

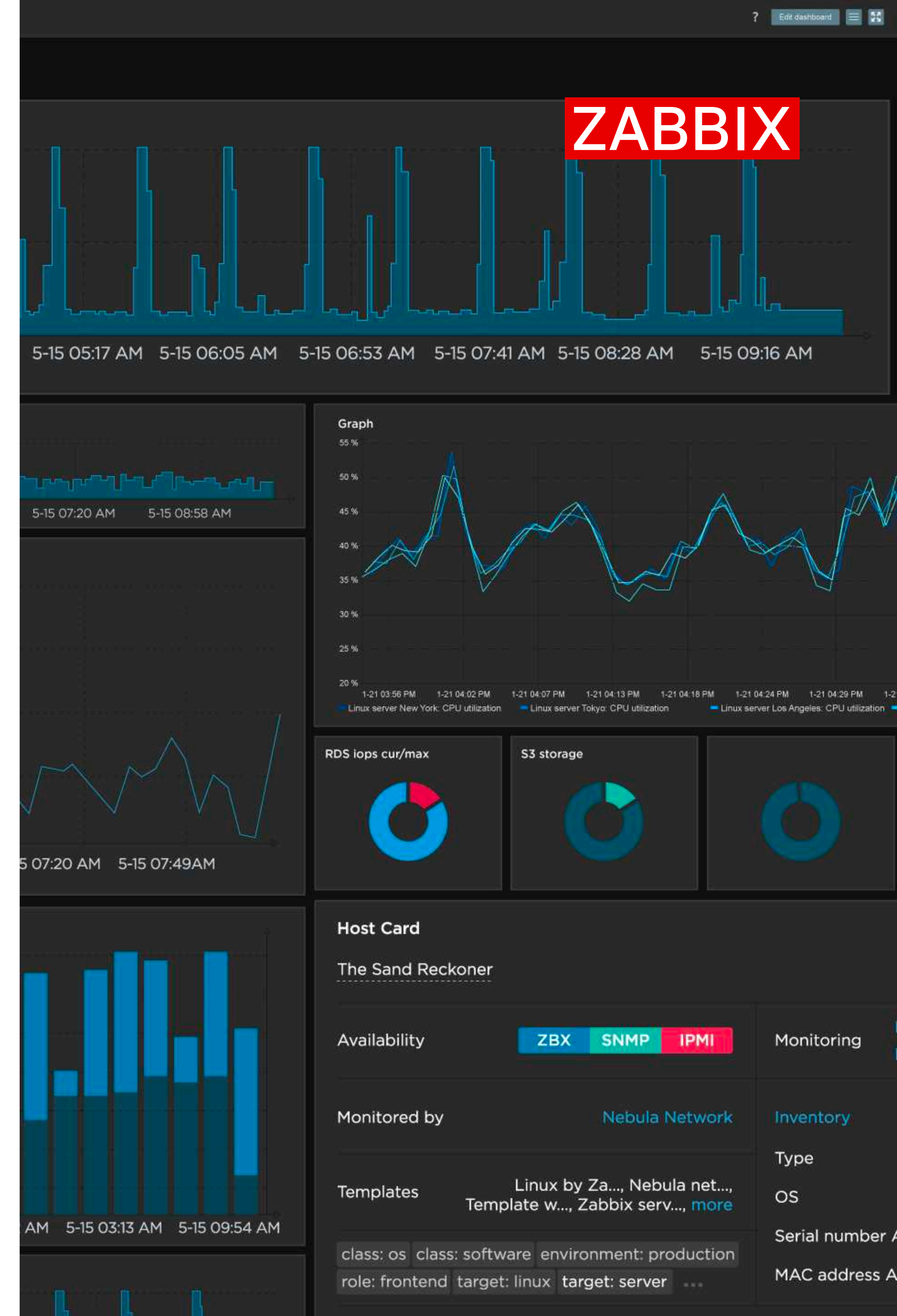


The Zabbix HA Story:

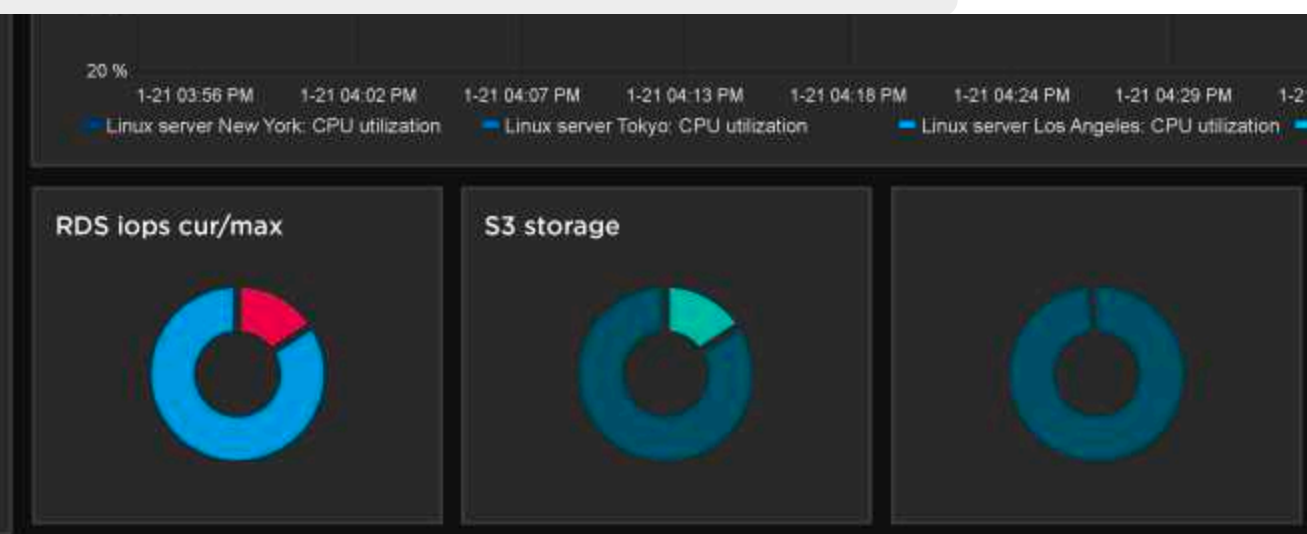
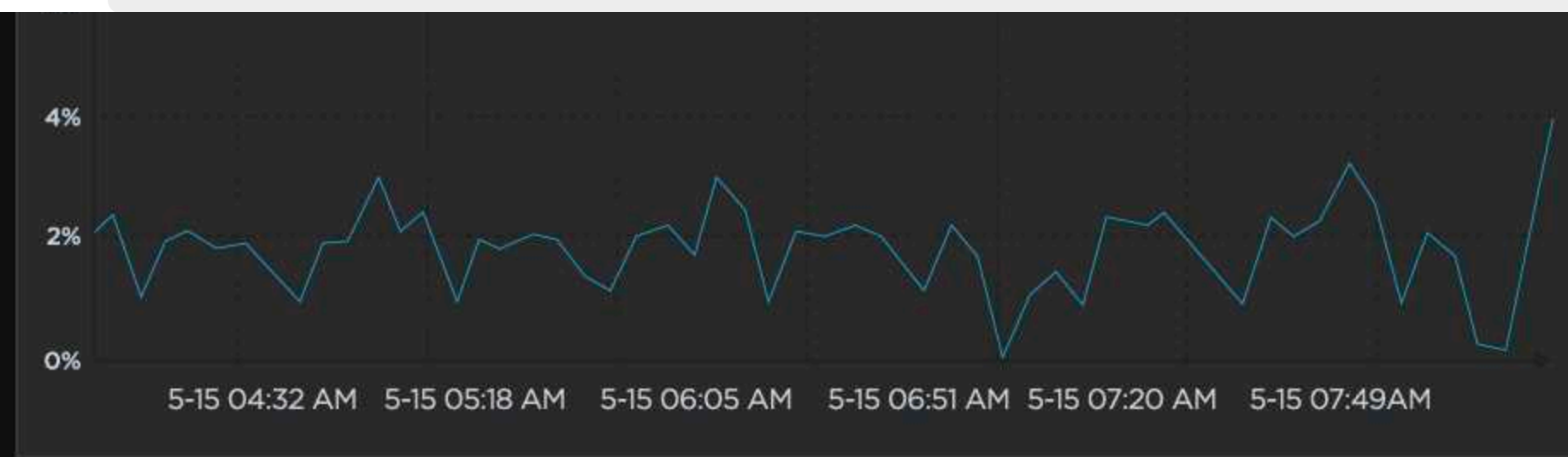
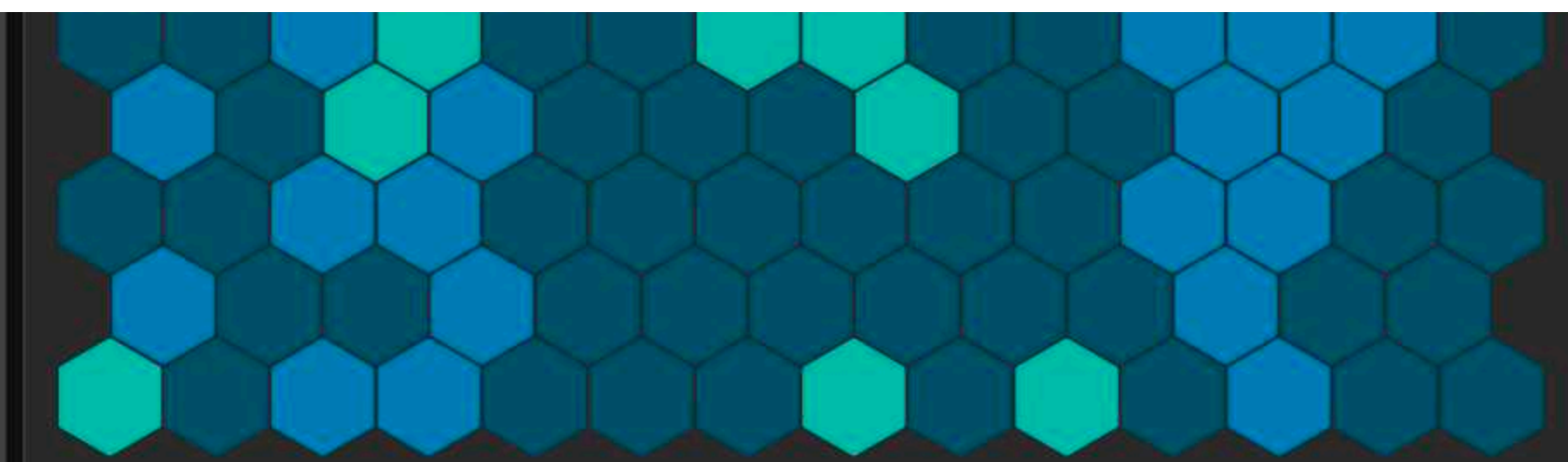
Monitoring also needs high availability

Agenda

- Some trivial considerations
- Zabbix Server HA
- Zabbix Proxy Groups
- Frontend and Database
- The full HA picture

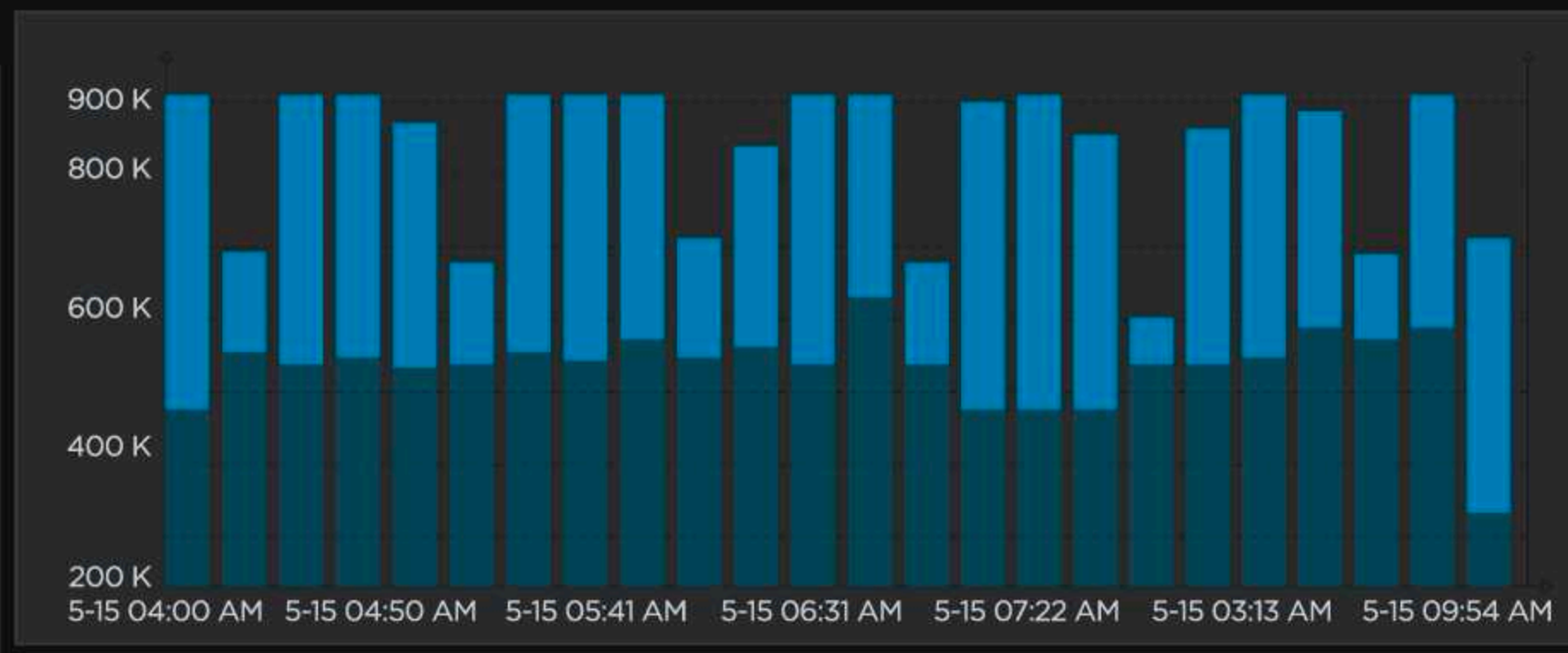


Some Trivial Considerations



Temperature

Items	A1	A5	A4	A3	A2
D1	Alpha	Beta	Gamma	Delta	Epsilon
A2	14.00	2.00	19.00	89.00	16.00
B1	21.00	25.00	24.00	23.00	22.00
B2	25.00	25.00	24.00	23.00	22.00
A1	20.00	20.00	20.00	20.00	20.00
A3	20.00	20.00	20.00	20.00	20.00
C1	20.00	20.00	20.00	20.00	20.00
C2	20.00	20.00	20.00	20.00	20.00
A1	20.00	20.00	20.00	20.00	20.00



Host Card

The Sand Reckoner

Availability: **ZBX** **SNMP** **IPMI** Monitoring

Monitored by: Nebula Network Inventory

Type: OS

Serial number A

MAC address A

Templates: Linux by Za..., Nebula net..., Template w..., Zabbix serv..., more

class: os class: software environment: production role: frontend target: linux target: server ...

Some facts about **outages**

ZABBIX



- Average annual enterprise downtime: **14-18 hours/year**
- Mean Time To Resolution (MTTR): **avg. 80 min. per outage**
- Number of organizations affected: **96% in the last 3 years**
- Number of hours spent fixing outages: **WAY TOO MANY!**

Some facts about **outages**

ZABBIX

How many outages could be avoided
with HA in place?



51%

Do I need HA on my **monitoring system**?

ZABBIX



- Is monitoring mission-critical or “nice to have”?
- How long can we be “blind”?
- If monitoring failure means missing incidents, HA becomes essential.
- More nodes, distributed systems, and SLAs → stronger need for HA.
- A single-node monitoring system that fails silently may be worse than no monitoring.
- HA avoids gaps in metrics

Zabbix features **native HA**

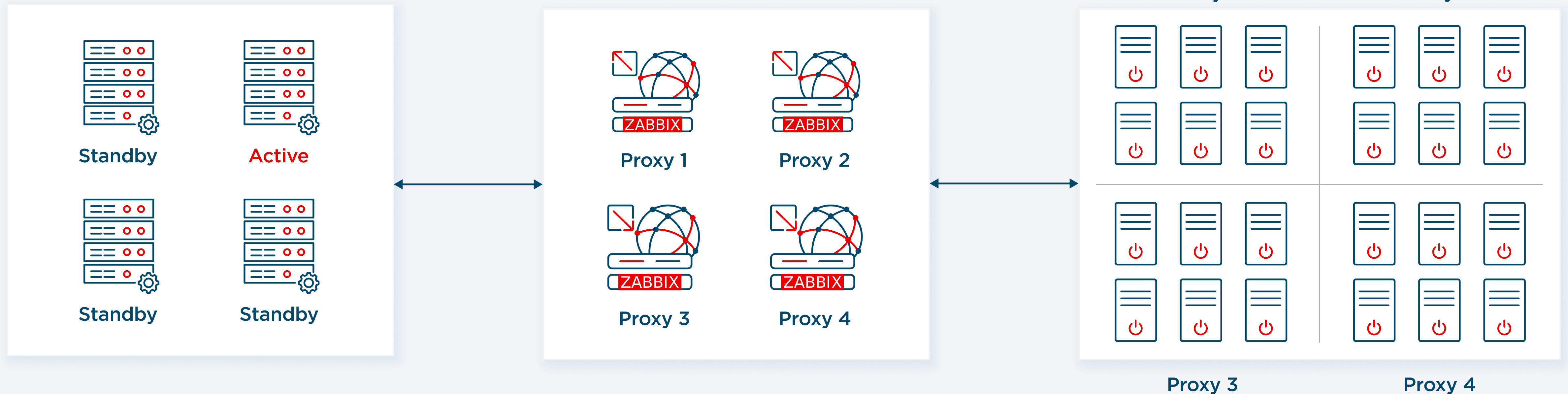


- Active/passive Zabbix server HA cluster (**since Zabbix 6.0**)
- Zabbix proxy groups (**since Zabbix 7.0**)

Zabbix Server Cluster

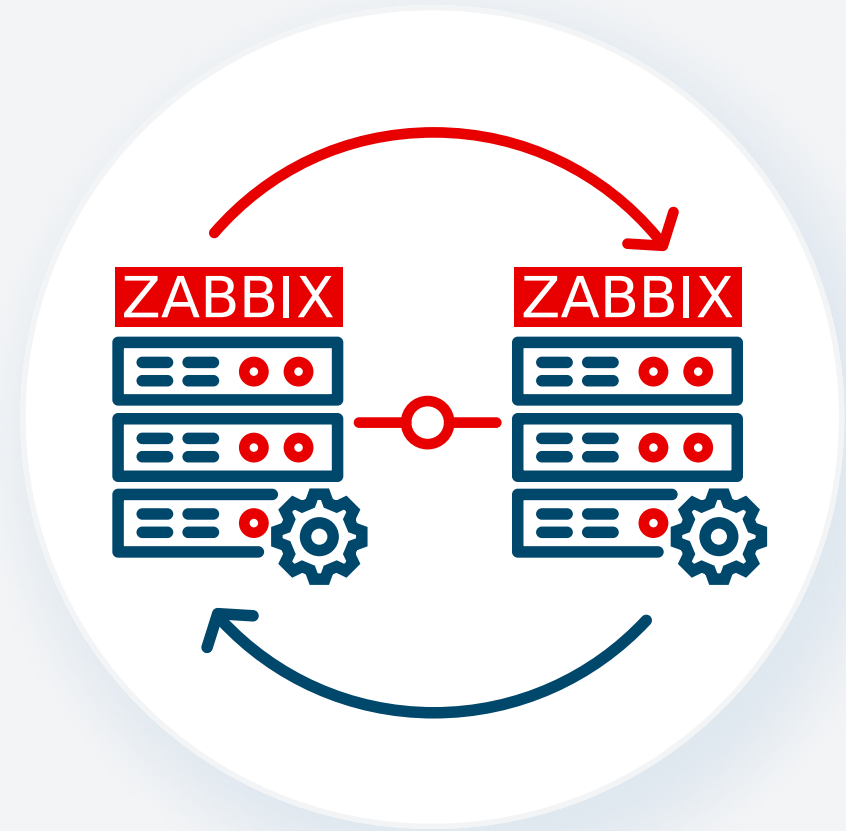
Zabbix Proxy Group

Monitored hosts auto-balanced



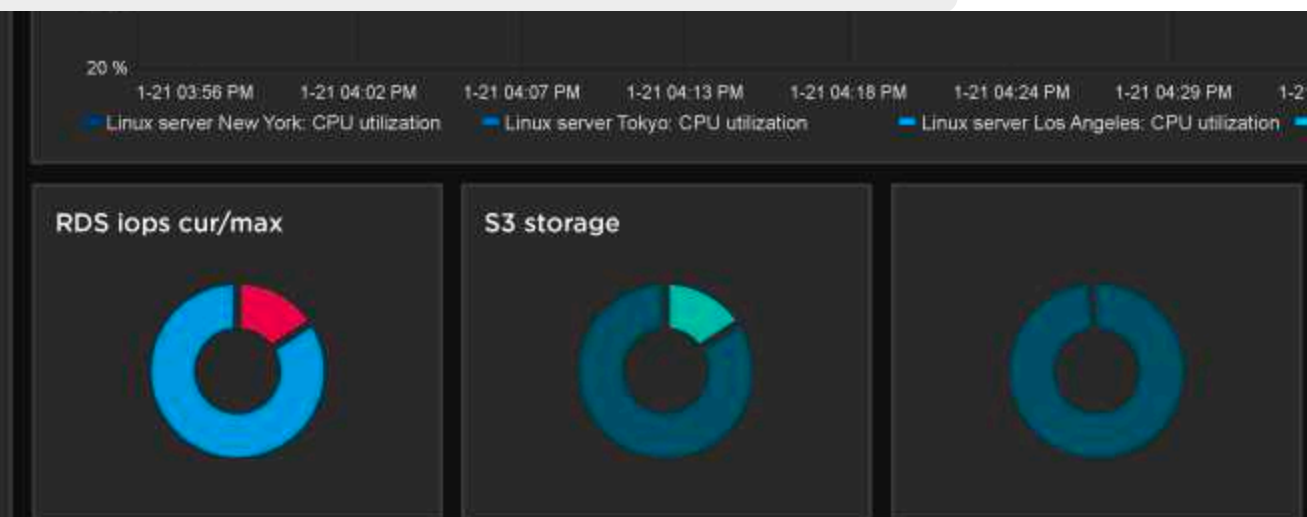
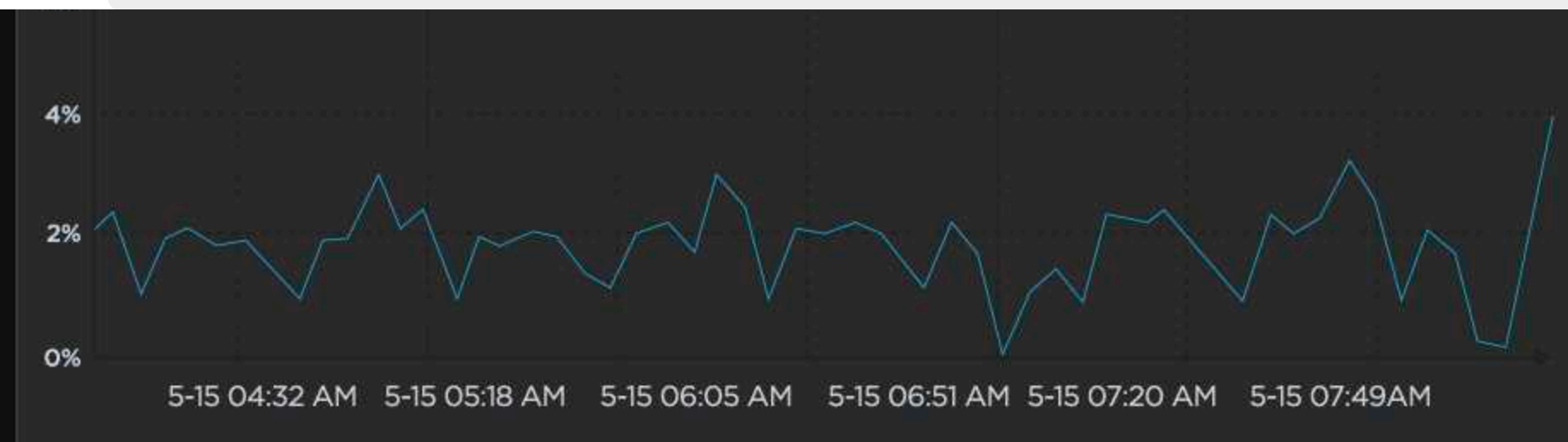
Preliminary considerations for Zabbix HA

ZABBIX



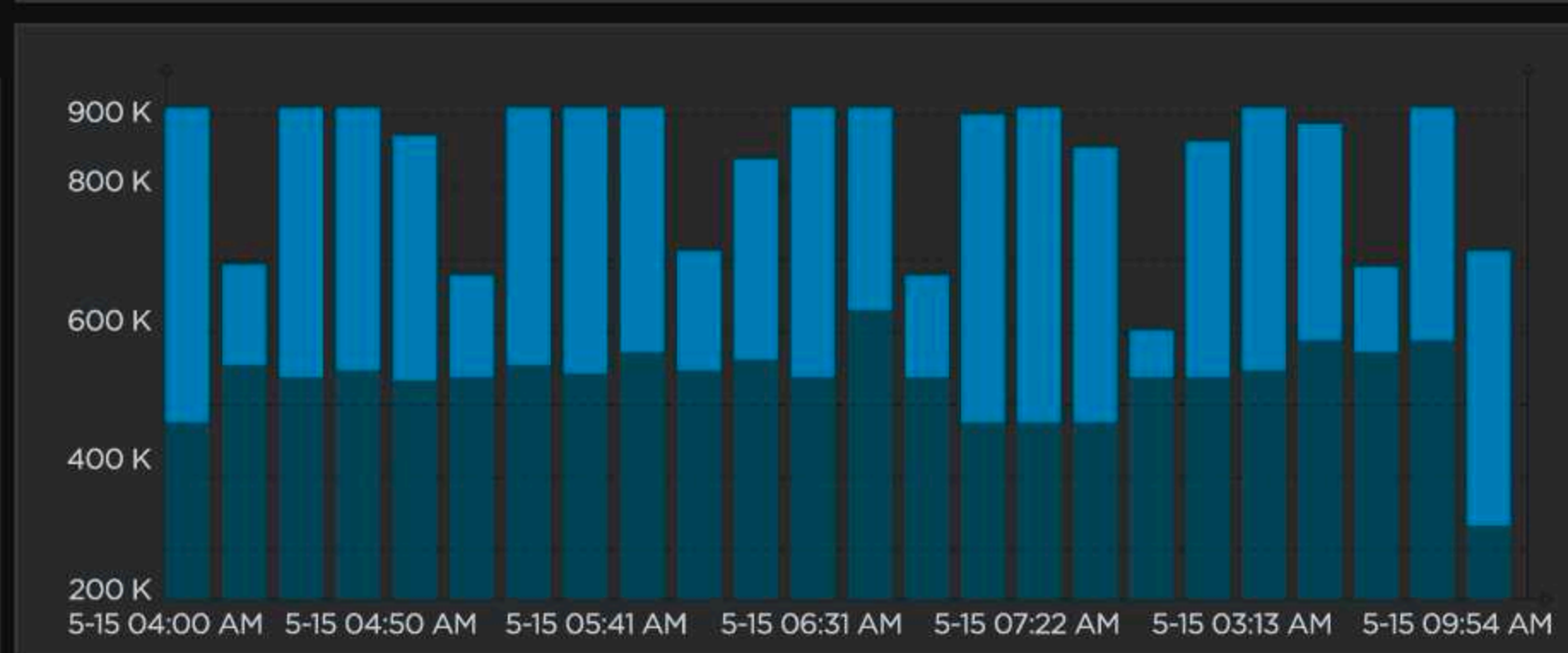
- Prepare the network: ensure consistent DNS naming, firewall rules, routing
- Divide the components: place Frontend, Server and Database components in separate servers
- Avoid resource bottlenecks: ensure the servers will “fish” from separate physical resources
- Ensure physical resources are also highly-available
- Better to have a test environment
- Document everything as much as possible
- **How many servers?**
- **Am I looking for HA or DR?**

Zabbix Server HA



Temperature

Items	A1	A5	A4	A3	A2
D1	Alpha	Beta	Gamma	Delta	Epsilon
A2	14.00	2.00	19.00	89.00	16.00
B1	21.00	25.00	24.00	23.00	22.00
B2	25.00	25.00	24.00	23.00	22.00
A1	20.00	20.00	20.00	20.00	20.00
A3	20.00	20.00	20.00	20.00	20.00
C1	20.00	20.00	20.00	20.00	20.00
C2	20.00	20.00	20.00	20.00	20.00
A1	20.00	20.00	20.00	20.00	20.00



Host Card

The Sand Reckoner

Availability: **ZBX** **SNMP** **IPMI** Monitoring

Monitored by: **Nebula Network** Inventory

Type: OS

Serial number A

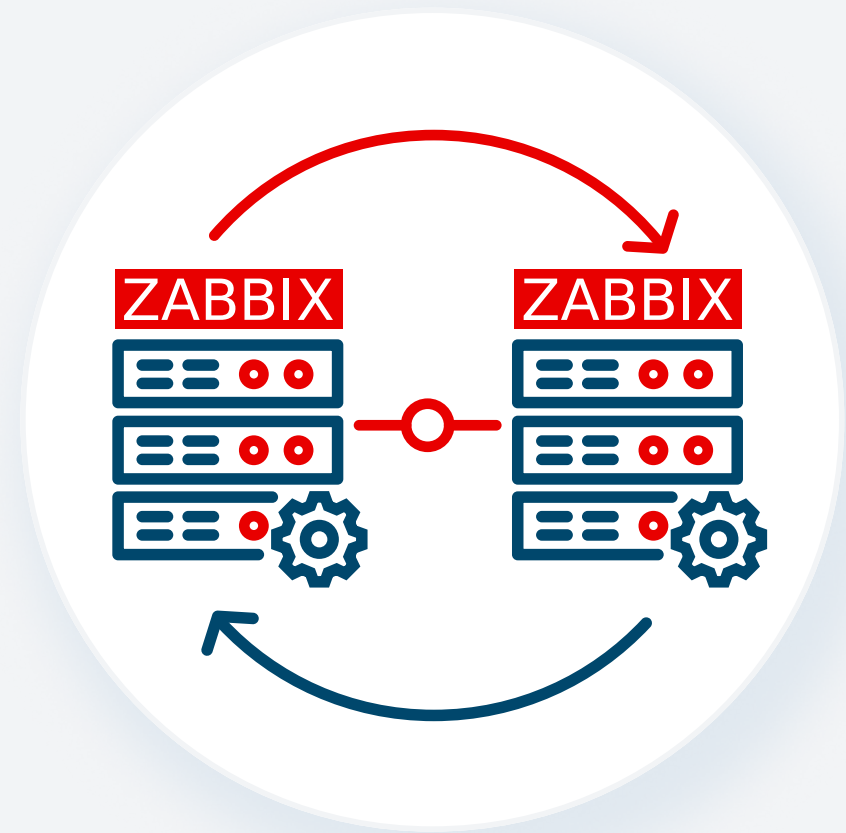
MAC address A

Templates: Linux by Za..., Nebula net..., Template w..., Zabbix serv..., more

class: os class: software environment: production role: frontend target: linux target: server ...

Zabbix Server HA: **Benefits**

ZABBIX

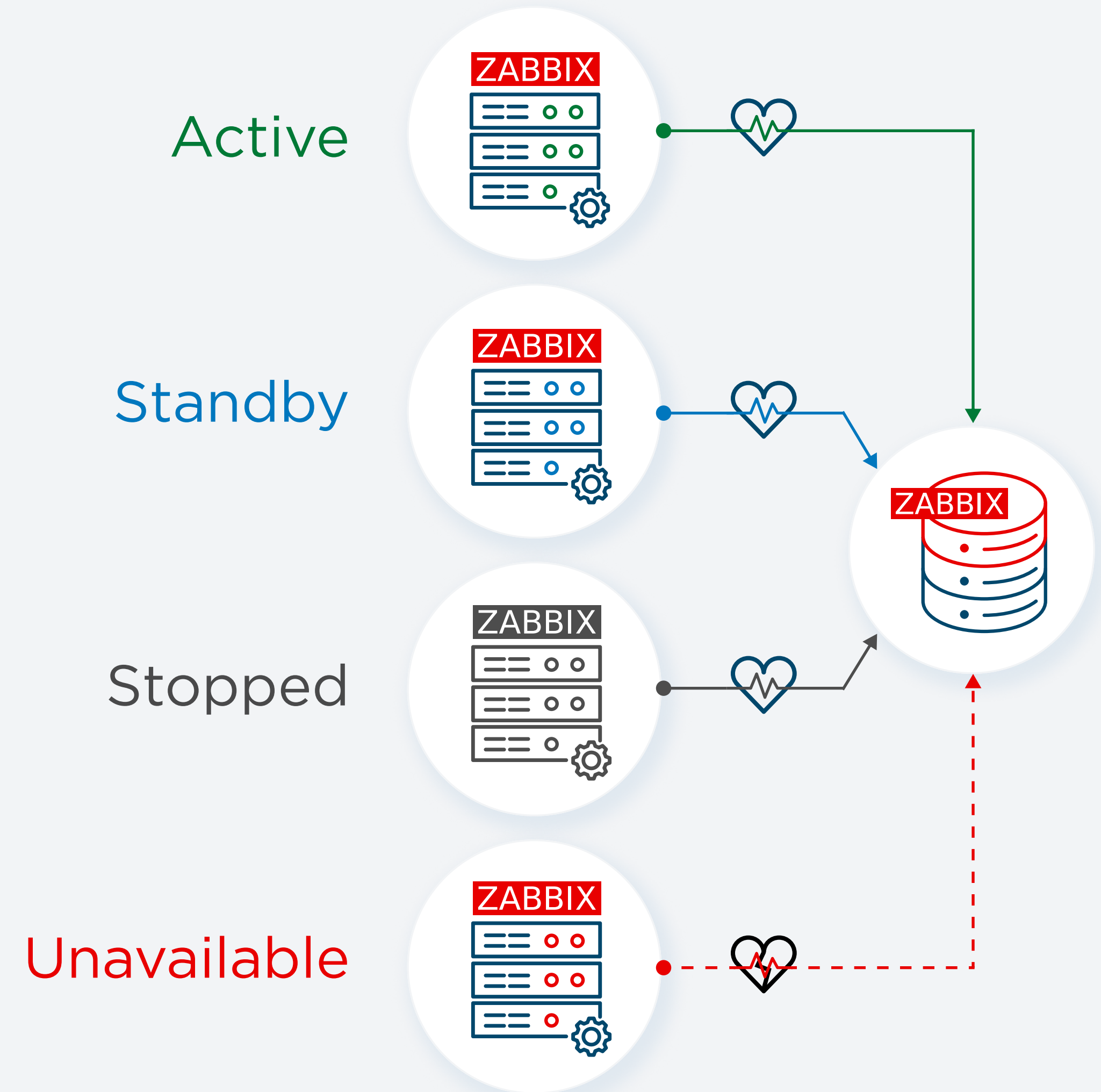


- Native high-availability solution
- Fast and automated failover
- No previous HA expertise required
- Supports redundancy with multiple nodes
- Can be easily configured and also disabled
- Zero downtime upgrades
- Officially supported and documented

Zabbix Server HA: How it Works

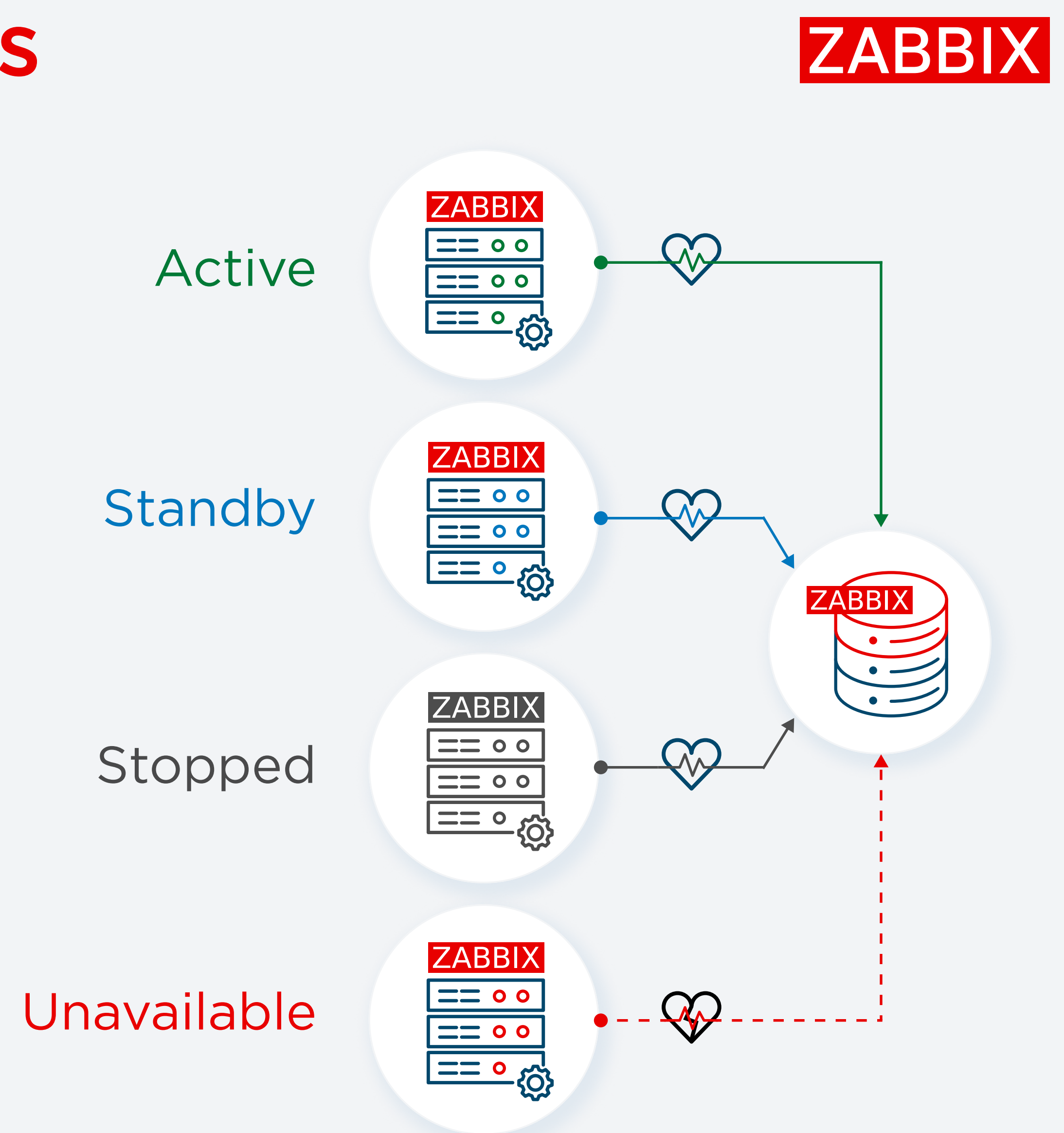
ZABBIX

- All Zabbix servers use the same DB
- Zabbix servers update their last access time every 5 seconds
- Zabbix frontend will autodetect the active node from the Zabbix database.
- Only one Zabbix server node can be active at the same time
- Other Zabbix server nodes can be in one of the following states:
 - standby
 - unavailable
 - stopped



Zabbix Server HA: Scenarios

- The first standby node that detects when an active node is down will take over
- There must be at least one node in standby status for the failover to work
- In a proper Zabbix-server shutdown, another node takes over after 5 seconds
- In improper Zabbix-server shutdown, another node takes over after a failover delay (configurable) + 5 seconds



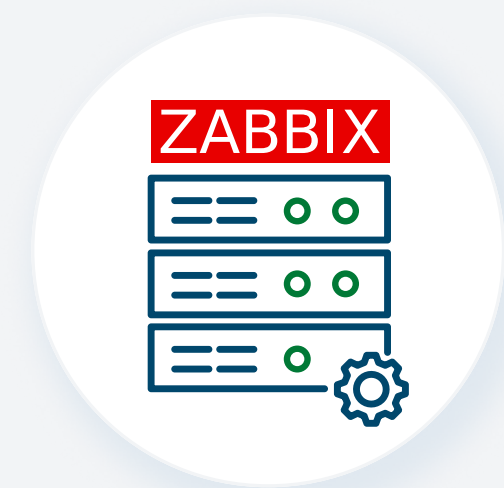
Zabbix Server HA: **How to Configure**



Install additional zabbix-servers and set 2 configuration parameters:

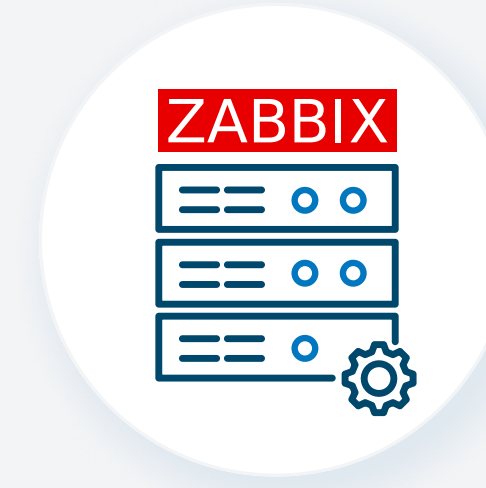
- **HANodeName**
- **NodeAddress**

Zabbix server instance: **Active**



```
HANodeName=ZABBIX-SERVER-HA01  
NodeAddress=zbx-node-01:10051
```

Zabbix server instance: **Standby**



```
HANodeName=ZABBIX-SERVER-HA02  
NodeAddress=zbx-node-02:10051
```

Name	Address	Last access	Status
ZABBIX-SERVER-HA01	zbx-node-01:10051	1s	Active
ZABBIX-SERVER-HA02	zbx-node-02:10051	2s	Standby

Zabbix Server HA: How to Configure

ZABBIX

Make sure that these parameters are commented out in the Zabbix frontend settings (should be commented out by default): `/etc/zabbix/web/zabbix.conf.php`

- `// $ZBX_SERVER`
- `// $ZBX_SERVER_PORT`

```
// Uncomment and set to desired values
// to override Zabbix hostname/IP and port.
// $ZBX_SERVER      = '127.0.0.1';
// $ZBX_SERVER_PORT = '10051';
```

Zabbix frontend will autodetect the active node by reading settings from the nodes table in Zabbix database. Node address of the active node will be used as the Zabbix server address.

Zabbix Server HA: Status



- State can be viewed in Frontend or CLI (from **active** Zabbix server)
- Can be managed from **active** Zabbix server node with CLI

```
# zabbix_server -R ha_status
```

```
Failover delay: 60 seconds
```

```
Cluster status:
```

#	ID	Name	Address	Status	Last Access
1.	cmd8fg0tn00010vmttudzqywm	ZABBIX-SERVER-HA01	zbx-node-01:10051	active	1s
2.	cmd8fg36g00010vquwfuycqkr	ZABBIX-SERVER-HA02	zbx-node-02:10051	standby	2s

Parameter	Value	Details
Required server performance, new values per second	46.41	
High availability cluster	Enabled	Fail-over delay: 1 minute

Name	Address	Last access	Status
ZABBIX-SERVER-HA01	zbx-node-01:10051	1s	Active
ZABBIX-SERVER-HA02	zbx-node-02:10051	2s	Standby

Zabbix Server HA: **How to Manage**

ZABBIX

Use CLI runtime commands to configure Zabbix server HA parameters

- Check the status of the Zabbix server HA:

```
# zabbix_server -R ha_status
```

- Set a different failover period (from 10 seconds and 15 minutes):

```
# zabbix_server -R ha_set_failover_delay=5m
```

- Remove HA nodes (**active/standby** nodes cannot be removed; first, stop the nodes and then remove them):

```
# zabbix_server -R ha_remove_node=ZABBIX-SERVER-HA02
```

Zabbix Server HA: Considerations



Make sure that all of the Zabbix HA nodes (servers) will be able to gather the data:

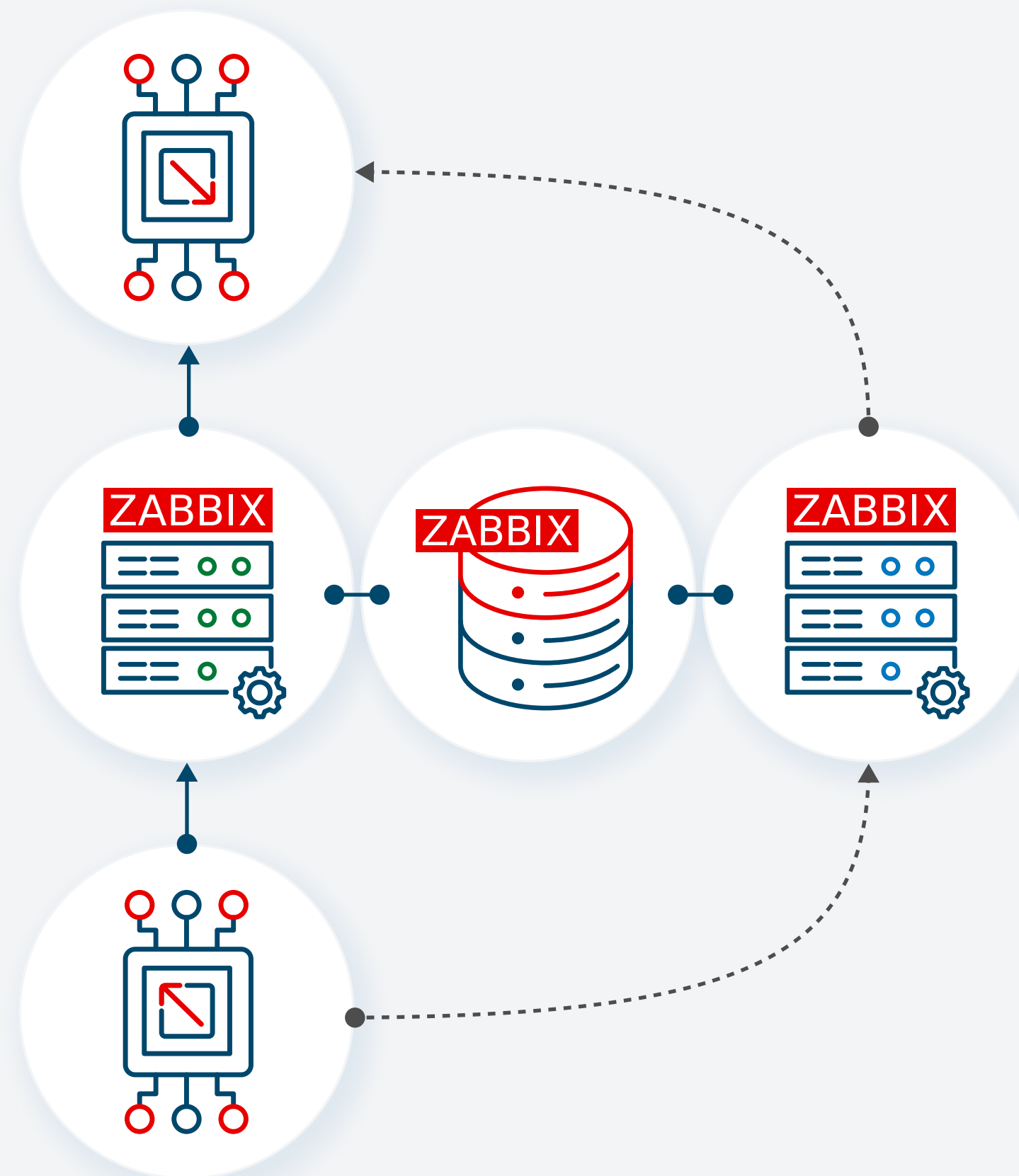
- Check Firewall rules
- Check Zabbix agent configuration parameters

```
#For Zabbix agent passive checks:  
Server=zbx-node-01,zbx-node-02
```

Zabbix server instance: **Active**

```
HANodeName=ZABBIX-SERVER-HA01  
NodeAddress=zbx-node-01:10051
```

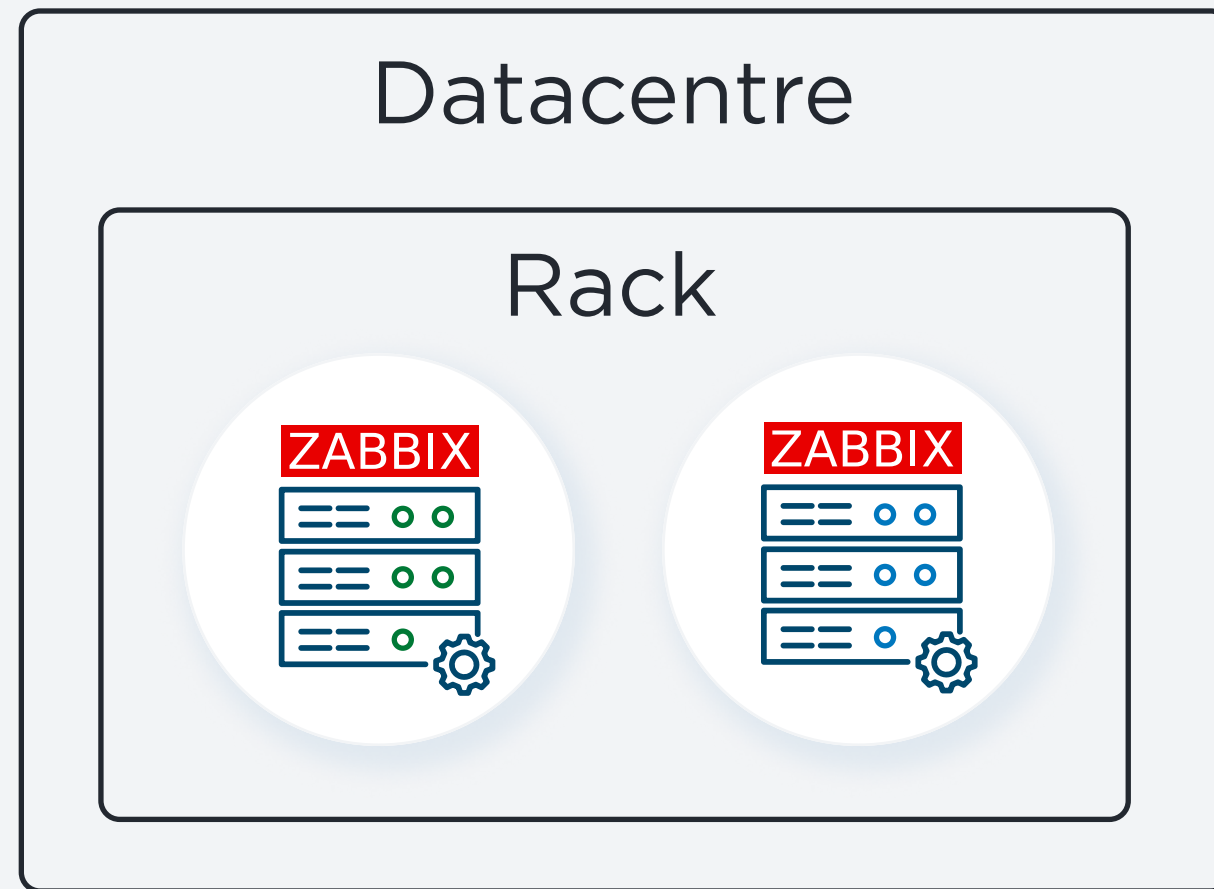
```
#For Zabbix agent active checks:  
ServerActive=zbx-node-01;zbx-node-02  
Hostname=Test environment
```



Zabbix server instance: **Standby**

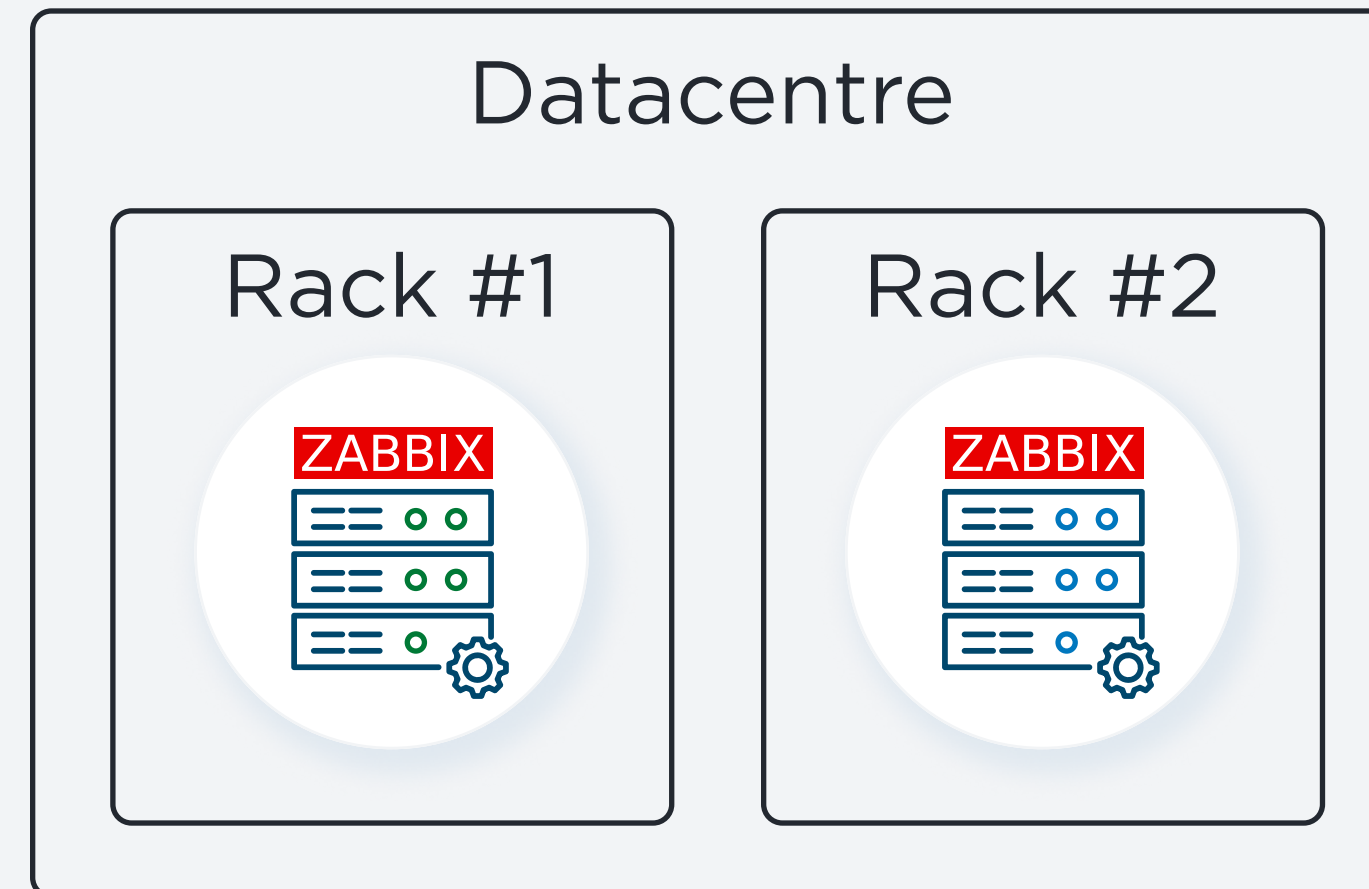
```
HANodeName=ZABBIX-SERVER-HA02  
NodeAddress=zbx-node-02:10051
```

Zabbix Server HA: Use Cases



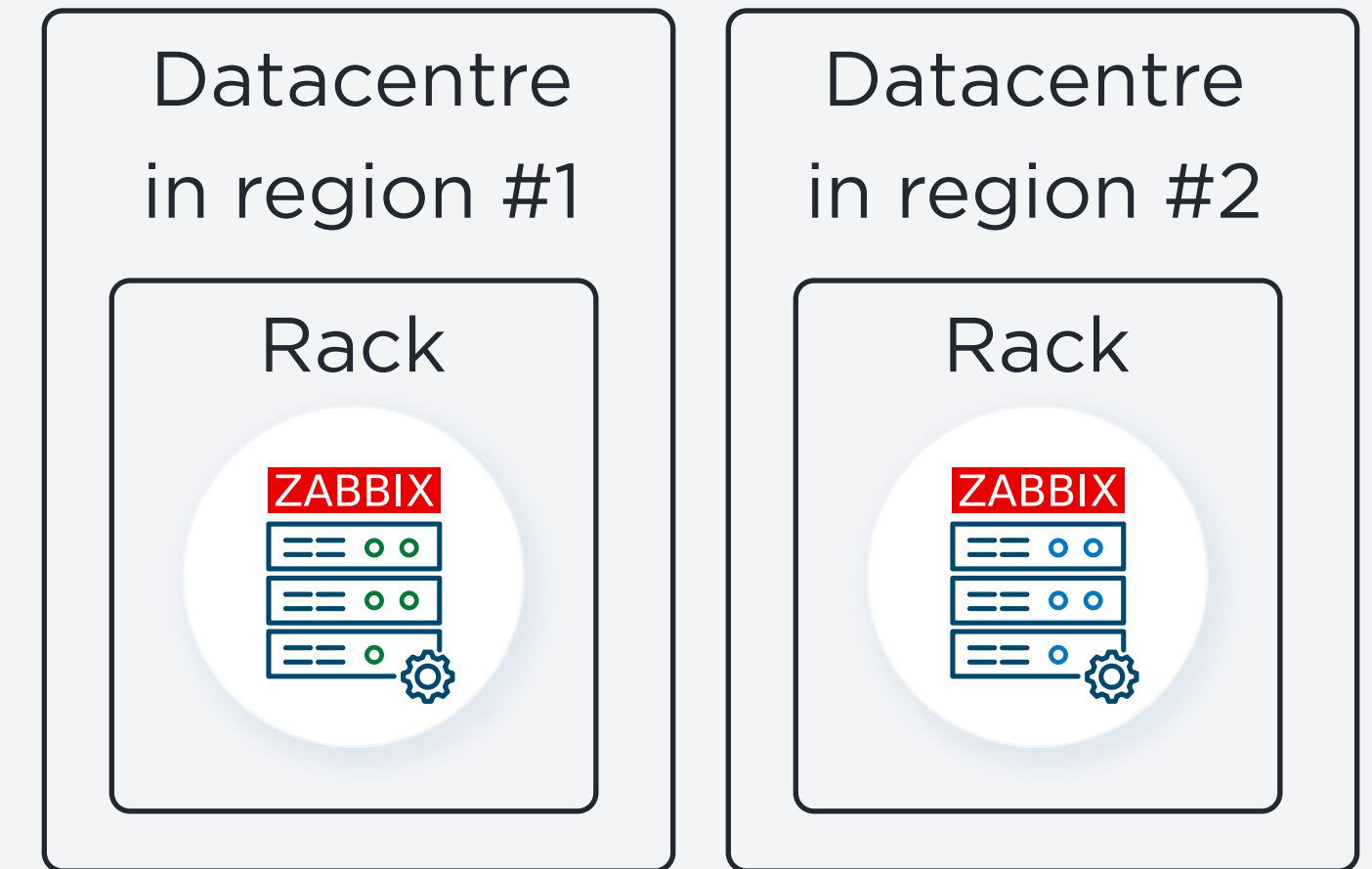
Single rack environment failover in case of:

- Failed server components
- Server failure
- Network connectivity issues



Multiple rack environment failover in case of:

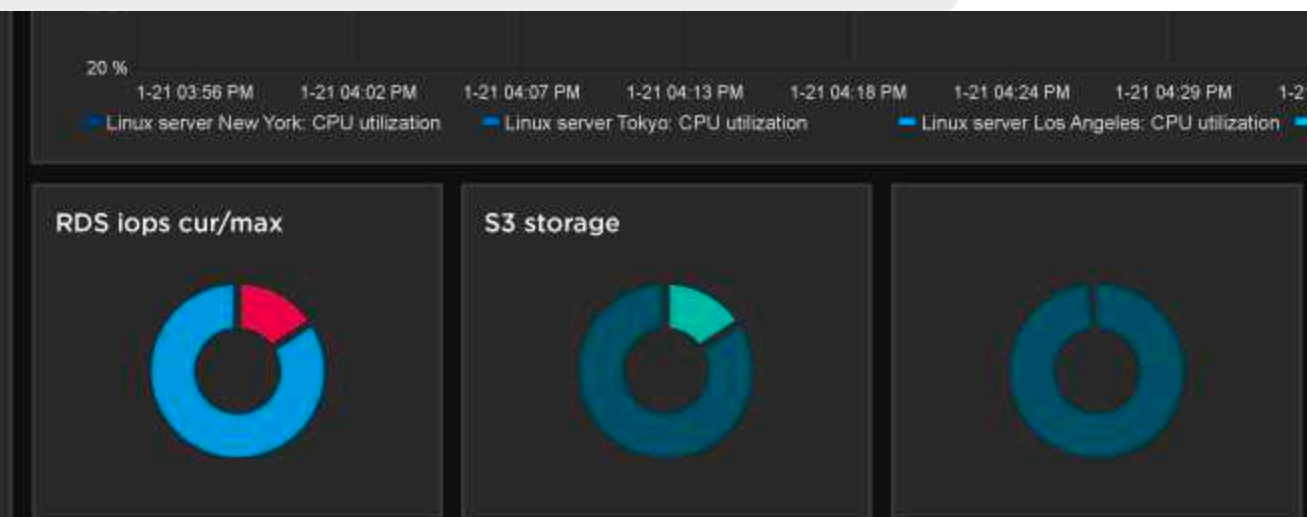
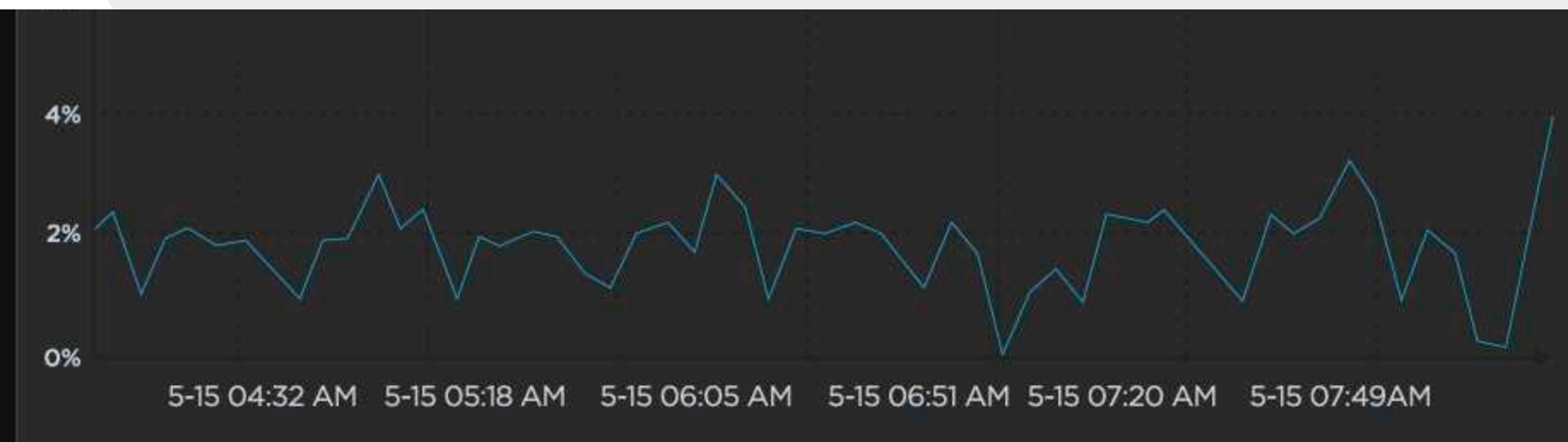
- Failed server components
- Server failure
- Network connectivity issues
- **Rack power distribution failure**



Multi-region failover in case of:

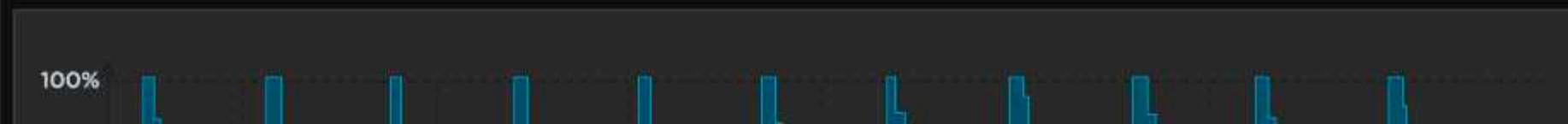
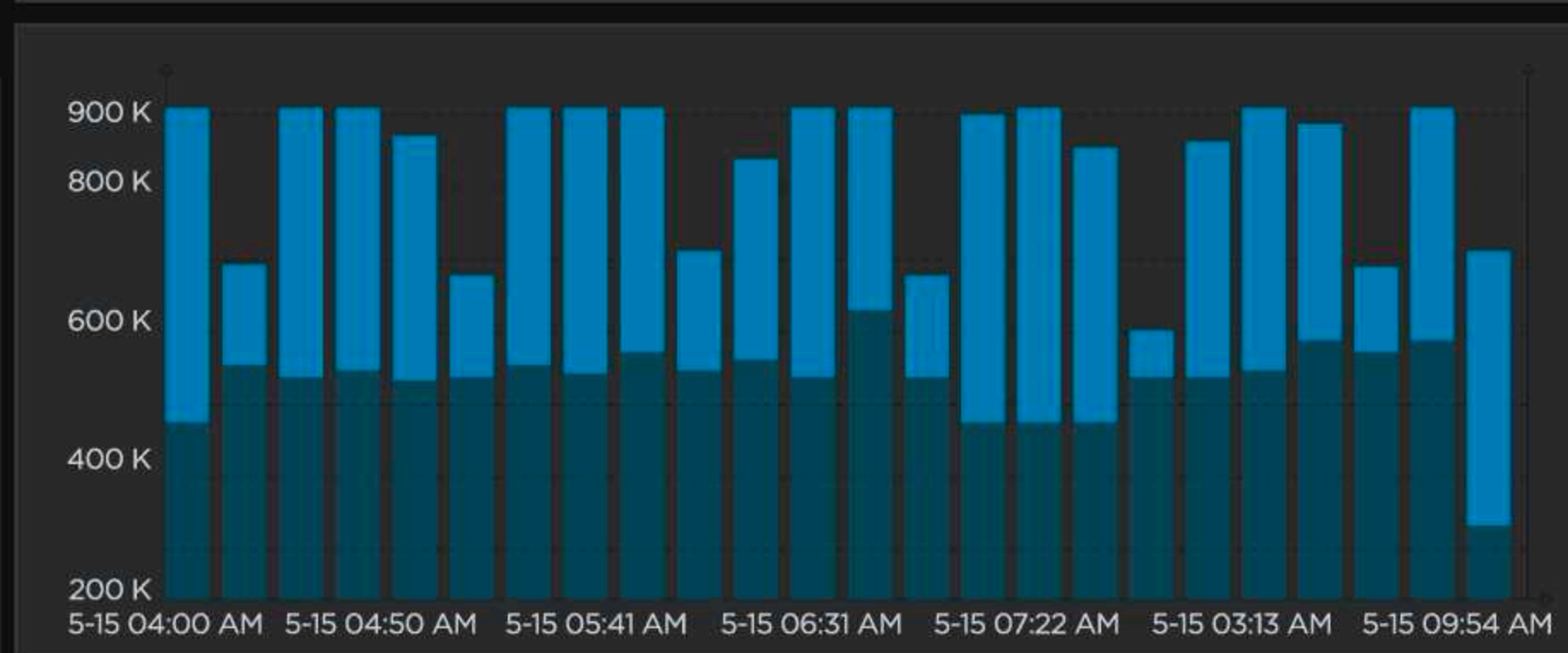
- Failed server components:
- Server failure
- Network connectivity issues
- Rack power distribution failure
- Datacentre cooling system failure
- **Region Datacentre failure**

Zabbix Proxy Groups



Temperature

Items	A1	A5	A4	A3	A2
D1	Alpha	Beta	Gamma	Delta	Epsilon
A2	14.00	2.00	19.00	89.00	16.00
B1	21.00	25.00	24.00	23.00	22.00
B2	25.00	25.00	24.00	23.00	22.00
A1	20.00	20.00	20.00	20.00	20.00
A3	20.00	20.00	20.00	20.00	20.00
C1	20.00	20.00	20.00	20.00	20.00
C2	20.00	20.00	20.00	20.00	20.00
A1	20.00	20.00	20.00	20.00	20.00



Host Card

The Sand Reckoner

Availability: **ZBX** **SNMP** **IPMI** Monitoring

Monitored by: **Nebula Network** Inventory

Type: OS

Serial number A...
MAC address A...

Templates: Linux by Za..., Nebula net..., Template w..., Zabbix serv..., more

class: os class: software environment: production
role: frontend target: linux target: server ...

Zabbix Proxy Groups: Features

ZABBIX



- Natively provides automatic Proxy high availability
- Natively provides automatic load balancing

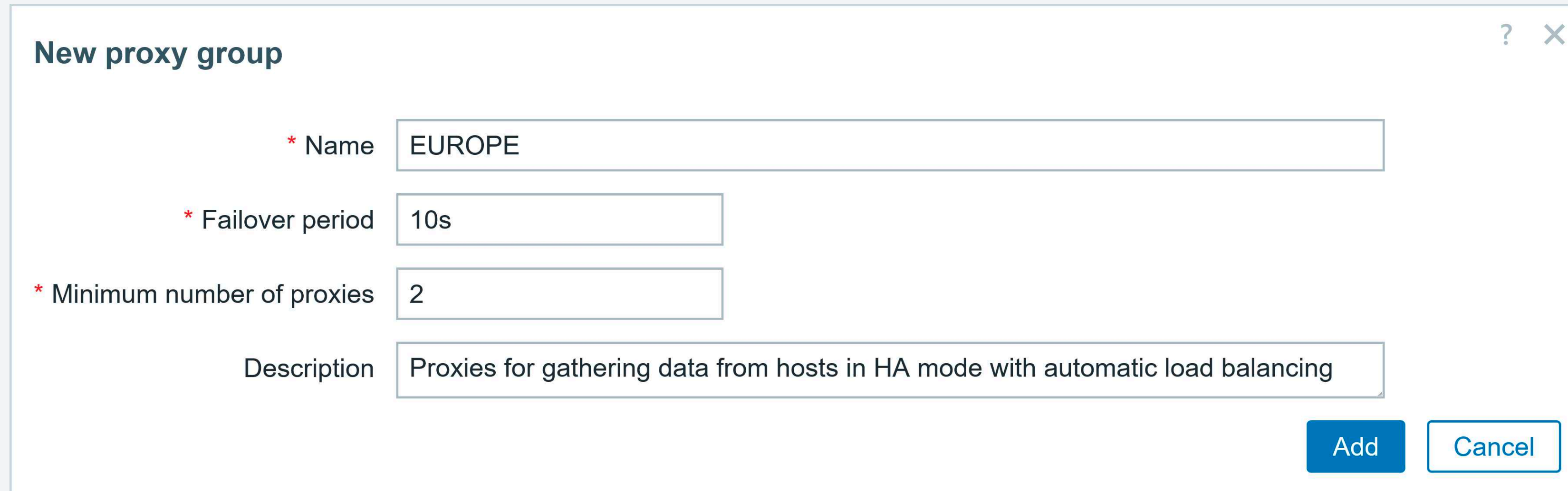
<input type="checkbox"/> Name ▲	State	Failover period	Online proxies	Minimum proxies	Proxies
<input type="checkbox"/> EUROPE	Online	10s	4	2	4 EAST proxy, NORTH proxy, SOUTH proxy, WEST proxy

- Configure in Frontend
- Can add existing proxies or new proxies to the group
- Can add as many proxies to the proxy group as needed

Note: Proxy can be assigned to only one proxy group!
Beware! SNMP traps not supported by proxy group!...

Zabbix Proxy Groups: Configuration

- Create a proxy group in Frontend
- Set proxy group name
- Set the Online Minimum Number of proxies for the group to be online
- Set the failover period (10s to 15 min)



New proxy group ? X

* Name

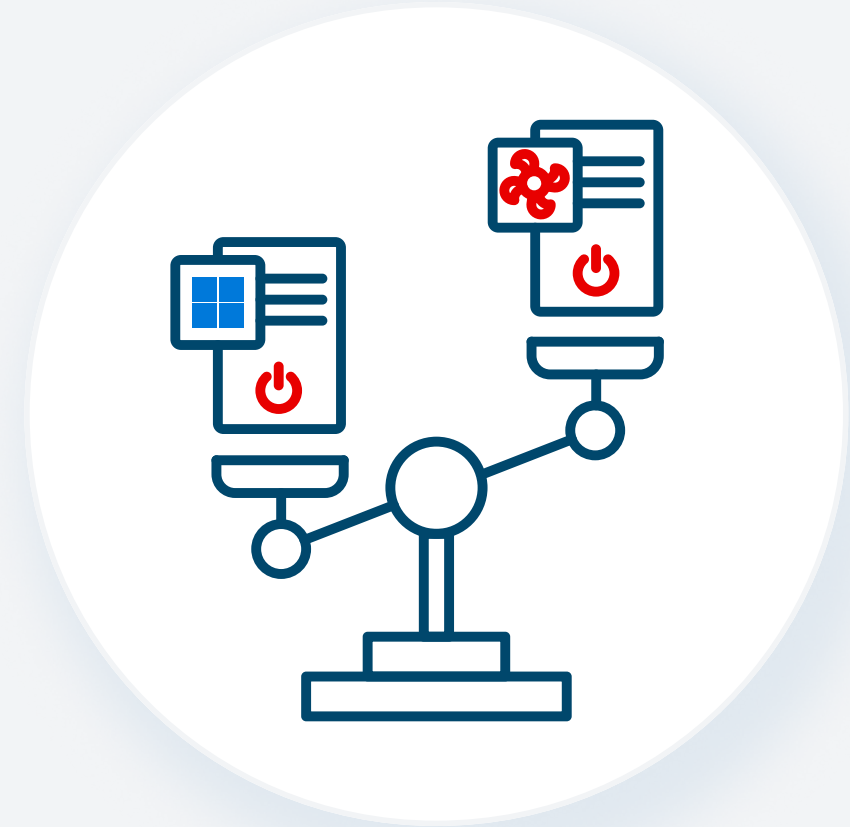
* Failover period

* Minimum number of proxies

Description

Note: The minimum number of online proxies should be less than the proxy total in the group

Zabbix Proxy Groups: Load Balancing



Automatic load balancing (after 10x times the failover period):

- Host monitored by proxy - **No Rebalancing and HA**

Host IPMI Tags Macros Inventory Encryption Value mapping

Monitored by Server Proxy Proxy group

SOUTH proxy X Select

Enabled

- Host monitored by proxy group - **Rebalancing and HA**

Host IPMI Tags Macros Inventory Encryption Value mapping

Monitored by Server Proxy Proxy group

EUROPE X Select

Enabled

Assigned proxy SOUTH proxy

Attention: Hosts monitored by a single proxy (even if it belongs to a proxy group) are not involved in load balancing/high availability.

Zabbix Proxy Groups: Load Balancing



Automatic load balancing:

- Based on the number of hosts (not NVPS)
- Rebalancing will be performed when:
 - The difference is a factor of 2 and
 - The difference is 10 or more hosts from the group's average host count

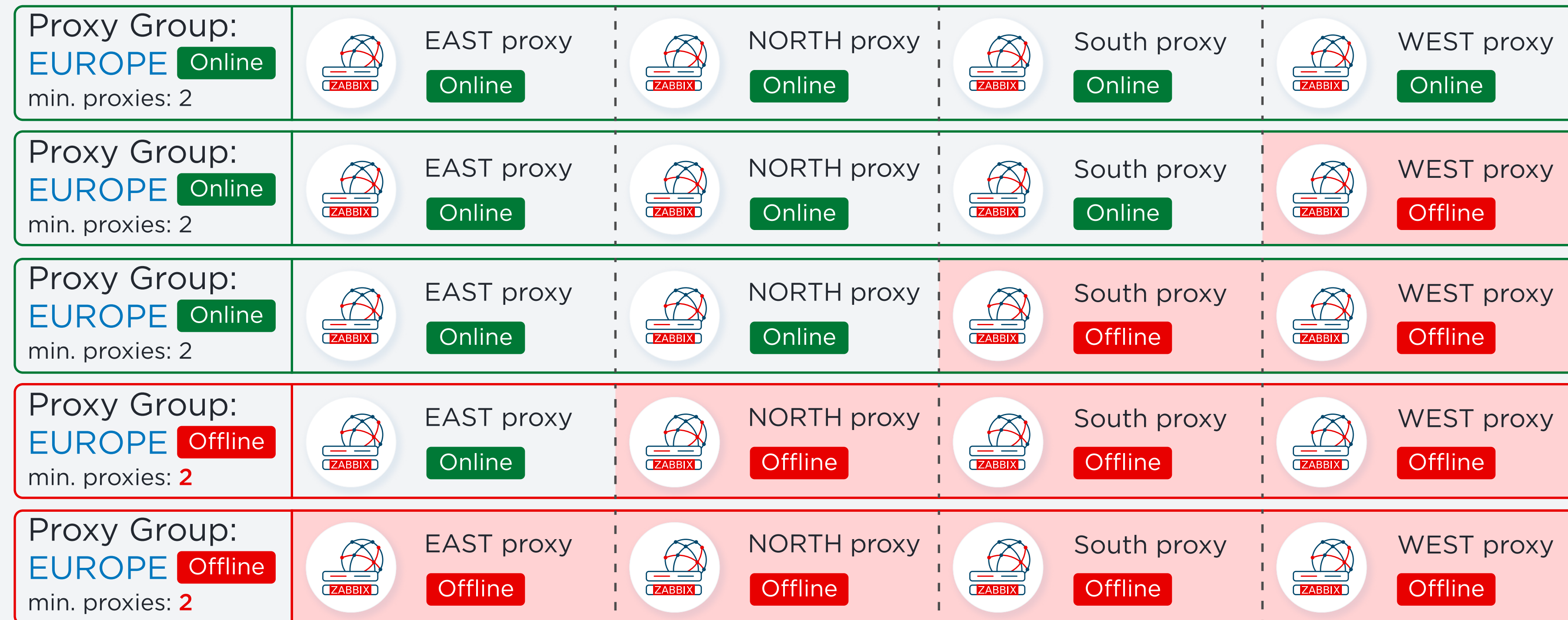
<input type="checkbox"/> Name	Mode	Encryption	State	Version	Last seen (age) ▲	Item count	Required vps	Hosts
<input type="checkbox"/> SOUTH AMERICA: Primary proxy	Active	None	Online	7.4.0	6s	172	2.29	4 Argentina, Brazil, Guyana, Venezuela
<input type="checkbox"/> SOUTH AMERICA: Secondary proxy	Active	None	Online	7.4.0	6s	129	1.72	3 Chile, Colombia, Paraguay
<input type="checkbox"/> SOUTH AMERICA: Tertiary proxy	Active	None	Online	7.4.0	6s	43	0.57	1 Bolivia
<input type="checkbox"/> SOUTH AMERICA: Quaternary proxy	Active	None	Online	7.4.0	6s	43	0.57	1 Ecuador

Attention: Having fewer than 10 hosts assigned to a proxy group may lead to uneven host distribution among proxies in the group

Zabbix Proxy Groups: Offline

When proxy group goes **offline**:

- No HA will be performed for the proxy group
- No load balancing will be performed for the proxy group
- Online proxies will still gather and send the data



Zabbix Proxy Groups: HA



Automatic Proxy HA

- Other proxies from the group will take over hosts from unreachable or offline proxies when rebalancing conditions are met

<input type="checkbox"/> Name ▲	Mode	Encryption	State	Version	Last seen (age)	Item count	Required vps	Hosts
<input type="checkbox"/> EUROPE: EAST proxy	Active	None	Online	7.4.0	2s	730	9.76	10 Andorra, Croatia, Finland, Greece, Ireland, Latvia, Malta, Poland, Serbia, Sweden
<input type="checkbox"/> EUROPE: NORTH proxy	Active	None	Online	7.4.0	3s	730	9.76	10 Austria, Czechia, France, Guernsey, Isle of Man, Liechtenstein, Monaco, Portugal, Slovakia, Switzerland
<input type="checkbox"/> EUROPE: SOUTH proxy	Active	None	Online	7.4.0	3s	730	9.76	10 Belgium, Denmark, Germany, Hungary, Italy, land Islands, Lithuania, Netherlands, Romania, Slovenia
<input type="checkbox"/> EUROPE: WEST proxy	Active	None	Online	7.4.0	3s	730	9.76	10 Albania, Bulgaria, Estonia, Gibraltar, Iceland, Jersey, Luxembourg, Norway, San Marino, Spain

WEST proxy goes **offline**

<input type="checkbox"/> Name ▲	Mode	Encryption	State	Version	Last seen (age)	Item count	Required vps	Hosts
<input type="checkbox"/> EUROPE: EAST proxy	Active	None	Online	7.4.0	5s	949	12.69	13 Andorra, Bulgaria, Croatia, Finland, Gibraltar, Greece, Ireland, Latvia, Malta, Norway, Poland, Serbia, Sweden
<input type="checkbox"/> EUROPE: NORTH proxy	Active	None	Online	7.4.0	6s	949	12.69	13 Albania, Austria, Czechia, Estonia, France, Guernsey, Isle of Man, Liechtenstein, Monaco, Portugal, San Marino, Slovakia, Switzerland
<input type="checkbox"/> EUROPE: SOUTH proxy	Active	None	Online	7.4.0	6s	1022	13.66	14 Belgium, Denmark, Germany, Hungary, Iceland, Italy, Jersey, land Islands, Lithuania, Luxembourg, Netherlands, Romania, Slovenia, Spain
<input type="checkbox"/> EUROPE: WEST proxy	Active	None	Offline	7.4.0	22s	0	0	

Zabbix Proxy Groups: HA



Once proxies go below minimum number of proxies set in group:

- No HA and load balancing will be performed
- Offline proxies are not sending collected metrics: no metrics; no notifications if issue appears with those hosts

<input type="checkbox"/> Name ▲	Mode	Encryption	State	Version	Last seen (age)	Item count	Required vps	Hosts
<input type="checkbox"/> EUROPE: EAST proxy	Active	None	Online	7.4.0	5s	949	12.69	13 Andorra, Bulgaria, Croatia, Finland, Gibraltar, Greece, Ireland, Latvia, Malta, Norway, Poland, Serbia, Sweden
<input type="checkbox"/> EUROPE: NORTH proxy	Active	None	Online	7.4.0	6s	949	12.69	13 Albania, Austria, Czechia, Estonia, France, Guernsey, Isle of Man, Liechtenstein, Monaco, Portugal, San Marino, Slovakia, Switzerland
<input type="checkbox"/> EUROPE: SOUTH proxy	Active	None	Online	7.4.0	6s	1022	13.66	14 Belgium, Denmark, Germany, Hungary, Iceland, Italy, Jersey, land Islands, Lithuania, Luxembourg, Netherlands, Romania, Slovenia, Spain
<input type="checkbox"/> EUROPE: WEST proxy	Active	None	Offline	7.4.0	22s	0	0	

↓ SOUTH proxy goes offline

<input type="checkbox"/> Name ▲	Mode	Encryption	State	Version	Last seen (age)	Item count	Required vps	Hosts
<input type="checkbox"/> EUROPE: EAST proxy	Active	None	Online	7.4.0	7s	1460	19.52	20 Andorra, Bulgaria, Croatia, Denmark, Finland, Germany, Gibraltar, Greece, Iceland, Ireland, Italy, Jersey, land Islands, Latvia, Malta, Norway, Poland, Romania, Serbia, Sweden
<input type="checkbox"/> EUROPE: NORTH proxy	Active	None	Online	7.4.0	6s	1460	19.52	20 Albania, Austria, Belgium, Czechia, Estonia, France, Guernsey, Hungary, Isle of Man, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, Portugal, San Marino, Slovakia, Slovenia, Spain, Switzerland
<input type="checkbox"/> EUROPE: SOUTH proxy	Active	None	Offline	7.4.0	20s	0	0	
<input type="checkbox"/> EUROPE: WEST proxy	Active	None	Offline	7.4.0	1m 17s	0	0	

Zabbix Proxy Groups: HA



Once proxies go below minimum number of proxies set in group:

- No HA and load balancing will be performed
- Offline proxies are not sending collected metrics: no metrics; no notifications if issue appears with those hosts

<input type="checkbox"/> Name ▲	Mode	Encryption	State	Version	Last seen (age)	Item count	Required vps	Hosts
<input type="checkbox"/> EUROPE: EAST proxy	Active	None	Online	7.4.0	7s	1460	19.52	20 Andorra, Bulgaria, Croatia, Denmark, Finland, Germany, Gibraltar, Greece, Iceland, Ireland, Italy, Jersey, land Islands, Latvia, Malta, Norway, Poland, Romania, Serbia, Sweden
<input type="checkbox"/> EUROPE: NORTH proxy	Active	None	Online	7.4.0	6s	1460	19.52	20 Albania, Austria, Belgium, Czechia, Estonia, France, Guernsey, Hungary, Isle of Man, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, Portugal, San Marino, Slovakia, Slovenia, Spain, Switzerland
<input type="checkbox"/> EUROPE: SOUTH proxy	Active	None	Offline	7.4.0	20s	0	0	
<input type="checkbox"/> EUROPE: WEST proxy	Active	None	Offline	7.4.0	1m 17s	0	0	

↓ NORTH proxy goes **offline** - proxy group offline

<input type="checkbox"/> Name ▲	Mode	Encryption	State	Version	Last seen (age)	Item count	Required vps	Hosts
<input type="checkbox"/> EUROPE: EAST proxy	Active	None	Online	7.4.0	2s	1460	19.52	20 Andorra, Bulgaria, Croatia, Denmark, Finland, Germany, Gibraltar, Greece, Iceland, Ireland, Italy, Jersey, land Islands, Latvia, Malta, Norway, Poland, Romania, Serbia, Sweden
<input type="checkbox"/> EUROPE: NORTH proxy	Active	None	Offline	7.4.0	30s	1460	19.52	20 Albania, Austria, Belgium, Czechia, Estonia, France, Guernsey, Hungary, Isle of Man, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, Portugal, San Marino, Slovakia, Slovenia, Spain, Switzerland
<input type="checkbox"/> EUROPE: SOUTH proxy	Active	None	Offline	7.4.0	1m 22s	0	0	
<input type="checkbox"/> EUROPE: WEST proxy	Active	None	Offline	7.4.0	2m 19s	0	0	

Zabbix Proxy Groups: HA



Once proxies go below minimum number of proxies set in group:

- No HA and load balancing will be performed
- Offline proxies are not sending collected metrics: no metrics; no notifications if issue appears with those hosts
- **Online proxy/proxies are still sending collected metrics from the assigned hosts**

<input type="checkbox"/> Name ▲	Mode	Encryption	State	Version	Last seen (age)	Item count	Required vps	Hosts
<input type="checkbox"/> EUROPE: EAST proxy	Active	None	Online	7.4.0	2s	1460	19.52	20 Andorra Bulgaria, Croatia, Denmark, Finland, Germany, Gibraltar, Greece, Iceland, Ireland, Italy, Jersey, land Islands, Latvia, Malta, Norway, Poland, Romania, Serbia, Sweden

<input type="checkbox"/> Host	Name ▲	Last check	Last value	Change	Tags	Info
<input type="checkbox"/> Andorra	Available memory ?	30s	5.28 GB	+6.93 MB	component: memory	Graph
<input type="checkbox"/> Andorra	Available memory in % ?	29s	70.4005 %	+0.09568 %	component: memory	Graph
<input type="checkbox"/> Andorra	Checksum of /etc/passwd	5m 32s	51357d6a581cc89f5...		component: security	History
<input type="checkbox"/> Andorra	Context switches per second ?	54s	6003.2236	+79.6633	component: cpu	Graph
<input type="checkbox"/> Andorra	CPU guest nice time ?	52s	0 %		component: cpu	Graph
<input type="checkbox"/> Andorra	CPU guest time ?	53s	0 %		component: cpu	Graph

Zabbix Proxy Groups: Added Proxy



Proxy group (min 2 proxies):

- Groups Average = 8
- BACKUP proxy: newly added
 - Difference of ≥ 10 hosts &
 - Difference is a factor of 2 (2 times less or more) than the groups average

<input type="checkbox"/> Name ▲	Mode	Encryption	State	Version	Last seen (age)	Item count	Required vps	Hosts
<input type="checkbox"/> EUROPE: BACKUP proxy	Active	None	Unknown		Never	0	0	
<input type="checkbox"/> EUROPE: EAST proxy	Active	None	Online	7.4.0	1s	730	9.76	10 Andorra, Croatia, Finland, Greece, Ireland, Latvia, Malta, Poland, Serbia, Sweden
<input type="checkbox"/> EUROPE: NORTH proxy	Active	None	Online	7.4.0	1s	730	9.76	10 Austria, Czechia, France, Guernsey, Isle of Man, Liechtenstein, Monaco, Portugal, Slovakia, Switzerland
<input type="checkbox"/> EUROPE: SOUTH proxy	Active	None	Online	7.4.0	1s	730	9.76	10 Belgium, Denmark, Germany, Hungary, Italy, land Islands, Lithuania, Netherlands, Romania, Slovenia
<input type="checkbox"/> EUROPE: WEST proxy	Active	None	Online	7.4.0	0	730	9.76	10 Albania, Bulgaria, Estonia, Gibraltar, Iceland, Jersey, Luxembourg, Norway, San Marino, Spain



After 10x failover period

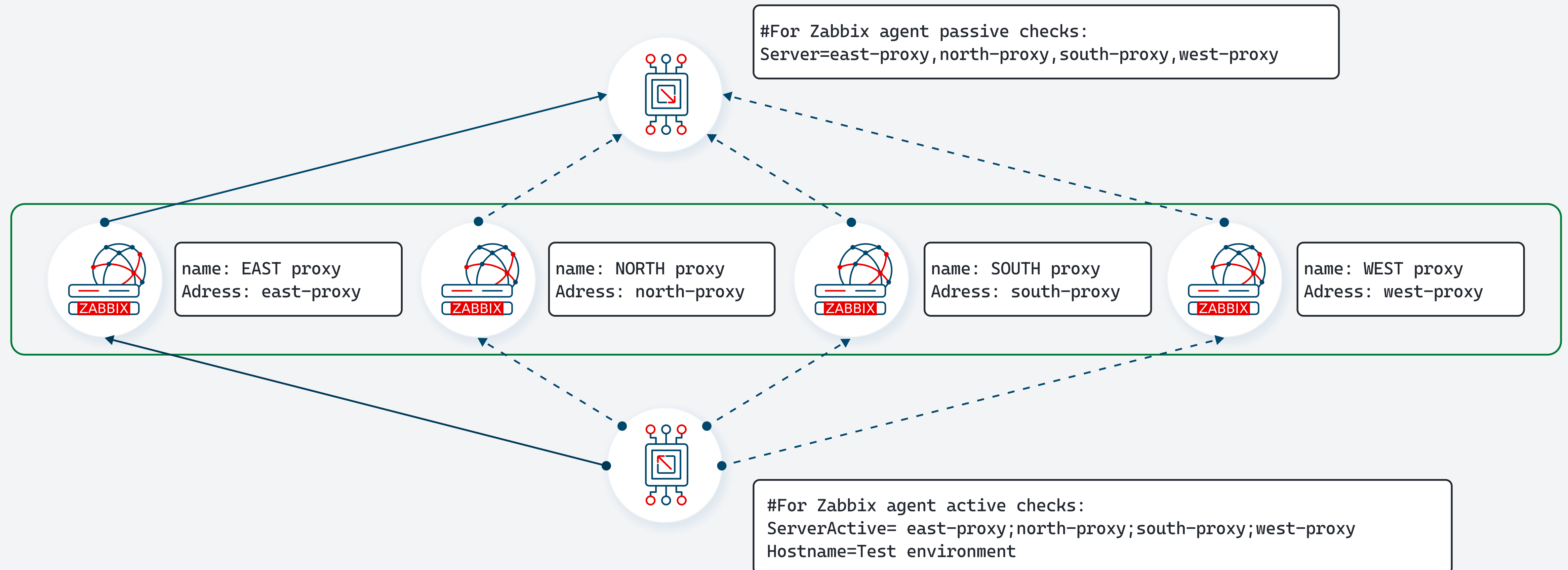
<input type="checkbox"/> Name ▲	Mode	Encryption	State	Version	Last seen (age)	Item count	Required vps	Hosts
<input type="checkbox"/> EUROPE: BACKUP proxy	Active	None	Online	7.4.0	5s	584	7.81	8 Austria, Estonia, Finland, Germany, Poland, Portugal, Slovenia, Spain
<input type="checkbox"/> EUROPE: EAST proxy	Active	None	Online	7.4.0	6s	584	7.81	8 Andorra, Croatia, Greece, Ireland, Latvia, Malta, Serbia, Sweden
<input type="checkbox"/> EUROPE: NORTH proxy	Active	None	Online	7.4.0	6s	584	7.81	8 Czechia, France, Guernsey, Isle of Man, Liechtenstein, Monaco, Slovakia, Switzerland
<input type="checkbox"/> EUROPE: SOUTH proxy	Active	None	Online	7.4.0	6s	584	7.81	8 Belgium, Denmark, Hungary, Italy, land Islands, Lithuania, Netherlands, Romania
<input type="checkbox"/> EUROPE: WEST proxy	Active	None	Online	7.4.0	6s	584	7.81	8 Albania, Bulgaria, Gibraltar, Iceland, Jersey, Luxembourg, Norway, San Marino

Rebalanced

Zabbix Proxy Groups: Considerations

Make sure that all of the Zabbix Proxy group proxies will be able to gather the data:

- Firewall rules
- Zabbix agent configuration parameters



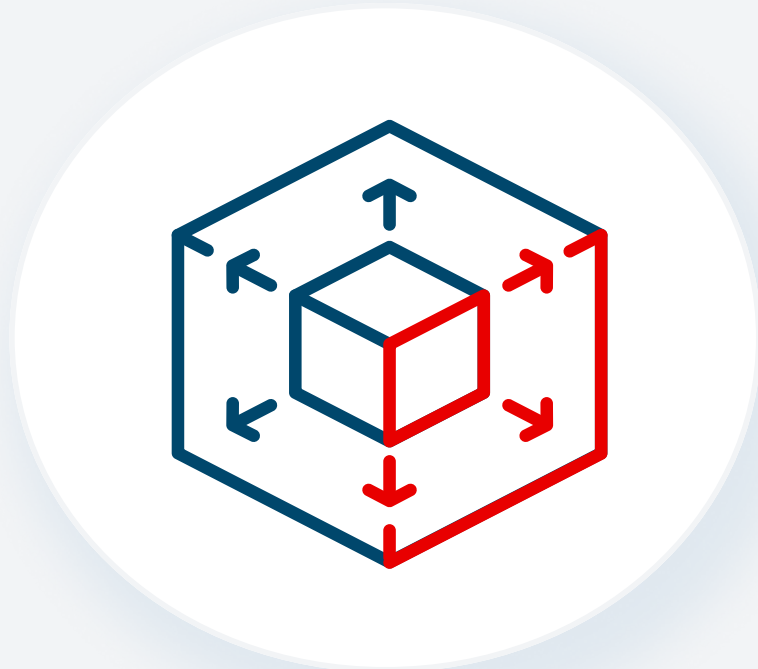
Zabbix Proxy Groups: Use Cases

ZABBIX



Infrastructure growth

- Shift load from Zabbix server to proxies in proxy groups)
 - Automatic high availability
 - Automatic load balancing
 - Simplified configuration and management
 - Scale up proxies as needed



Monitoring performance increase for short, high intensity events

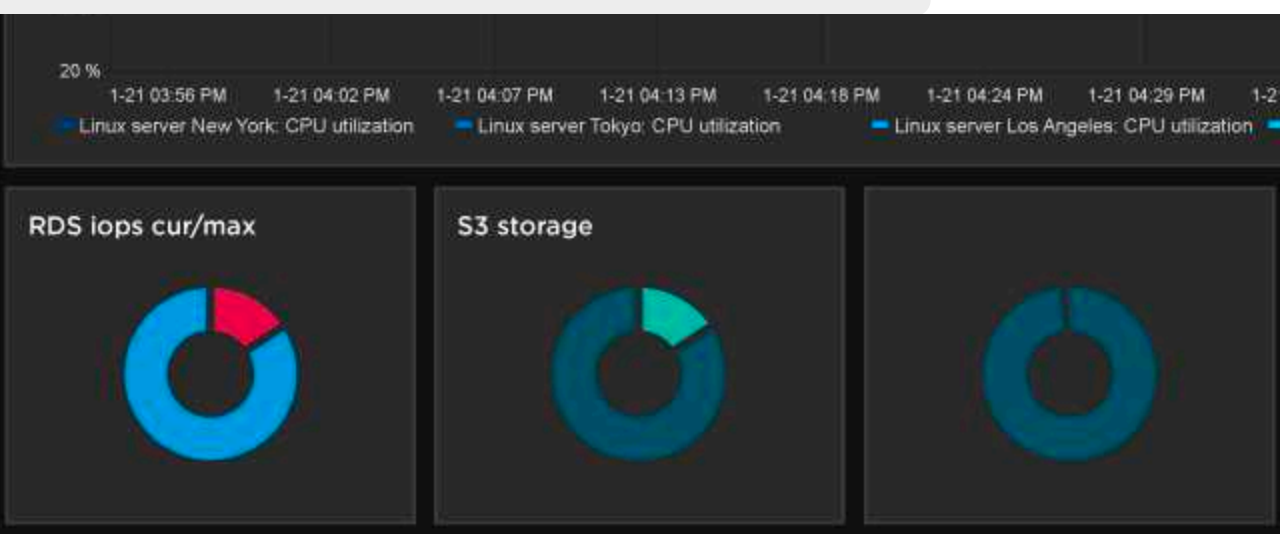
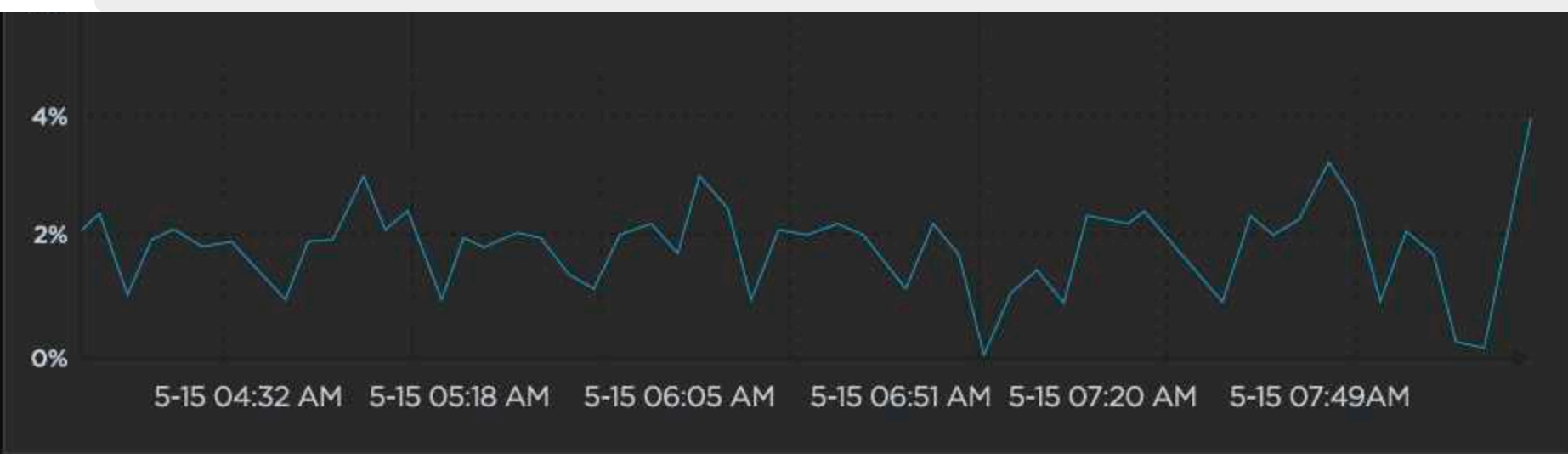
- Monitor rented HaaS or SaaS for:
 - Conferences
 - Seasonal retail sales spikes
 - Festivals



Scale out dynamically with assurances of continued monitoring:

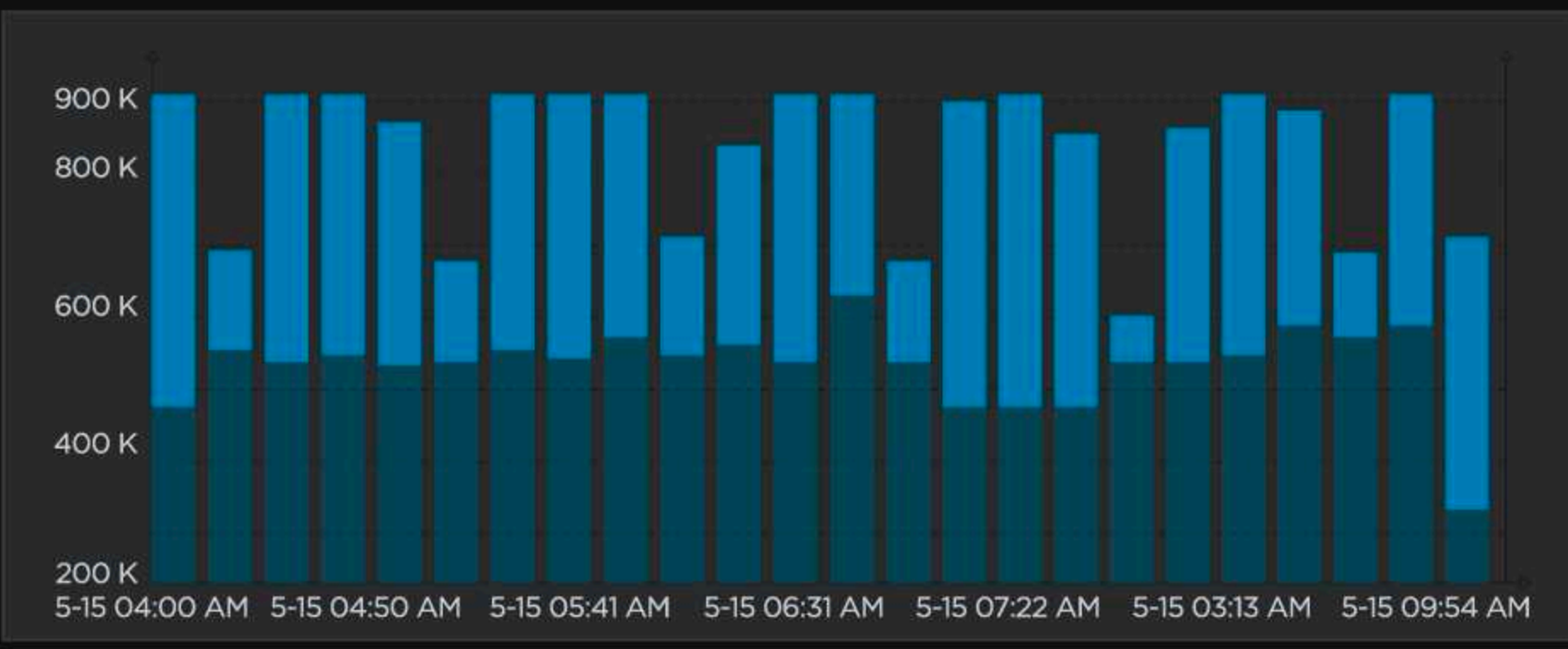
- Collect data from office branches or franchises

Frontend and Database



Temperature

Items	A1	A5	A4	A3	A2
D1	Alpha	Beta	Gamma	Delta	Epsilon
A2	14.00	2.00	19.00	89.00	16.00
B1	21.00	25.00	24.00	23.00	22.00
B2	25.00	25.00	24.00	23.00	22.00
A1	20.00	20.00	20.00	20.00	20.00
A3	20.00	20.00	20.00	20.00	20.00
C1	20.00	20.00	20.00	20.00	20.00
C2	20.00	20.00	20.00	20.00	20.00
A1	20.00	20.00	20.00	20.00	20.00



Host Card

The Sand Reckoner

Availability: **ZBX** **SNMP** **IPMI** Monitoring

Monitored by: **Nebula Network** Inventory

Templates: Linux by Za..., Nebula net..., Template w..., Zabbix serv..., more

Type: OS

Serial number A

MAC address A

class: os class: software environment: production
role: frontend target: linux target: server ...



High Availability for Zabbix Frontend

ZABBIX

Zabbix Frontend HA is easy to achieve:

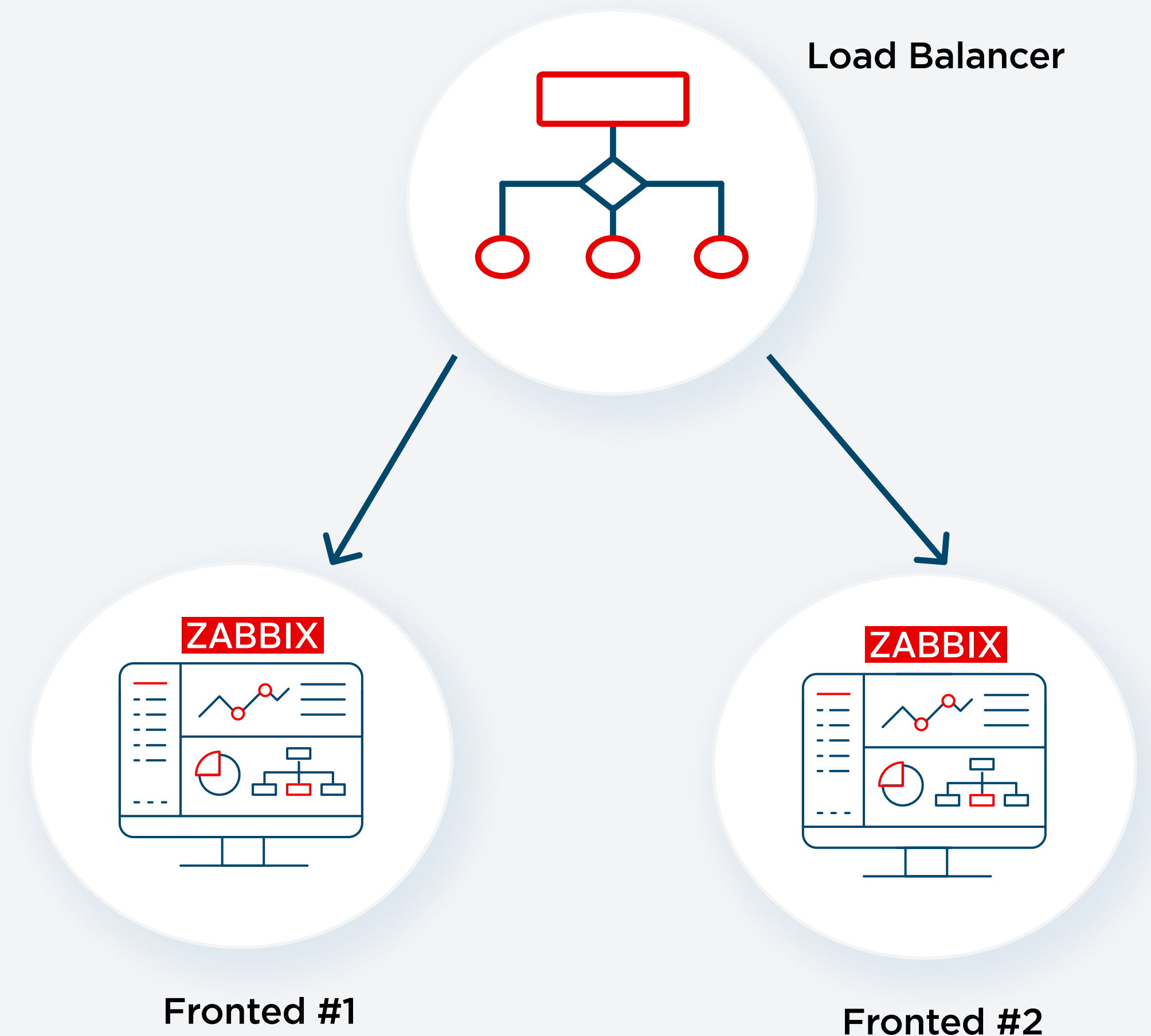
- No clustering needed, just multiple instances
- No failover needed, just switchover
- Load balance
- All the data are in the database (including session data)

Most common solutions:

- Multiple Frontend instances with Virtual IP
- Load Balancer (consider sticky sessions)

Good to remember:

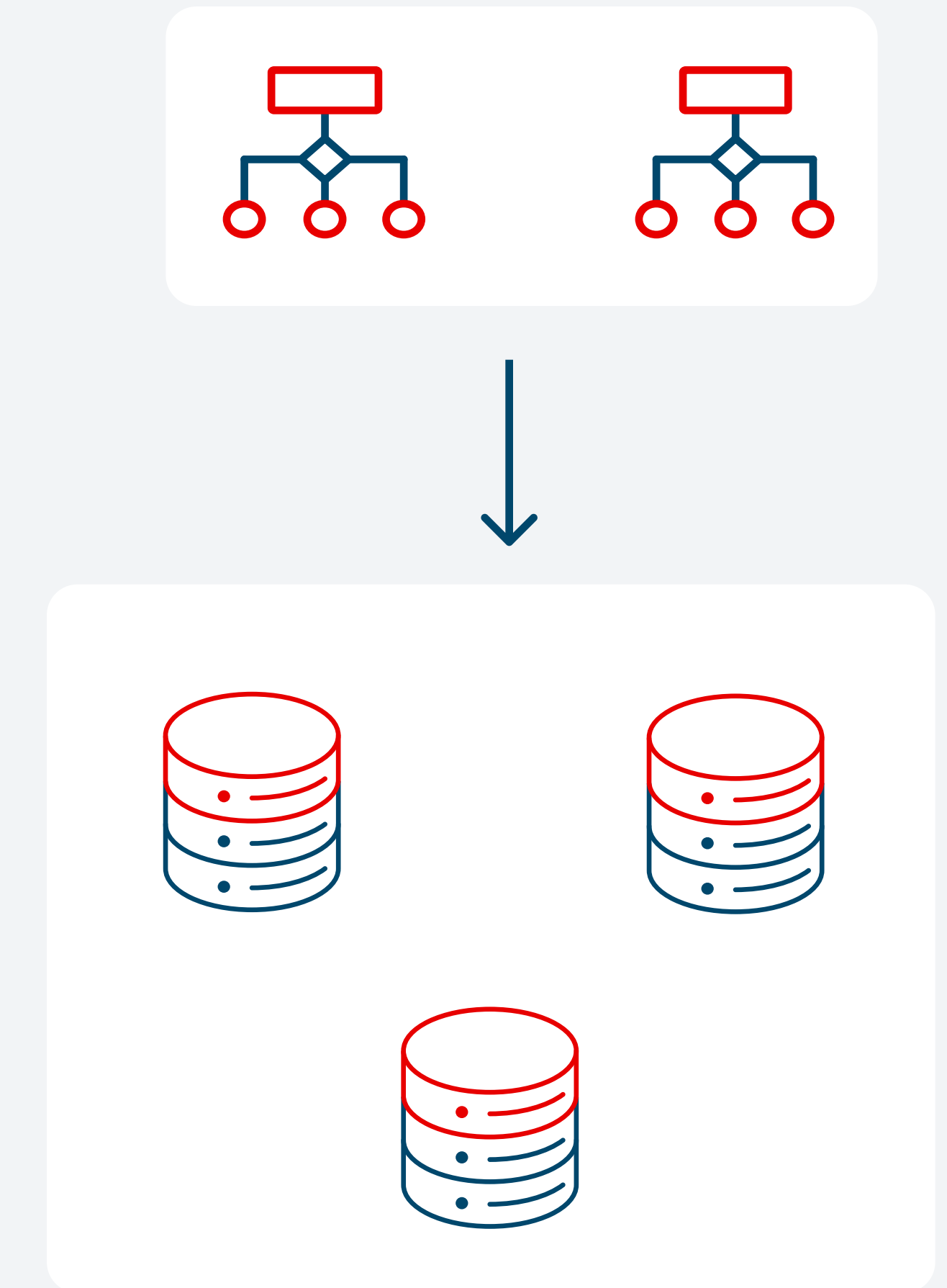
- Keep configuration files consistent across instances



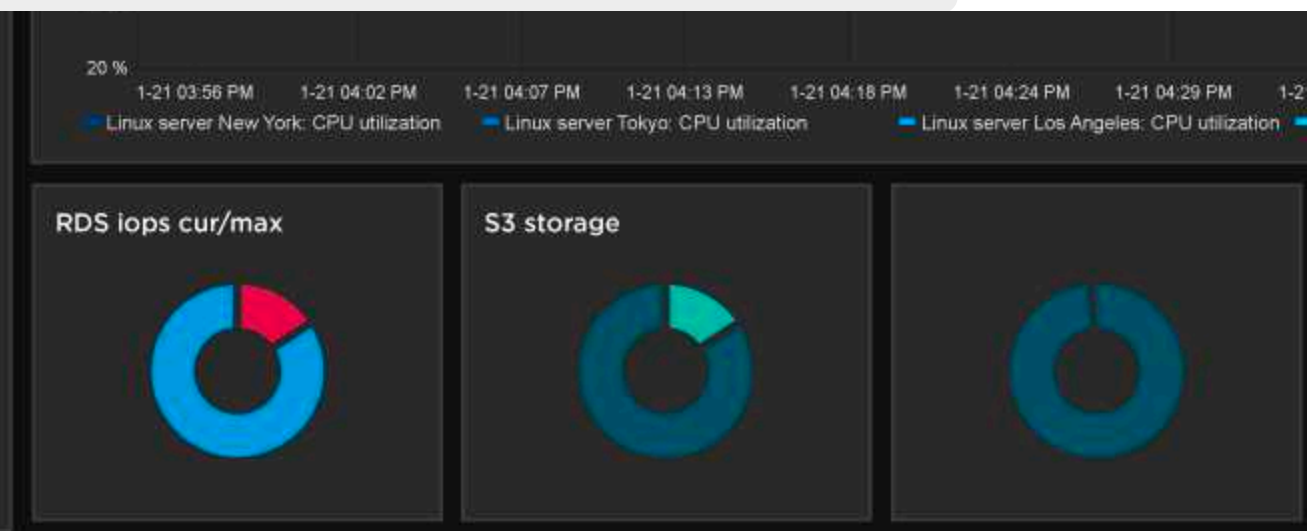
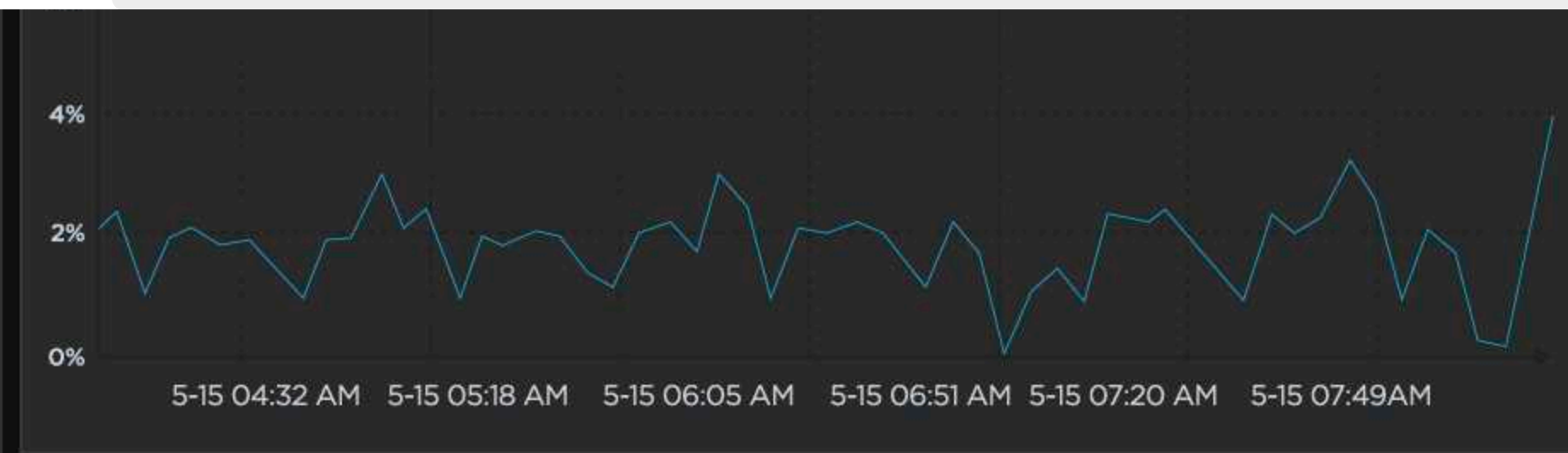
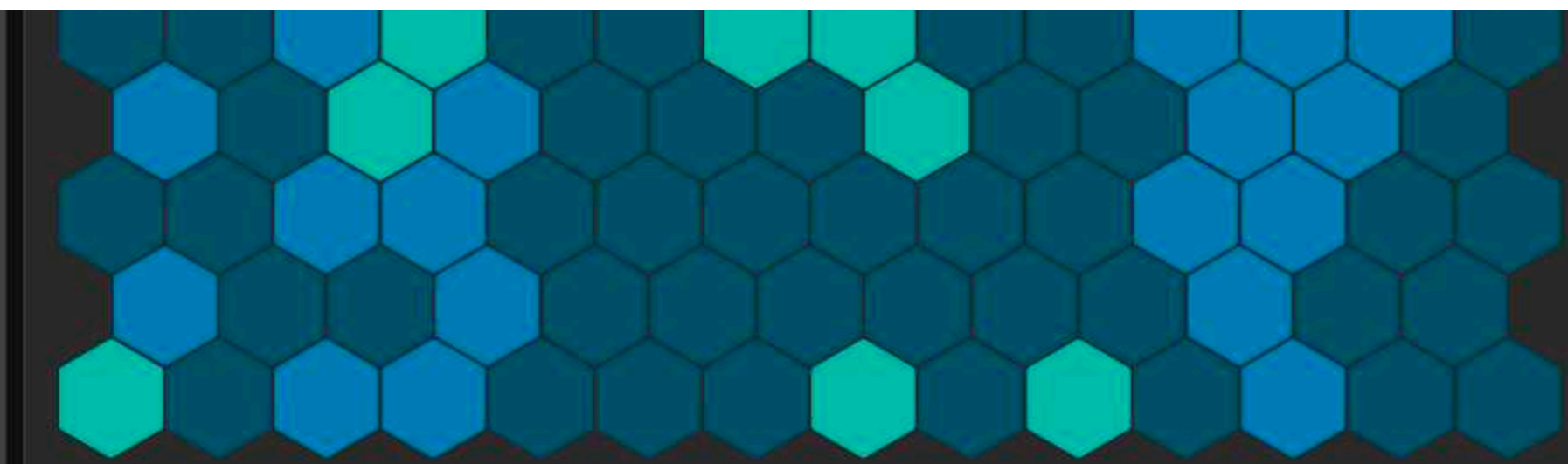
Database HA: Considerations

ZABBIX

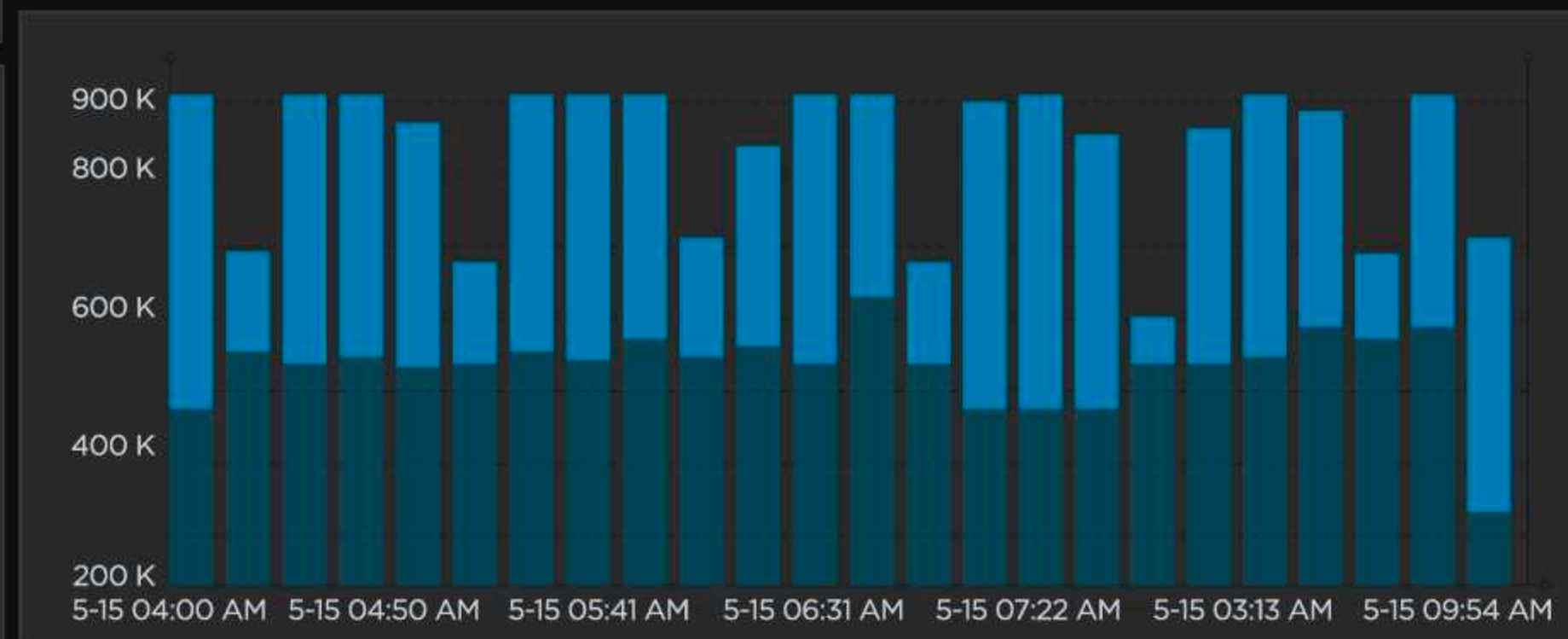
- Zabbix Server HA is based on database:
"Active and standby nodes update their last access time every 5 seconds"
- Database HA is key for sever database
- Supported DB solutions:
 - MySQL/MariaDB
 - Postgres/TimescaleDB
- Most HA solutions are based on 3 DB nodes (quorum)
- Multiple options in the market:
 - InnoDB Cluster
 - Galera Cluster
 - Patroni
- Choose what you know, no absolute best
- **Remember: Replication is NOT HA!**



The Full HA Picture



Temperature						
Items	A1	A5	A4	A3	A2	
D1	Alpha	Beta	Gamma	Delta	Epsilon	
A2	14.00	2.00	19.00	89.00	16.00	
B1	21.00	25.00	24.00	23.00	22.00	
B2	25.00	25.00	24.00	23.00	22.00	
A1	20.00	20.00	20.00	20.00	20.00	
A3	20.00	20.00	20.00	20.00	20.00	
C1	20.00	20.00	20.00	20.00	20.00	
C2	20.00	20.00	20.00	20.00	20.00	
A1	20.00	20.00	20.00	20.00	20.00	



Host Card

The Sand Reckoner

Availability: **ZBX** **SNMP** **IPMI** Monitoring

Monitored by: **Nebula Network** Inventory

Templates: Linux by Za..., Nebula net..., Template w..., Zabbix serv..., more

Type: OS

Serial number A

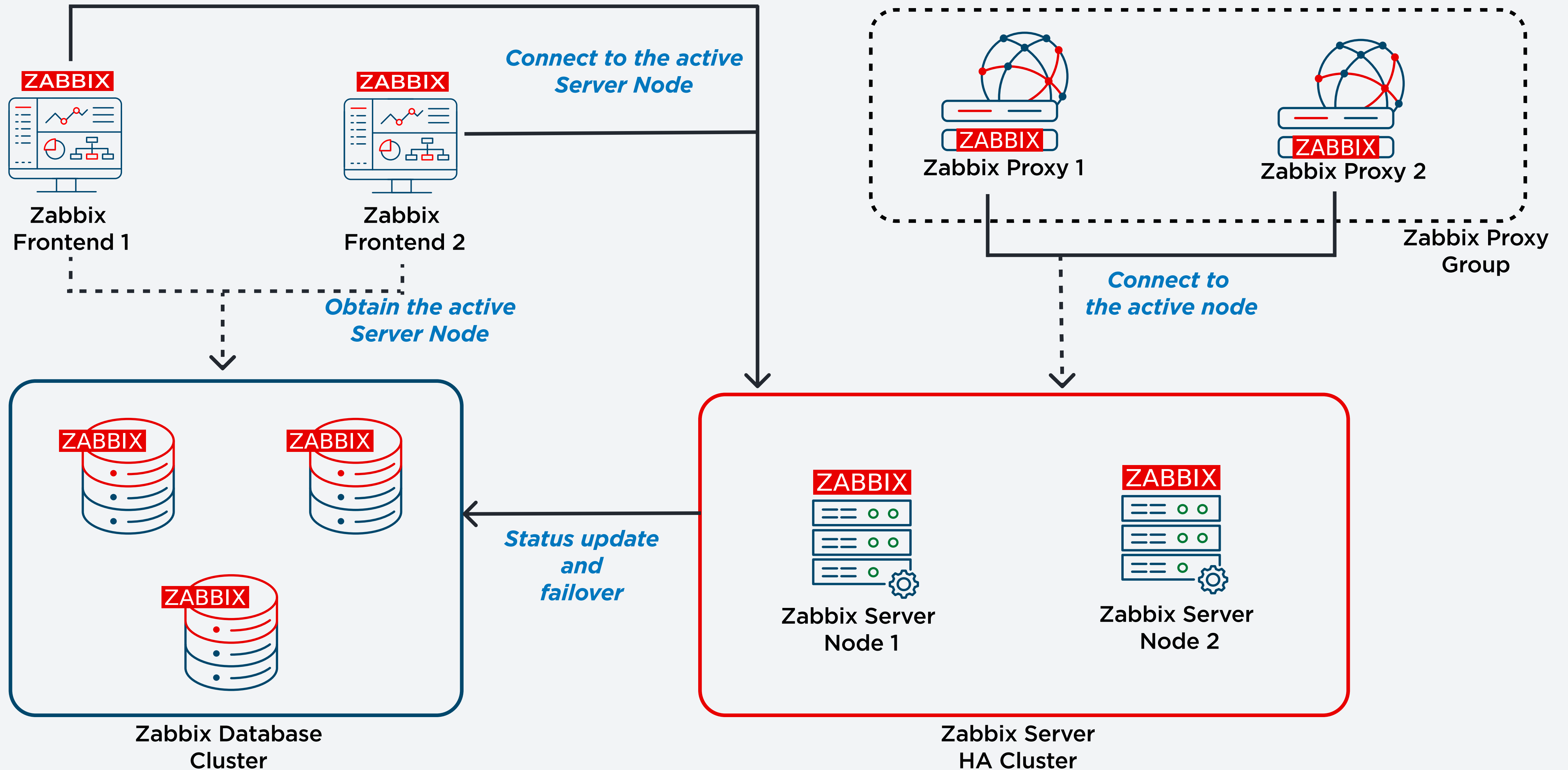
MAC address A

class: os class: software environment: production

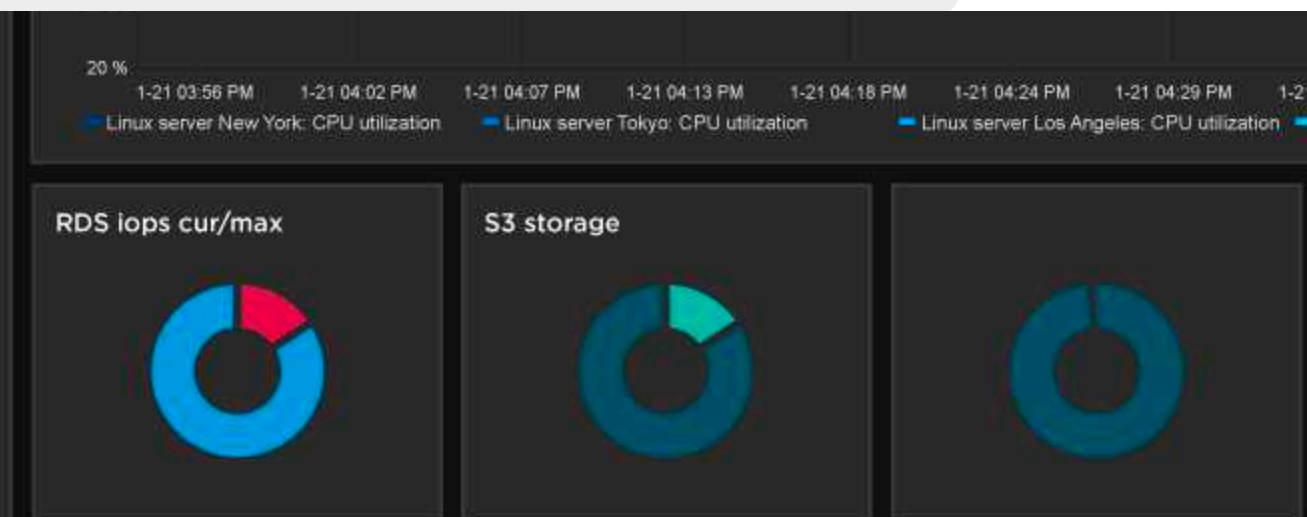
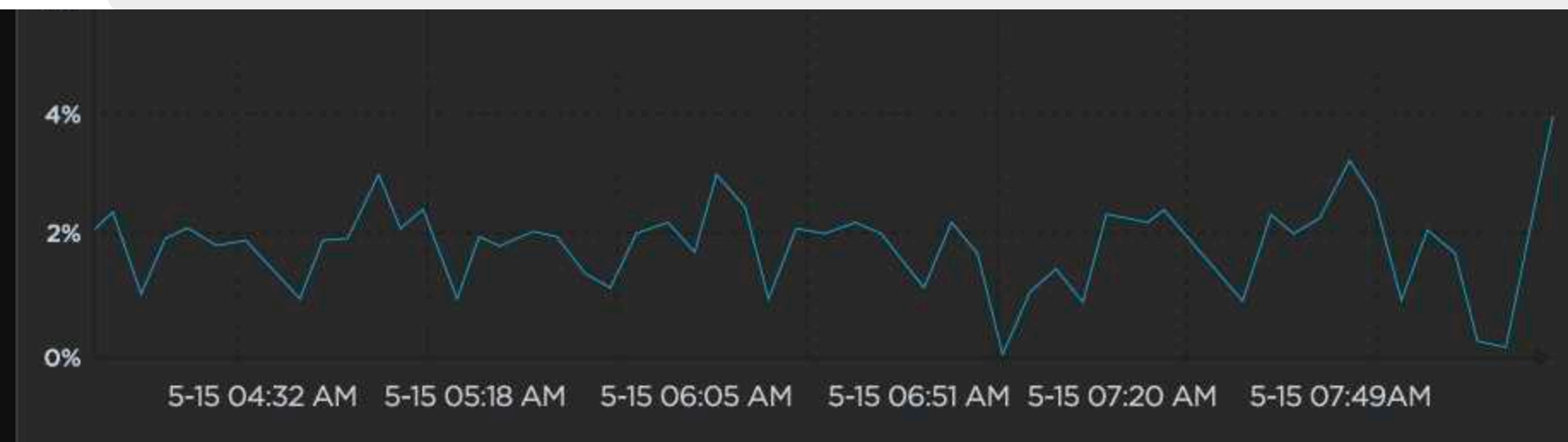
role: frontend target: linux target: server ...

Comprehensive HA Architecture

ZABBIX

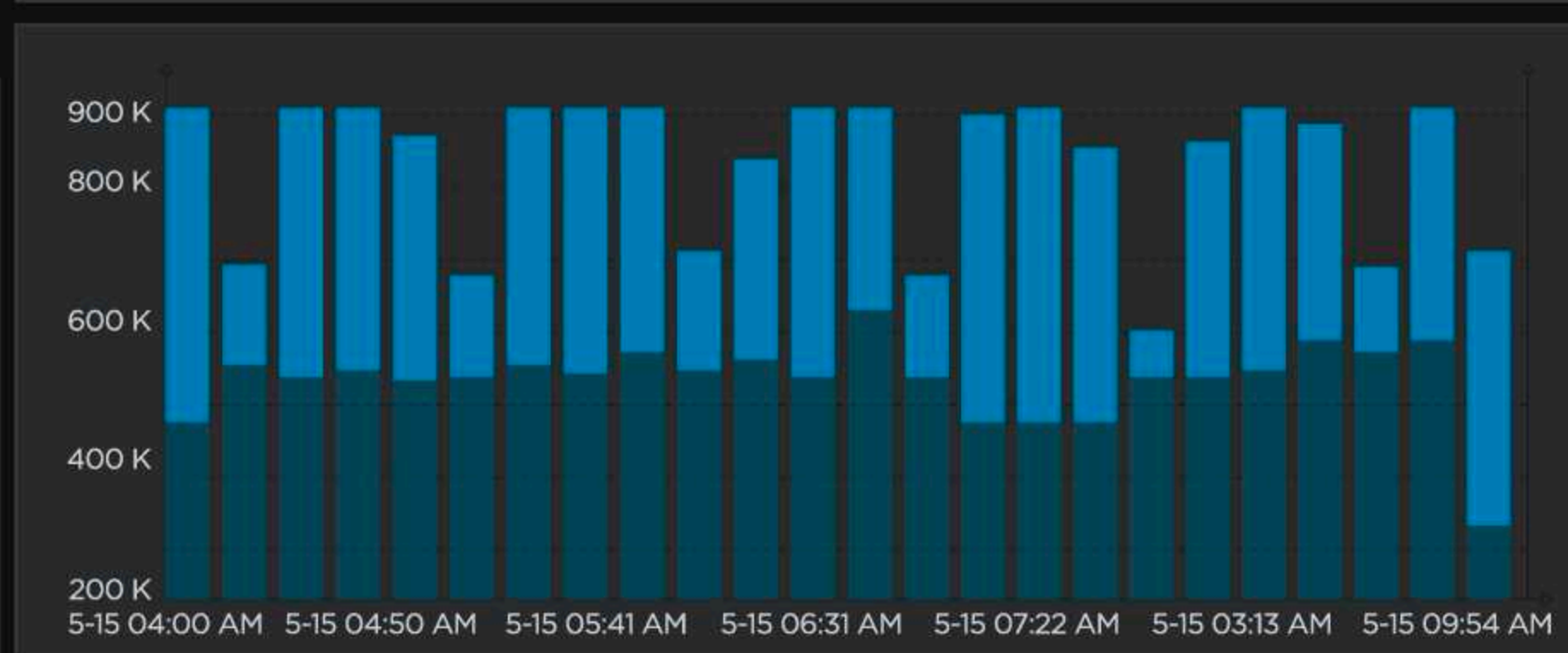


Questions?



Temperature

Items	A1	A5	A4	A3	A2
D1	Alpha	Beta	Gamma	Delta	Epsilon
A2	14.00	2.00	19.00	89.00	16.00
B1	21.00	25.00	24.00	23.00	22.00
B2	25.00	25.00	24.00	23.00	22.00
A1	20.00	20.00	20.00	20.00	20.00
A3	20.00	20.00	20.00	20.00	20.00
C1	20.00	20.00	20.00	20.00	20.00
C2	20.00	20.00	20.00	20.00	20.00
A1	20.00	20.00	20.00	20.00	20.00



Host Card

The Sand Reckoner

Availability **ZBX** **SNMP** **IPMI** Monitoring

Monitored by [Nebula Network](#) [Inventory](#)

Type OS

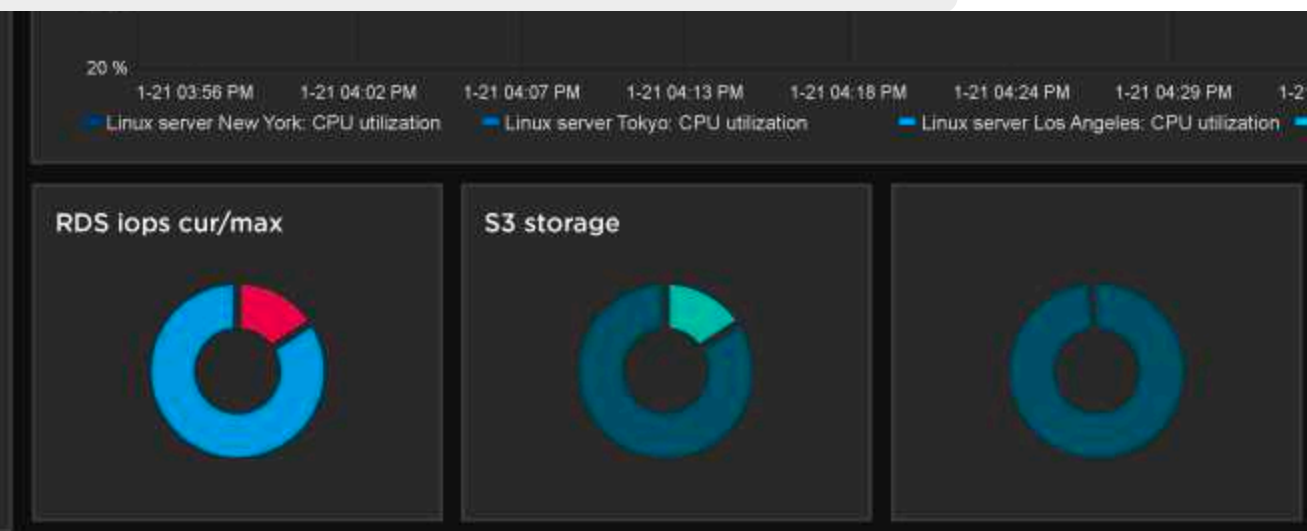
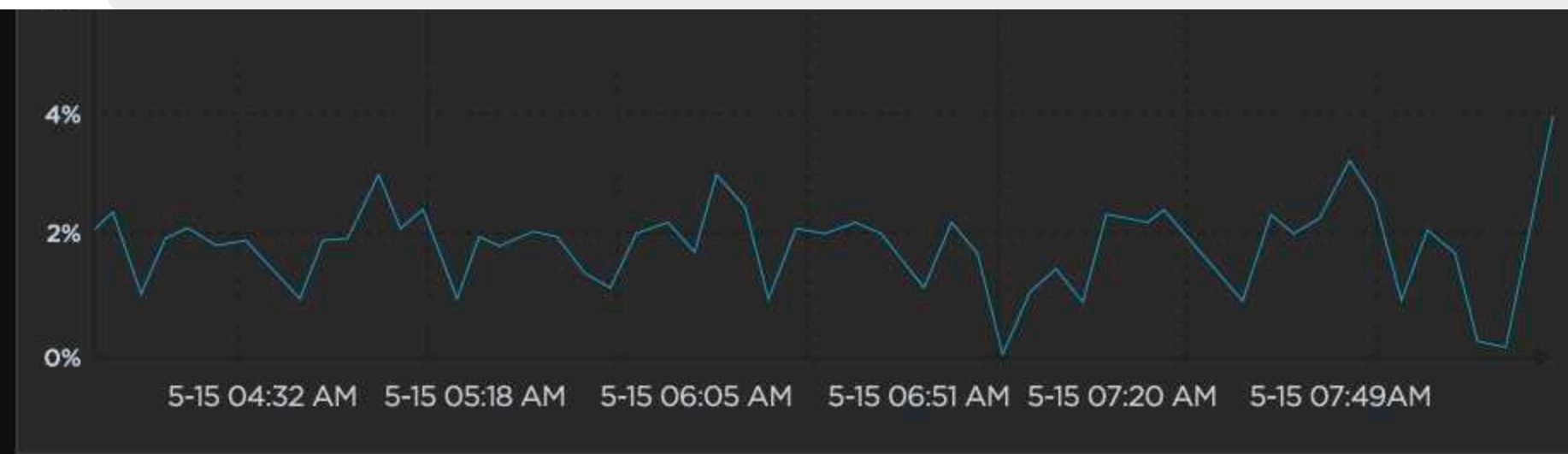
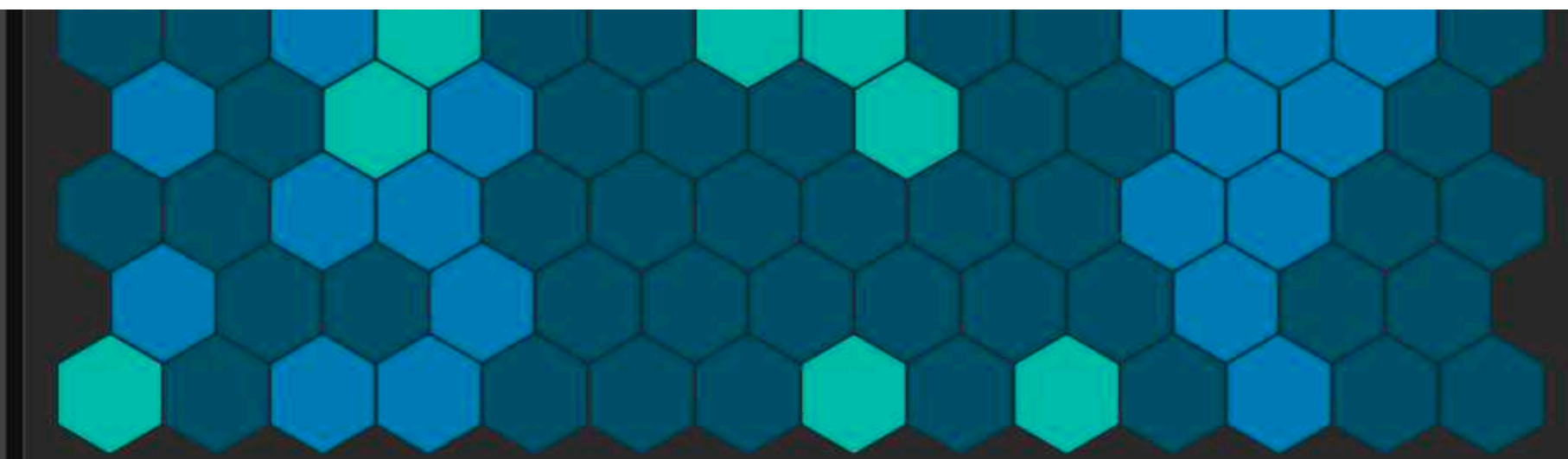
Serial number A
MAC address A

Templates [Linux by Za...](#), [Nebula net...](#), [Template w...](#), [Zabbix serv...](#), [more](#)

class: os class: software environment: production
role: frontend target: linux target: server ...

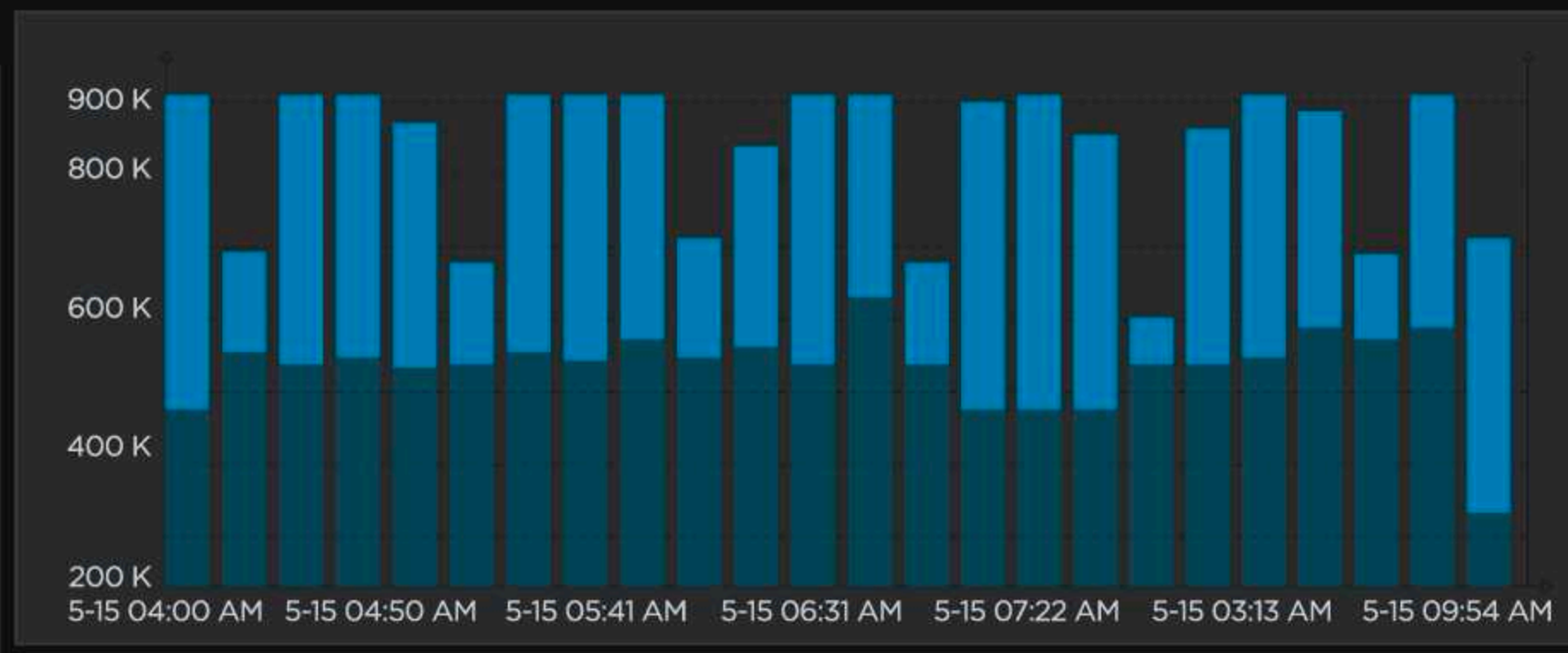


Thank you!



Temperature

Items	A1	A5	A4	A3	A2
D1	Alpha	Beta	Gamma	Delta	Epsilon
A2	14.00	2.00	19.00	89.00	16.00
B1	21.00	25.00	24.00	23.00	22.00
B2	25.00	25.00	24.00	23.00	22.00
A1	20.00	20.00	20.00	20.00	20.00
A3	20.00	20.00	20.00	20.00	20.00
C1	20.00	20.00	20.00	20.00	20.00
C2	20.00	20.00	20.00	20.00	20.00
A1	20.00	20.00	20.00	20.00	20.00



Host Card

The Sand Reckoner

Availability: **ZBX** **SNMP** **IPMI** Monitoring

Monitored by: **Nebula Network** Inventory

Type: OS

Serial number A...
MAC address A...

Templates: Linux by Za..., Nebula net..., Template w..., Zabbix serv..., more

class: os class: software environment: production
role: frontend target: linux target: server ...