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# NETWORK SERVER REST API CHANGES – 2.3.0

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## Document Revision

Revision	Issue Date	Status	Editor	Comments
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0.2	Feb 7, 2019	draft	J Peterson, C James	
0.3	Feb 11, 2019	draft	C James	Updated with screenshots
1.0	Feb 18, 2020	released	J. Peterson	
11	Feb 25, 2020	released	J. Peterson	Added Clarification of events sort order

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## 1 Introduction

This Document Describes the REST API changes for Network Server version 2.3.0 which is scheduled to be released the week of February 24<sup>th</sup> – 28<sup>th</sup> 2019. The exact day and time of the release will be communicated through the normal email method. There are new endpoints created for Gateway Statistics and Gateway State.

Two optional fields have been added to existing API's for Entity Events and All Events. If you are using these API's you may optionally consider updating your code. If no action is taken default values will be applied and only the first 100 records will be returned. There are no mandatory changes required.

## 2 List of API Changes

### 2.1 Gateway Statistics (new)

Name	Description
<b>endTs</b> * required integer(\$int64) (query)	endTs
limit integer(\$int32) (query)	limit Default value: 100
<b>mac</b> * required string (path)	mac
page integer(\$int32) (query)	page Default value: 0
<b>startTs</b> * required integer(\$int64) (query)	startTs

Endpoint: `api/gateway/mac/{mac}/statistics`

As request values, it accepts: `startTs`, `endTs`, `mac`, `limit` and `page`

Mandatory fields: `startTs`, `endTs` and `mac`

- `startTs`: Start time in epoch (milliseconds) format
- `endTs`: End time in epoch (milliseconds) format
- `mac`: Gateway Media Access Control (MAC) address

Optional fields: `limit` and `page`

- `limit`: Number of records per page (default: 100)
- `page`: page range, where page count starts from 0 (default: 0)

Sample URL format for the API: <https://lorawan-ns-dev.tektelic.com/api/gateway/mac/647FDAFFFE007053/statistics?endTs=1581409201000&limit=2&page=0&startTs=1581408901000>

Response stores total amount of GW stats and all stats satisfying the request:

```
{
```

```

"data": [
  {
    "additionalInfo": "string",
    "altitude": 0,
    "createdTime": 0,
    "id": {
      "entityType": "GATEWAY_STATISTICS",
      "id": "string"
    },
    "index": 0,
    "latitude": 0,
    "longitude": 0,
    "mac": "string",
    "rxPacketsReceived": 0,
    "rxPacketsReceivedOK": 0,
    "time": "string",
    "ts": 0,
    "txPacketsEmitted": 0,
    "txPacketsReceived": 0
  }
],
"totalElements": 0

```

## 2.2 Gateway State (new)

The screenshot shows an API documentation interface for the endpoint `/api/gateway/{gatewayId}/state`. The endpoint is labeled as `getGatewayStateAndStatistic`. There is a "Try it out" button in the top right corner. Below the endpoint name, there is a table of parameters:

Name	Description
<b>gatewayId</b> * required string(\$uuid) (path)	gatewayId
limit integer(\$int32) (query)	limit Default value : 100
page integer(\$int32) (query)	page Default value : 0

**Endpoint:** `/api/gateway/{gatewayId}/state`

**As request values, it accepts:** `gatewayId`, `limit` and `page`

**Mandatory fields:** `gatewayId`

- gatewayId: Unique gateway Id

Optional fields: limit and page

- limit: Number of records per page (default: 100)
- page: page range, where page count starts from 0 (default: 0)

Sample URL format for the API: <https://lorawan-ns-dev.tektelic.com/api/gateway/8b3bb260-486a-11ea-b55e-efadfea47690/state?limit=100&page=0>

Response stores the total amount of GW stats and all stats satisfying the request, as well as the online status and last activity time of the GW

```
{
  "lastActivityTime":0,
  "online":true,
  "statistics":{
    "data":[
      {
        "additionalInfo":"string",
        "altitude":0,
        "createdTime":0,
        "id":{
          "entityType":"GATEWAY_STATISTICS",
          "id":"string"
        },
        "index":0,
        "latitude":0,
        "longitude":0,
        "mac":"string",
        "rxPacketsReceived":0,
        "rxPacketsReceivedOK":0,
        "time":"string",
        "ts":0,
        "txPacketsEmitted":0,
        "txPacketsReceived":0
      }
    ],
    "totalElements":0
  }
}
```

## 2.3 Entity Events (modified)

GET /api/entity/{entityType}/{entityId}/events/{eventType} getEntityEvents

Parameters Try it out

Name	Description
endTs integer(\$int64) (query)	endTs
entityId * required string (path)	entityId
entityType * required string (path)	entityType
eventType * required string (path)	eventType
startTs * required integer(\$int64) (query)	startTs

Old Request Format

GET /api/entity/{entityType}/{entityId}/events/{eventType} getEntityEvents

Parameters Try it out

Name	Description
endTs integer(\$int64) (query)	endTs
entityId * required string (path)	entityId
entityType * required string (path)	entityType
eventType * required string (path)	eventType
limit integer(\$int32) (query)	limit Default value: 100
page integer(\$int32) (query)	page Default value: 0
startTs * required integer(\$int64) (query)	startTs

Newly added

New Request Format

Endpoint (not modified): `/api/entity/{entityType}/{entityId}/events/{eventType}`

As request values, it accepts (modified): `startTs`, `endTs`, `entityId`, `entityType`, `eventType`, `limit` and `page`;



**Mandatory fields (not modified):** `startTs`, `entityId`, `entityType` and `eventType`

- `startTs`: Start time in epoch (milliseconds) format
- `entityId`: unique entity id
- `entityType`: DEVICE, INTEGRATION, and GATEWAY
- `eventType`: ALARM, FAULT, EVENT, ONLINE, OFFLINE

**Optional fields (modified):** `endTs`, `limit` and `page`

- `endTs`: End time in epoch (milliseconds) format
- `limit`: Number of records per page (default: 100)
- `page`: page range, where page count starts from 0 (default: 0)

Sample old URL format for the API: <https://lorawan-ns-eu.tektelic.com/api/entity/GATEWAY/8b3bb260-486a-11ea-b55e-efadfea47690/events/ALARM?endTs=1581409201000&startTs=1581408901000>

Sample new URL format for the API (modified): <https://lorawan-ns-dev.tektelic.com/api/entity/GATEWAY/8b3bb260-486a-11ea-b55e-efadfea47690/events/ALARM?endTs=1581409201000&limit=100&page=0&startTs=1581408901000>

**What if the API is not changed in my application?:** The server would assume values 100 and 0 for the limit and page respectively, and would return at most 100 records. This would be the 100 most recent records.

The response consists of `totalElements` and `data` values, latter consisting of all events satisfying the request:

```
{  
  
  "totalElements": 25,  
  
  "data": [ {list of events} ]  
  
}
```

## 2.4 All Events (modified)

Name	Description
endTs integer (\$int64) (query)	endTs
eventType array[string] (query)	eventType
startTs * required integer (\$int64) (query)	startTs

Old Request Formats

Name	Description
endTs integer (\$int64) (query)	endTs
eventType array[string] (query)	eventType
limit integer (\$int32) (query)	limit Default value: 100
page integer (\$int32) (query)	page Default value: 0
startTs * required integer (\$int64) (query)	startTs

Newly added

New Request Format

Endpoint (not modified): `/api/events`

As request values, it accepts (modified): `startTs`, `endTs`, `eventType`, `limit` and `page`

Mandatory fields (not modified): `startTs`

- `startTs`: Start time in epoch (milliseconds) format

Optional fields (**modified**): `endTs`, `eventType`, `limit` and `page`

- `endTs`: End time in epoch (milliseconds) format
- `eventType`: ALARM, FAULT, EVENT, ONLINE, OFFLINE
- `limit`: Number of records per page (default: 100) , (default: 100)
- `page`: page range, where page count starts from 0 (default: 0)

Sample old URL format for the API: <https://lorawan-ns-eu.tektelic.com/api/events?endTs=1581409201000&eventType=ALARM&startTs=1581408901000>

Sample new URL format for the API (**modified**): <https://lorawan-ns-dev.tektelic.com/api/events?endTs=1581409201000&eventType=ALARM&limit=100&page=0&startTs=1581408901000>

What if the API is not changed in my application?: The server would assume values 100 and 0 for the limit and page respectively, and would return at most 100 records. This would be the 100 most recent records.

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```