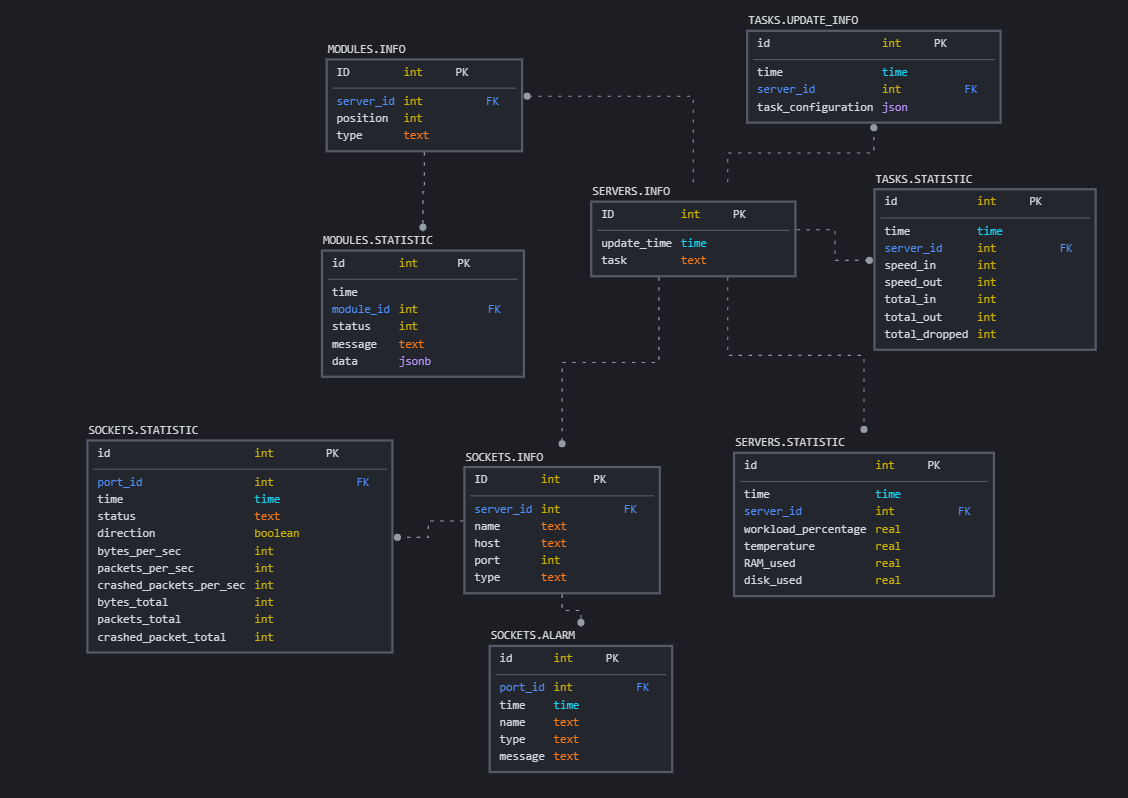
**Database: ServerEquipmentStatistic**



**Table** SERVERS.INFO

Information about servers

Cardinality: One-to-many

Columns (3)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| № | Name | Type | Description | Logical constrains |
| 1 | server\_id (PK) | int | Server ID | NOT NULL |
| 2 | task | text | Task description |
| 3 | host | varchar(15) | Host of socket |

**Table**: SERVERS.STATISTIC

Statistic of servers

Cardinality: Many-to-one

Columns (7)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| № | Name | Type | Description | Logical constrains |
| 1 | record\_id (PK) | int | Record id | surrogate |
| 2 | time | timestamp | Time of record | NOT NULL |
| 3 | server\_id (FK) | int | Server ID |
| 4 | workload\_percentage | real | Workload | >= 0, NOT NULL |
| 5 | temperature | real | Server temperature |  |
| 6 | ram\_used | bigint | Used RAM (bytes) | >= 0, NOT NULL |
| 7 | disk\_used | bigint | Used disk memory (bytes) |

**Table**: TASKS.UPDATE\_INFO

Statistic of tasks updating

Cardinality: Many-to-one

Columns (4)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| № | Name | Type | Description | Logical constrains |
| 1 | record\_id (PK) | int | Record id | surrogate |
| 2 | time | timestamp | Time of record |  |
| 3 | server\_id (FK) | int | Server ID | NOT NULL |
| 4 | task\_configuration | json | Task configuration |

**Table**: TASKS.STATISTIC

Statistic of tasks

Cardinality: Many-to-one

Columns (8)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| № | Name | Type | Description | Logical constrains |
| 1 | record\_id (PK) | int | Socket ID | surrogate |
| 2 | time | timestamp | Time of record |  |
| 3 | server\_id (FK) | int | Server ID | NOT NULL |
| 4 | speed\_in | bigint | Speed of data receiving (bytes/sec) | >= 0 |
| 5 | speed\_out | bigint | Speed of data sending (bytes/sec) |
| 6 | total\_in | bigint | All bytes has been received |
| 7 | total\_out | bigint | All bytes has been sending |
| 8 | total\_dropped | bigint | All bytes has been dropped |

**Table**: MODULES.INFO

Information about tasks modules

Cardinality: One-to-many

Columns (4)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| № | Name | Type | Description | Logical constrains |
| 1 | module\_id (PK) | int | Module ID | surrogate |
| 2 | server\_id (FK) | int | Server ID | NOT NULL |
| 3 | position | int | Module position in task | >= 0 |
| 4 | type | text | Type of module | NOT NULL |

Indexes: server\_id, type, server\_id-type – User needs data about servers modules. There are many modules for each server, and amount of reading operation is expected to be less than writing.

**Table**: MODULES.STATISTIC

Modules statistic

Cardinality: Many-to-one

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| № | Name | Type | Description | Logical constrains |
| 1 | record\_id (PK) | int | Record id | surrogate |
| 2 | time | timestamp | Time of record | NOT NULL |
| 3 | module\_id (FK) | int | Server ID |
| 4 | status | int | Module status |
| 5 | message | text | Message from module |  |
| 6 | data | jsonb | Module statistic |  |

**Table**: SOCKETS.INFO

Information about sockets

Cardinality: One-to-many

Columns (5)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| № | Name | Type | Description | Logical constrains |
| 1 | socket\_id (PK) | int | Socket ID | surrogate |
| 2 | server\_id (FK) | int | Server ID | NOT NULL |
| 3 | name | text | Name of socket |
| 4 | port | int | Port of socket | >=0, NOT NULL |
| 5 | type | text | Type of socket | NOT NULL |

Indexes:

* server\_id – User needs data about sockets, which is used by each server. Amount of reading operation is expected to be less than writing.
* Type – It will be helpful, if it needs get ports by type.

**Table**: SOCKET.STATISTIC

Sockets statistic

Cardinality: Many-to-one

Columns (11)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| № | Name | Type | Description | Logical constrains |
| 1 | record\_id (PK) | int | Record ID | surrogate |
| 2 | socket\_id (FK) | int | Socket ID | NOT NULL |
| 3 | time | timestamp | Time of record |
| 4 | status | text | Port status |
| 5 | direction | Boolean | 0 – in / 1 – out |
| 6 | bytes\_per\_sec | bigint | Bytes amount per second | >= 0 |
| 7 | packet\_per\_sec | bigint | Packets amount per second |
| 8 | crashed\_packet\_per\_sec | bigint | Crashed packets amount per second |
| 9 | bytes\_total | bigint | Bytes amount during the work |
| 10 | packets\_total | bigint | Packets amount during the work |
| 11 | crashed\_packet\_total | bigint | Crashed packets amount during the work |

**Table**: SOCKETS.ALARM

Cardinality: Many-to-one

Statistic of socket alarms

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| № | Name | Type | Description | Logical constrains |
| 1 | record\_id (PK) | int | Record ID | surrogate |
| 2 | socket\_id (FK) | int | Socket ID | NOT NULL |
| 3 | time | timestamp | Time of record |
| 4 | name | text | Alarm name |
| 5 | alarm\_type | text | Alarm type |
| 6 | message | text | Alarm text |  |

Indexes: alarm\_type – This table stories data about alarms from all sockets. It needs to get information about types. Amount of reading operation is expected to be less than writing.