Dependent items

DEPENDENT ITEM DEFINITION

Dependent items are specific type of items, which must have a master item:

- The master item collects all data using any item type
- After that values of the dependent items are extracted from the master item

Dependent items are displayed with their master item name as a prefix

Master item: Dependent item

Wizard	Name ▲	Triggers	Key	Interval	History	Trends	Type	Status
•••	MySQL: Get status variables		mysql.get_status_variables	1m	0		Zabbix agent	Enabled
•••	MySQL: Get status variables: MySQL: Threads cached		mysql.threads_cached		7d	365d	Dependent item	Enabled
•••	MySQL: Get status variables: MySQL: Threads connected		mysql.threads_connected		7d	365d	Dependent item	Enabled
•••	MySQL: Get status variables: MySQL: Threads per second		mysql.threads_created.rate		7d	365d	Dependent item	Enabled
•••	MySQL: Get status variables: MySQL: Threads running		mysql.threads_running		7d	365d	Dependent item	Enabled
•••	MySQL: Get status variables: MySQL: Uptime	Triggers 2	mysql.uptime		7d	365d	Dependent item	Enabled

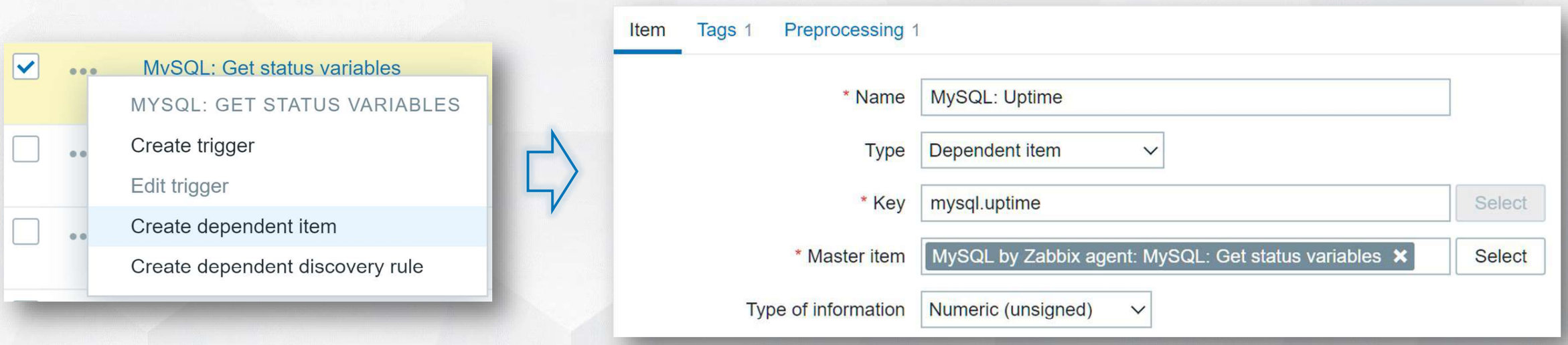
CREATING DEPENDENT ITEMS

The master item must exist before the dependent items can be created:

- Any existing item can be used as a master item
- If the master item is deleted, all dependent items will be deleted too

Dependent items can be created:

- By creating a new item with dependent item type and specifying the master item
- By opening a menu on the item configuration form (type and master item will be filled automatically)



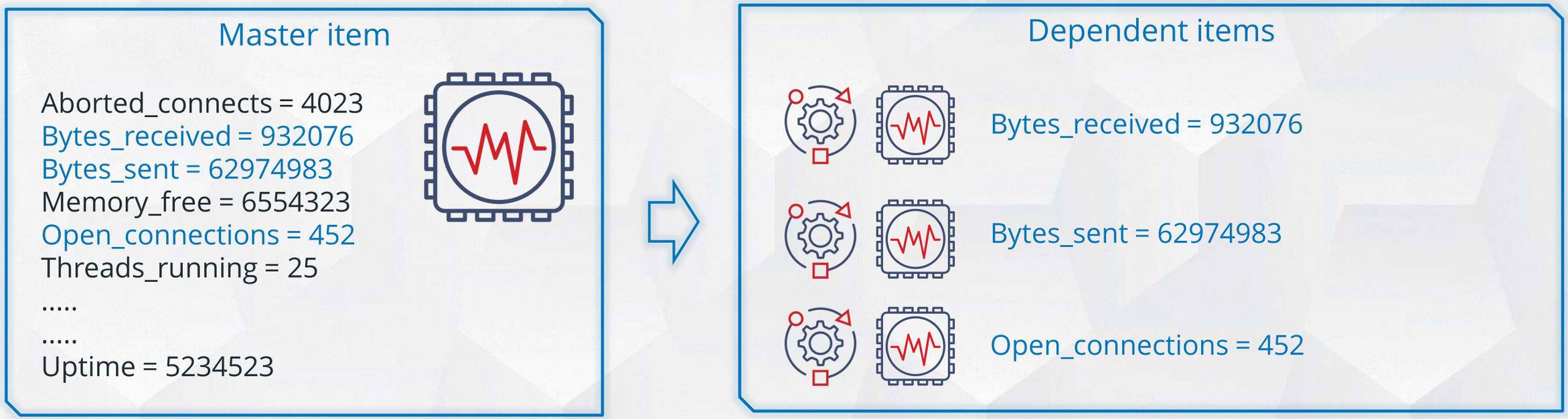
MASTER AND DEPENDENT ITEMS

Master item always collects all the data:

- Dependent items use preprocessing steps to extract required parts of the master item data

Master item notes:

- A master item may contain information which is not used by any dependent item
- A master item may have its own preprocessing steps to prepare data



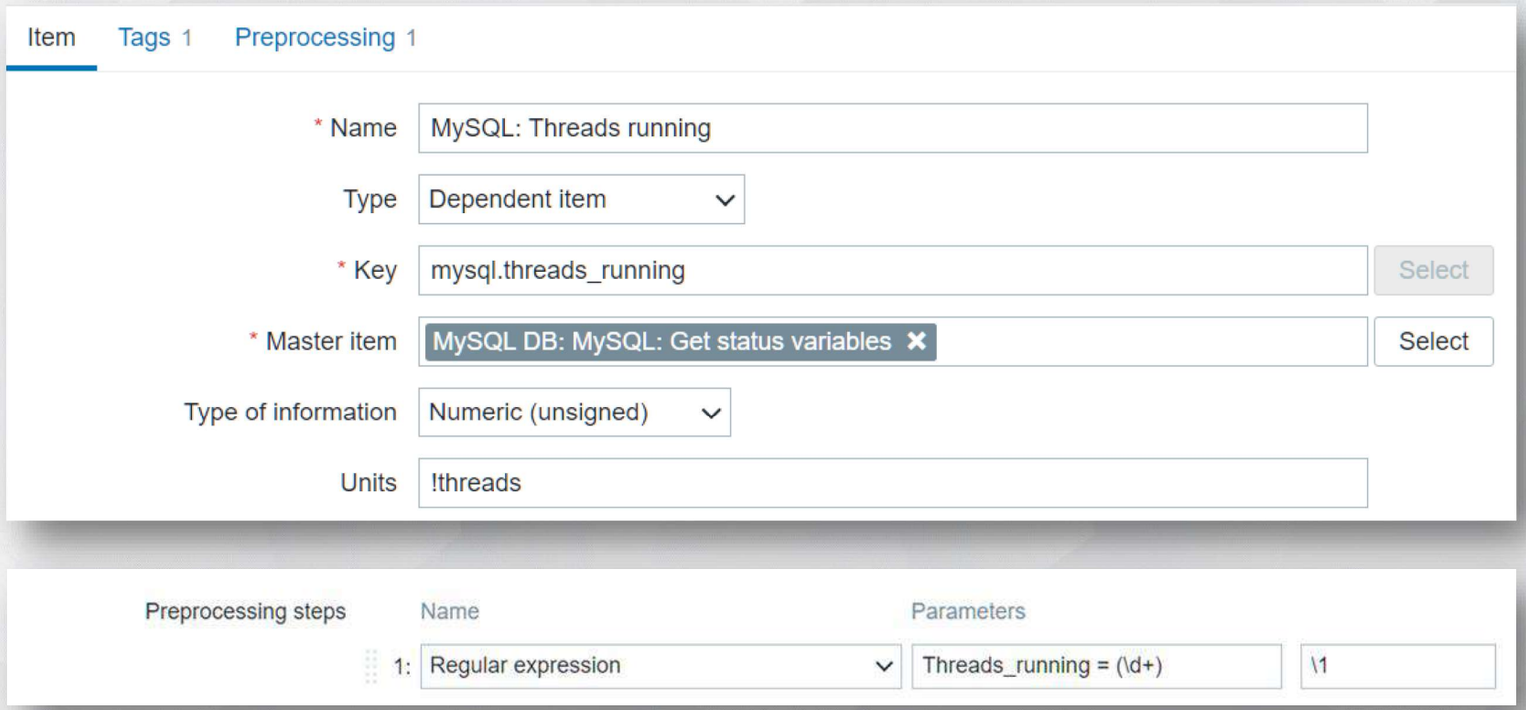
At least one preprocessing step is required to extract required data:

- Various preprocessing steps can be used for this purpose (JSONPath, XML Xpath, etc.)
- Without preprocessing steps the dependent item will be the exact copy of the master item

Master item

Aborted_clients = 141
Aborted_connects = 4023
Bytes_received = 932076
Bytes_sent = 62974983
Open tables = 10
Threads_cached = 3
Threads_created = 152
Threads_running = 25
...
...
...
...
...
Uptime = 24561

Dependent item



Dependent items are only updated when master item retrieves new values:

- They do not have own update intervals
- It is not possible to forcibly check just a single dependent item

It is recommended to not store history for the master item:

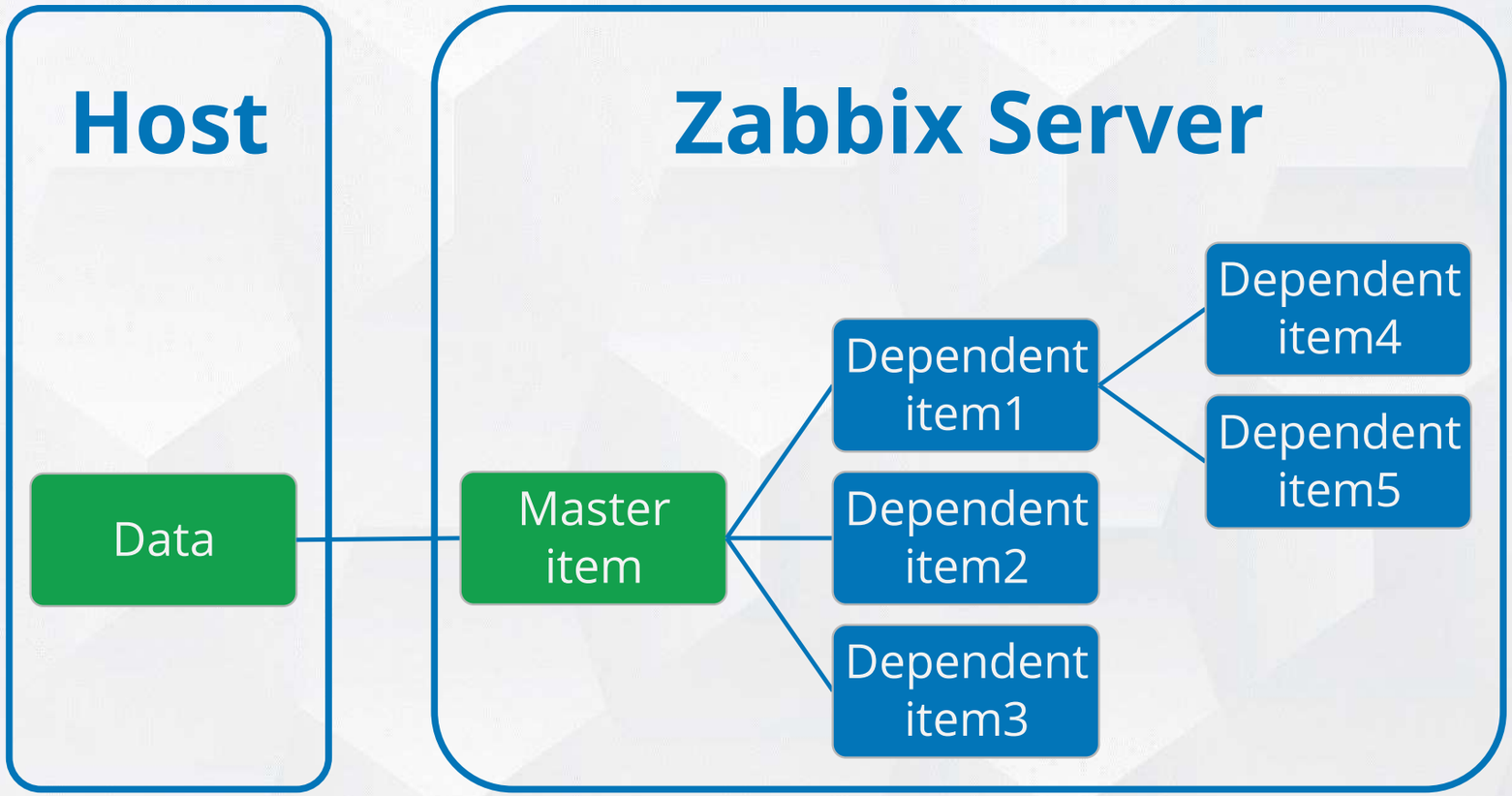
- The master item usually contains only a bulk copy of all dependent items
- Triggers for the master item cannot be evaluated in this case

Name ▲	Triggers	Key	Interval	History	Trends	Type
MySQL: Get status variables		mysql.status	1m	0		Zabbix agent
MySQL: Get status variables: MySQL: Open tables		mysql.open_tables		7d	365d	Dependent item
MySQL: Get status variables: MySQL: Threads running		mysql.threads_running		7d	365d	Dependent item
MySQL: Get status variables: MySQL: Uptime	Triggers 2	mysql.uptime		7d	365d	Dependent item

MULTIPLE DEPENDENCY LEVELS

Three levels of dependency are supported (Master > Level 1 > Level 2 > Level 3):

- A dependent item can be used as a master item for another dependent items
- One master item is limited to 29999 dependent items in total



MULTIPLE DEPENDENCY LEVELS

Multiple levels of dependency may be useful if the source data can be split into smaller chunks before extracting the values

Master item	Dependent items (Level 1)	Dependent items (Level 2)

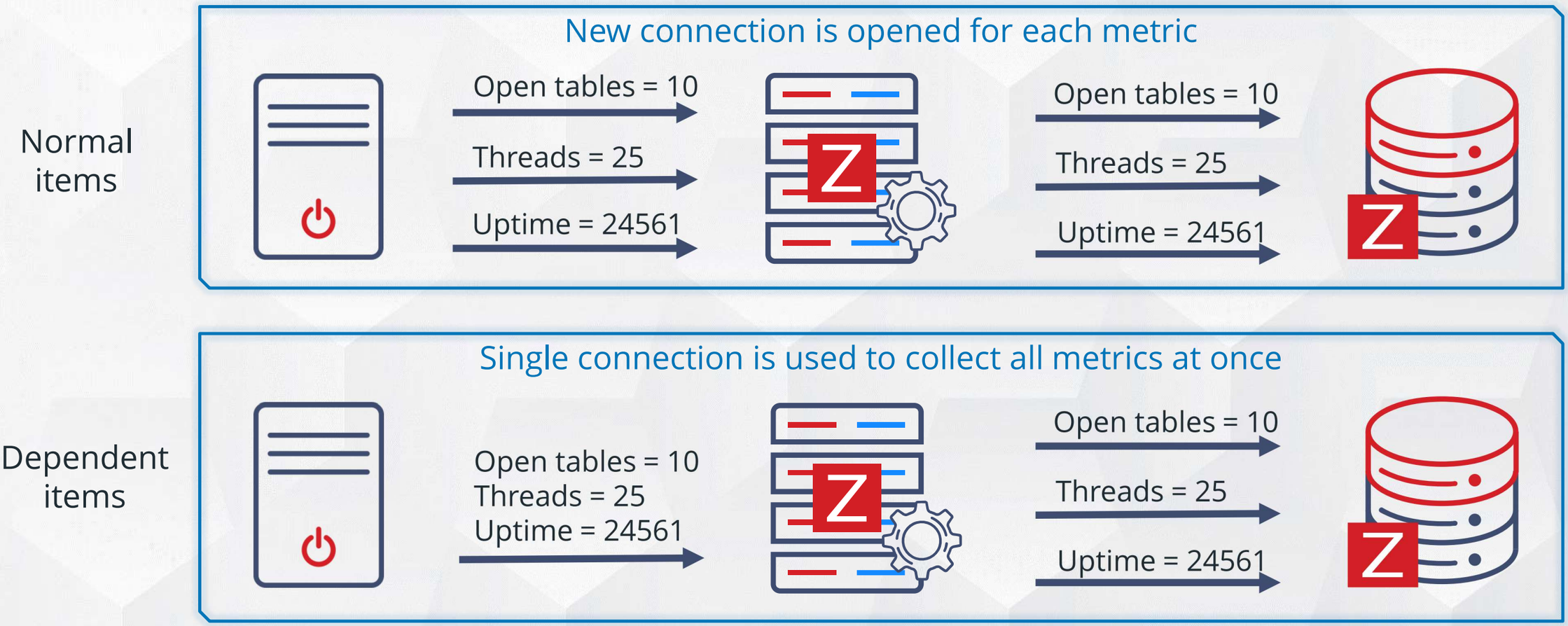
{ Domain: „ACS“,
LastError: {
Handle: 513,
FaultyEquipment: "MGW 1B",
SenderUnit: 298,
Code: 4,
Severity: 2
},
{ Domain: „EGX“,
LastError : {
Handle: 641,
FaultyEquipment: "LIM PU28",
SenderUnit: 50,
Code: 1,
Severity: 4
}
	{
	Handle: 513,
	FaultyEquipment: "MGW 1B",
	SenderUnit: 298,
	Code: 4,
	Severity: 2
	}
		Handle: 513
		FaultyEquipment: "MGW 1B",
		SenderUnit: 298
		Code: 4
		Severity: 2

	{
	Handle: 641,
	FaultyEquipment: "LIM PU28",
	SenderUnit: 50,
	Code: 1,
	Severity: 4
	}
		Handle: 641
		FaultyEquipment: "LIM PU28"
		SenderUnit: 50
		Code: 1
		Severity: 4

BENEFITS OF DEPENDENT ITEMS

The main benefits of using dependent items:

- Less connections to the monitored hosts are made
- Metrics are collected in bulk and used in several related items



DEPENDENT ITEMS ON PROXIES

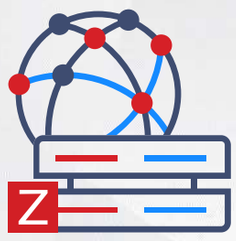
Proxies can be used to optimize performance for dependent items:

- Set the host to be monitored by a proxy
- All data collection preprocessing will be done by the proxy
- Proxy will not send textual data from a master item to the server if history is not kept:
  - ✓ If the master item data type is numerical, it still will be sent for trend calculations
  - ✓ Data are still sent if they are used in Inventory

No history for master item

Name ▲	History
MySQL: Get status variables	0
MySQL: Get status variables: MySQL: Open tables	7d
MySQL: Get status variables: MySQL: Threads running	7d
MySQL: Get status variables: MySQL: Uptime	7d

Open_tables = 10
Threads_cached = 3
Threads_created = 152
Threads_running = 25
Bytes_received = 932076
Bytes_sent = 62974983
Bytes_total = 79835355
.....
.....
Uptime = 24561



Open tables = 10
Threads running = 25
Uptime = 24561