status

\* Sort order (0->999)

Status calculation rule

- If at least N child services have Status status or above
- If at least N% of child services have Status status or above
- If less than N child services have Status status or below
- If less than N% of child services have Status status or below
- If weight of child services with Status status or above is at least W
- If weight of child services with Status status or above is at least N%
- If weight of child services with Status status or below is less than W
- If weight of child services with Status status or below is less than N%

## Services and SLA

# Notifications

Separate Menu section

Notification based on:

- ▶ Service, Service Name, Service Tag Name, Service Tag Value

### New action

Action Operations

\* Name

Conditions	Label	Name
	A	Service equals <i>Moto Company</i>

[Add](#)

Enabled

\* At least one operation must exist.

### Operation details

Operation

Steps  -  (0 - infinitely)

Step duration  (0 - use action default)

\* At least one user or user group must be selected.

Send to user groups    
type here to search

Send to users

Send only to

Custom message



## Services and SLA

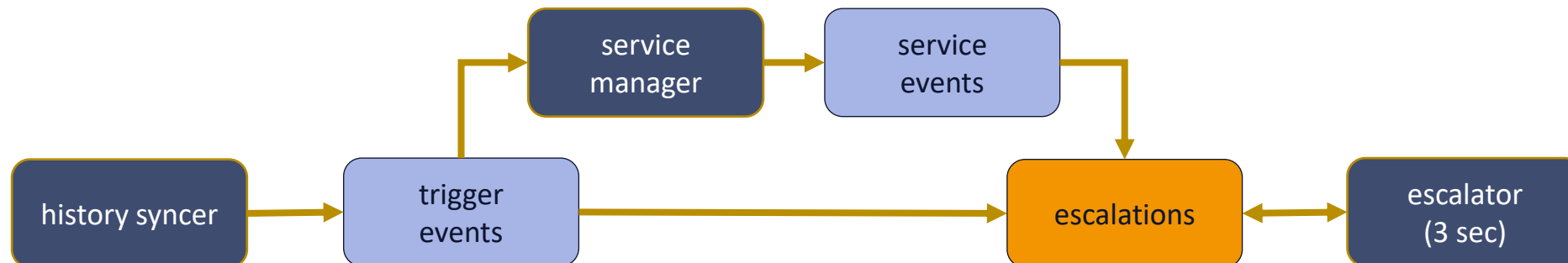
# Event Processing

Service status is calculated by the Service manager process

- ▶ Service configuration cache - update interval defined in `zabbix_server.conf`

```
### Option: ServiceManagerSyncFrequency
# How often Zabbix will synchronize configuration of a service manager (in seconds).
#
# Mandatory: no
# Range: 1-3600
# Default:
ServiceManagerSyncFrequency= 60
```

- ▶ Separate Database tables



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SLA



## Services and SLA

# SLA, SLO, SLI

- › Services->SLA menu section allows to configure SLAs for various services.
- › An SLA in Zabbix defines:
  - › Service level objective (SLO),
  - › expected uptime schedule,
  - › planned downtimes.
- › SLAs and services are matched by service tags.
- › The same SLA may be applied to multiple services - performance will be measured for each matching service separately.
- › A single service may have multiple SLAs assigned - data for each of the SLAs will be displayed separately.

## Services and SLA

# SLA Configuration

- ▶ Predefined 7x24 Schedule
- ▶ Custom Schedule

**New SLA** ? X

**SLA** Excluded downtimes 1

Excluded downtimes	Start time	Duration	Name	Action
	2022-02-01 02:00	3h	Maintenance	<a href="#">Edit</a> <a href="#">Remove</a>

[Add](#)

[Add](#) [Cancel](#)

**New SLA** ? X

**SLA** Excluded downtimes

\* Name

\* SLO  %

Reporting period  Daily  Weekly  Monthly  Quarterly  Annually

Time zone  ▼

Schedule  24x7  Custom

Sunday

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

\* Effective date

* Service tags	Name	Operation	Value	Action
	company	Equals	Car	<a href="#">Remove</a>

[Add](#)

Description

Enabled

[Add](#) [Cancel](#)

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Permissions and visualization



# Permissions and Roles

## Access to services

- › Read-write access to services
- › Read-write access to services with tag
- › Read-only access to services
- › Read-only access to services with tag

### Access to services

Read-write access to services  None  All

Read-only access to services  None  All  Service list

Read-only access to services with tag



# SLA Reports and SLA Widget

► Complex SLA overview

My manager SLA overview ? Edit dashboard

[All dashboards](#) / [My manager SLA overview](#)

### Customers overview

Service	SLO	2024-03-26	2024-03-27	2024-03-28	2024-03-29	2024-03-30	2024-03-31	2024-04-01	2024-04-02	2024-04-03	2024-04-04	2024-04-05	2024-04-06	2024-04-07	2024-04-08	2024-04-09	2024-04-10	2024-04-11	2024-04-12	2024-04-13	2024-04-14	2024-04-15	2024-04-16	2024-04-17	2024-04-18	2024-04-19	2024-04-20	2024-04-21	2024-04-22	2024-04-23	2024-04-24	
Car Company	90%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100	100	100	100	100	100
Moto Company	90%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100	100	100	100	100	100
My Customers	90%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100	100	100	100	100	100
Toys Company	90%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100	100	100	100	100	100

Displaying 4 of 4 found

### Zabbix Team overview

Service	SLO	2024-04-18	2024-04-19	2024-04-20	2024-04-21	2024-04-22	2024-04-23	2024-04-24
Demo Zabbix HA Cluster	98%	N/A	N/A	N/A	N/A	N/A	100	100
Zabbix01	98%	N/A	100	100	100	100	100	100
Zabbix02	98%	N/A	100	100	100	100	100	100

Displaying 3 of 3 found

### DB Team overview

Service	SLO	2024-04-18	2024-04-19	2024-04-20	2024-04-21	2024-04-22	2024-04-23	2024-04-24
DB01	98%	N/A	100	100	100	100	100	100
Patroni Cluster	98%	N/A	100	100	100	100	100	100

Displaying 2 of 2 found

### Wazuh Team overview

Week	SLO	SLI	Uptime	Downtime	Error budget	Excluded downtimes
2024-04-21 – 04-27	99.5%	100	5h 9m 46s	0	1m 33s	
2024-04-14 – 04-20	99.5%	N/A	0	0	0	
2024-04-07 – 04-13	99.5%	N/A	0	0	0	
2024-03-31 – 04-06	99.5%	N/A	0	0	0	
2024-03-24 – 03-30	99.5%	N/A	0	0	0	
2024-03-17 – 03-23	99.5%	N/A	0	0	0	
2024-03-10 – 03-16	99.5%	N/A	0	0	0	

### WEB Team overview

Service	SLO	2024-04-18	2024-04-19	2024-04-20	2024-04-21	2024-04-22	2024-04-23	2024-04-24
Car Frontend	98%	N/A	N/A	N/A	N/A	N/A	N/A	100
Demo Frontend	98%	N/A	N/A	N/A	N/A	N/A	100	100
Moto Frontend	98%	N/A	100	100	100	100	100	100
Toys Frontend	98%	N/A	N/A	N/A	N/A	N/A	N/A	100

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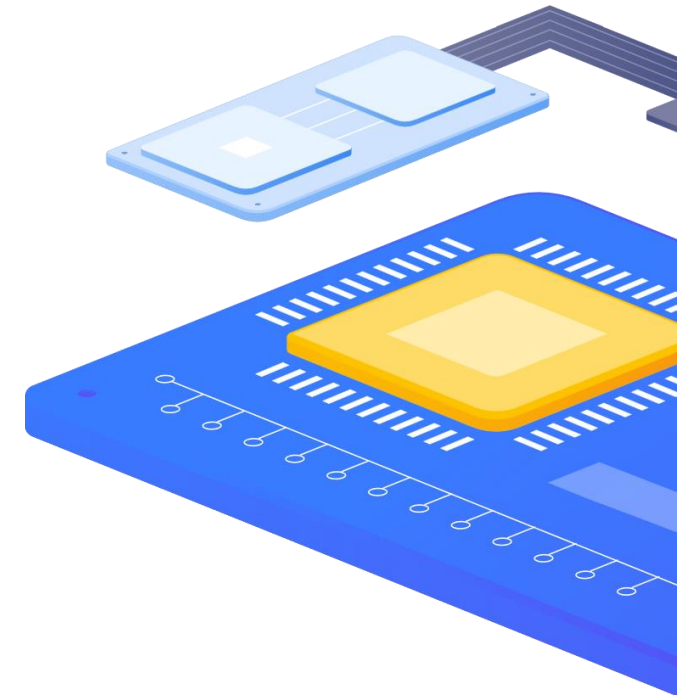
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Usage



# Services and SLA Usage

- › Monitor your business performance
- › Show status to management
- › Be informed on service state in real-time
- › Provide customers with critical information about their business services
- › Documentation:
  - › [https://www.zabbix.com/documentation/current/en/manual/it\\_services](https://www.zabbix.com/documentation/current/en/manual/it_services)



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Demonstration





Questions?



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