

KEROS WEB SERVICES

| | Written by | Approved by | Validated by |
|--------|---------------|-----------------|---------------|
| Name | Arnaud LEBERT | Thibault JAMARD | Mickaël Garin |
| Entity | DRD | DRD | DRD |
| Date | 18/07/2018 | 18/07/2018 | 18/07/2018 |



HISTORY

| Date | Modification | Author | Version |
|------------|--|----------------|---------|
| 2017/03/23 | - Initial release - Replace all web services /application/keros with /application/administration - Rename DTO : LANDto → LANConfigurationDto, WLANDto → WLANConfigurationDto | Mickaël Garin | 0.1 |
| 2017/04/27 | - Update upgrade web service (renamed to update) - Add restore web service | Mickaël Garin | 0.2 |
| 2017/04/27 | Update update web service | Mickaël Garin | 0.3 |
| 2017/05/02 | Add getVersion web service | Mickaël Garin | 0.4 |
| 2017/05/04 | Fix login, getVersion and getWLANConfiguration web service display | Mickaël Garin | 0.5 |
| 2017/05/16 | Change HTTP request type for update (PUSH → POST) | Valentin Cupif | 0.6 |
| 2017/06/08 | Remove useless parameter "fw_name" in update web service | Mickaël Garin | 0.7 |
| 2017/06/08 | Add getGSMConfiguration and setGSMConfiguration web services | Mickaël Garin | 0.8 |
| 2017/06/28 | Update GSMConfigurationDto | Mickaël Garin | 0.9 |
| 2017/06/30 | - Update LANConfigurationDto and WLANConfigurationDto: add "off" choice in ipv4 field - Add "enable" field in GSMConfigurationDto - Add field "hardware_serial_number" in VersionDto | Mickaël Garin | 0.10 |
| 2017/07/03 | Update ErrorDto | Mickaël Garin | 0.11 |
| 2017/08/21 | - Move getNetworkConfiguration, setNetworkConfiguration, getTimeZones, getTimeConfiguration, setTimeConfiguration, NetworkDto, TimeZonesDto and TimeDto from iFemtoCell/SPN web services specifications to this document - Remove source from TimeDto - Remove bearer from NetworkDto - Add following web services: - uploadOpenVpnConfiguration - getLog - downloadLog - downloadConfiguration - uploadConfiguration - Update NetworkDto | Mickaël Garin | 0.12 |
| 2017/08/25 | Fix getLog and downloadLog errors | Mickaël Garin | 0.13 |
| 2017/11/09 | Document approved | Mickaël Garin | 0.14 |

| | | | |
|---------------------|--|-------------|--|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | Page 2 / 35 | |
| Strict confidential | | | |

| | | | |
|------------|---|----------------|-----|
| 2017/11/10 | Document validated | Mickaël Garin | 1.0 |
| 2017/10/02 | Add downloadOpenVpnConfiguration web service | Mickaël Garin | 1.1 |
| 2017/10/12 | Add resetConfiguration and halt web services | Mickaël Garin | 1.2 |
| 2018/01/04 | - Update ErrorDto - Update setTimeConfiguration web service description - Add field date_time to update TimeDto | Mickaël Garin | 1.3 |
| 2018/01/16 | Document approved | Mickaël Garin | 1.4 |
| 2018/01/18 | - Update NetworkDTo to OpenVPNDTo - Update GetOpenVpnConfiguration - Update SetOpenVpnConfiguration - Update downloadOpenVpnConfiguration - Update uploadOpenVpnConfiguration - Add uploadOpenVpnCertificate - Add downloadOpenVpnCertificate - Add uploadOpenVpnCertificatesArchive | Valentin Cupif | 1.5 |
| 2018/01/22 | - Update PaginatedDto and JWTDto (remove camel case fields) - Remove openvpn object in OpenVPNDto and remove camel case fields | Mickaël Garin | 1.6 |
| 2018/01/23 | - Split OpenVPNDto into OpenVPNDto and OpenVPNFileListDto - Add OpenVPNDto - Add getOpenVPNWorkingFileList | Valentin Cupif | 1.7 |
| 2018/02/01 | - Update OpenVPNFileListDto (remove "s") - Rename uploadOpenVPNCertificatesArchive to uploadOpenVPNCertificateArchive and update web service (remove "s") - Add a note in web services setLANConfiguration, setWLANConfiguration and setGSMConfiguration | Mickaël Garin | 1.8 |
| 2018/02/06 | Document approved | Mickaël Garin | 1.9 |
| 2018/02/08 | Document validated | Mickaël Garin | 2.0 |
| 2018/03/14 | - Add and modify Wi-Fi relative web services and DTO: - Add connect web service - Add remove web service - Update WLANConfigurationDto - Add WLANServiceDto - Add WLANConnectDto - Add GetStatus web service and StatusDto - Remove following web services: - getOpenVPNConfiguration - setOpenVPNConfiguration - getOpenVPNWorkingFileList | Mickaël Garin | 3.1 |

| | | | |
|-----------------------|--|--------------------|--|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | Page 3 / 35 | |
| Strict confidential | | | |

| | | | |
|------------|--|---------------|-----|
| | <ul style="list-style-type: none"> - downloadOpenVPNConfiguration - uploadOpenVPNConfiguration - downloadOpenVPNCertificate - uploadOpenVPNCertificate - uploadOpenVPNCertificateArchive - getLog - downloadLog - downloadConfiguration - uploadConfiguration - resetConfiguration - Remove following DTO: <ul style="list-style-type: none"> - OpenVPNDto - OpenVPNFileListDto - Remove ntp.polling field from TimeDto | | |
| 2018/03/15 | Update setPassword web service and add PasswordDto | Mickaël Garin | 3.2 |
| 2018/03/16 | Document approved | Mickaël Garin | 3.3 |
| 2018/03/21 | Document validated | Mickaël Garin | 4.0 |
| 2018/04/20 | <ul style="list-style-type: none"> - Add following web services: <ul style="list-style-type: none"> - addGSMOperator - deleteGSMOperator - updateGSMOperator - Add following DTO: <ul style="list-style-type: none"> - GSMOperatorDto - Update following DTO: <ul style="list-style-type: none"> - GSMConfigurationDto - TimeDto - LANConfigurationDto | Mickaël Garin | 4.1 |
| 2018/04/27 | <ul style="list-style-type: none"> - Update following DTO: <ul style="list-style-type: none"> - StatusDTO | Mickaël Garin | 4.2 |
| 2018/05/28 | <ul style="list-style-type: none"> - Update following DTO: <ul style="list-style-type: none"> - LANConfigurationDto (add ipv4_dns field) - WLANSERVICEdto (add error field) - StatusDto (update systems fields) | Mickaël Garin | 4.3 |
| 2018/05/29 | Move pin_code field from GSMOperatorDto to GSMConfigurationDto | Mickaël Garin | 4.4 |
| 2018/05/31 | <ul style="list-style-type: none"> - Remove network.gsm.broadcast from StatusDTO - Add id field in GSMOperatorDto | Mickaël Garin | 4.5 |
| 2018/07/18 | <ul style="list-style-type: none"> - Update VersionDto (Add platform_type field) - Set document as generic for iBTS and iFemtoCell and define WLAN function as specific to iFemtoCell - Update StatusDto (Remove Keros disk field) | Arnaud LEBERT | 4.6 |
| 2018/07/18 | <ul style="list-style-type: none"> - Update TimeDto (add direction), | Arnaud LEBERT | 4.7 |

| | | | |
|-----------------------|--|--------------------|--|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | Page 4 / 35 | |
| Strict confidential | | | |

| | | | |
|------------|--|---------------|-----|
| | - Update VersionDto (add possible values of platform_type) - Remove PaginatedDto. | | |
| 2018/07/19 | Document validated | Arnaud LEBERT | 5.0 |

| | | | |
|-----------------------|--|--|--------------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 5 / 35 |
| Strict confidential | | | |

INDEX

| | |
|--|----|
| Keros web services..... | 1 |
| History..... | 2 |
| Index..... | 6 |
| Open minutes..... | 8 |
| References..... | 8 |
| Glossary..... | 8 |
| Introduction..... | 9 |
| 1.Keros REST API..... | 9 |
| 1.1Login..... | 9 |
| 1.2Configuration and administration..... | 10 |
| 1.2.1Get Ethernet (LAN) configuration..... | 10 |
| 1.2.2Set Ethernet (LAN) configuration..... | 11 |
| 1.2.3Get Wi-Fi (WLAN) configuration..... | 12 |
| 1.2.4Set Wi-Fi (WLAN) configuration..... | 13 |
| 1.2.5Connect Wi-Fi (WLAN)..... | 14 |
| 1.2.6Remove Wi-Fi (WLAN)..... | 15 |
| 1.2.7Get GSM configuration..... | 16 |
| 1.2.8Set GSM configuration..... | 17 |
| 1.2.9Add GSM operator..... | 18 |
| 1.2.10Delete GSM operator..... | 19 |
| 1.2.11Update GSM operator..... | 20 |
| 1.2.12Get time zones..... | 21 |
| 1.2.13Get time configuration..... | 22 |
| 1.2.14Set time configuration..... | 23 |
| 1.2.15Update..... | 24 |
| 1.2.16Restore..... | 25 |
| 1.2.17Reboot..... | 26 |
| 1.2.18Halt..... | 27 |
| 1.2.19Set password..... | 28 |
| 1.2.20Get version..... | 29 |
| 1.2.21Get status..... | 30 |
| 2.Data Transfer Object..... | 31 |

| | | | |
|-----------------------|--|--------------------|--|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | Page 6 / 35 | |
| Strict confidential | | | |

| | |
|------------------------------|----|
| 2.1UserDto..... | 31 |
| 2.2JWTDto..... | 31 |
| 2.3LANConfigurationDto..... | 31 |
| 2.4WLANConfigurationDto..... | 31 |
| 2.5WLANServiceDto..... | 31 |
| 2.6WLANConnectDto..... | 32 |
| 2.7GSMConfigurationDto..... | 32 |
| 2.8GSMOperatorDto..... | 32 |
| 2.9TimeZonesDto..... | 32 |
| 2.10TimeDto..... | 33 |
| 2.11PasswordDto..... | 33 |
| 2.12VersionDto..... | 33 |
| 2.13StatusDto..... | 33 |
| 2.14ErrorDto..... | 34 |
| End of Document..... | 35 |

| | | |
|-----------------------|--|--------------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | |
| Internal Use | Kerlink communication is everything reserved rights | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | Page 7 / 35 |
| Strict confidential | | |

OPEN MINUTES

| Reference | Status | Description |
|-----------|--------|-------------|
| | | |
| | | |
| | | |

REFERENCES

| Reference | Document / link | Description |
|-----------|-----------------|-------------|
| | | |
| | | |
| | | |

GLOSSARY

| Abbreviation | Description |
|--------------|-------------------------------------|
| API | Application Programming Interface |
| DHCP | Dynamic Configuration Host Protocol |
| DTO | Data Transfer Object |
| IoT | Internet of Things |
| IP | Internet Protocol |
| JSON | JavaScript Object Notation |
| LAN | Local Area Network |
| REST | REpresentational State Transfer |
| URI | Uniform Resource Identifier |
| Wi-Fi | Wireless-Fidelity |
| WLAN | Wireless LAN |

| | | | |
|-----------------------|--|--|--------------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 8 / 35 |
| Strict confidential | | | |

INTRODUCTION

This document describes web services provided by Keros firmware.

1. Keros REST API

1.1 Login

The login web service allows a user to authenticate to the middleware by providing its login and password fields, and in case of success getting a token that he will use for the next requests.

Note: the token has an expiration date that can be defined in the properties file.

| Request | | | | |
|------------|--------------|--|---------------|-------------|
| Signature | Method | login | | |
| | URI | POST /application/administration/login | | |
| Parameters | Name | Type | Mandator y | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | | | | |
| Body | userDto | UserDto (login and password) | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 201 | JWTDto | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|-------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 9 / 35 |
| Strict confidential | | | |

1.2 Configuration and administration

1.2.1 Get Ethernet (LAN) configuration

| Request | | | | |
|------------|---------------|-------------------------------------|-------------|-------------|
| Signature | Method | getLANConfiguration | | |
| | URI | GET /application/administration/lan | | |
| Parameters | Name | Type | Mandatory | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | | | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 200 | LANConfigurationDto | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 10 / 35 |
| Strict confidential | | | |

1.2.2 Set Ethernet (LAN) configuration

| Request | | | | |
|------------|---------------------|-------------------------------------|---------------|-------------|
| Signature | Method | setLANConfiguration | | |
| | URI | PUT /application/administration/lan | | |
| Parameters | Name | Type | Mandator y | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | LANConfigurationDto | LANConfigurationDto | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 204 | No Content | | |
| | 4xx, 5xx | ErrorDto | | |

Note: the call of this web service may not lead to a response if called from LAN interface and if web service requests a LAN disconnection.

1.2.3 Get Wi-Fi (WLAN) configuration

Only available on iFemtoCell.

| Request | | | | |
|------------|---------------|--------------------------------------|-------------|-------------|
| Signature | Method | getWLANConfiguration | | |
| | URI | GET /application/administration/wlan | | |
| Parameters | Name | Type | Mandatory | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | | | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 200 | WLANConfigurationDto | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 12 / 35 |
| Strict confidential | | | |

1.2.4 Set Wi-Fi (WLAN) configuration

Only available on iFemtoCell.

| Request | | | | |
|------------|---------------------|--------------------------------------|-------------|-------------|
| Signature | Method | setWLANConfiguration | | |
| | URI | PUT /application/administration/wlan | | |
| Parameters | Name | Type | Mandatory | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | LANConfigurationDto | WLANConfigurationDto | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 204 | No Content | | |
| | 4xx, 5xx | ErrorDto | | |

Note: the call of this web service may not lead to a response if called from WLAN interface and if web service requests a WLAN disconnection.

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 13 / 35 |
| Strict confidential | | | |

1.2.5 Connect Wi-Fi (WLAN)

Connect to an access point in states "idle" or "failure".
Only available on iFemtoCell.

| Request | | | | |
|------------|----------------|---|-------------|--------------------|
| Signature | Method | connect | | |
| | URI | PUT /application/administration/wlan/connect/{service_id} | | |
| Parameters | Name | Type | Mandatory | Description |
| | service_id | string | YES | Service identifier |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | WLANConnectDto | WLANConnectDto. Leave field passphrase blanked to connect to an already configured access point | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 204 | No Content | | |
| | 4xx, 5xx | ErrorDto | | |

Note: the call of this web service may not lead to a response if called from WLAN interface.

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 14 / 35 |
| Strict confidential | | | |

1.2.6 Remove Wi-Fi (WLAN)

Remove an access point configuration.
Only available on iFemtoCell.

| Request | | | | |
|------------|---------------|--|-------------|--------------------|
| Signature | Method | remove | | |
| | URI | PUT /application/administration/wlan/remove/{service_id} | | |
| Parameters | Name | Type | Mandatory | Description |
| | service_id | string | YES | Service identifier |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | | | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 204 | No Content | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 15 / 35 |
| Strict confidential | | | |

1.2.7 Get GSM configuration

| Request | | | | |
|------------|---------------|-------------------------------------|-------------|-------------|
| Signature | Method | getGSMConfiguration | | |
| | URI | GET /application/administration/gsm | | |
| Parameters | Name | Type | Mandatory | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | | | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 200 | GSMConfigurationDto | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 16 / 35 |
| Strict confidential | | | |

1.2.8 Set GSM configuration

| Request | | | | |
|------------|---------------------|-------------------------------------|---------------|-------------|
| Signature | Method | setGSMConfiguration | | |
| | URI | PUT /application/administration/gsm | | |
| Parameters | Name | Type | Mandator y | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | GSMConfigurationDto | GSMConfigurationDto | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 204 | No Content | | |
| | 4xx, 5xx | ErrorDto | | |

Note: the call of this web service may not lead to a response if called from GSM interface and if web service requests a GSM disconnection.

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 17 / 35 |
| Strict confidential | | | |

1.2.9 Add GSM operator

Used to declare a new GSM operator.

| Request | | | | |
|------------|----------------|---|---------------------|-------------|
| Signature | Method | addGSMOperator | | |
| | URI | POST /application/administration/gsm/operator | | |
| Parameters | Name | Type | Mandatory | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | GSMOperatorDto | GSMOperatorDto | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | /application/administration/gsm/operator/{operatorId} | | |
| Parameters | Name | Type | Description | |
| | operatorId | String | Operator identifier | |
| Body | Status | Value | | |
| | 201 | Created | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 18 / 35 |
| Strict confidential | | | |

1.2.10 Delete GSM operator

Used to delete a GSM operator.

| Request | | | | |
|------------|---------------|---|-------------|---------------------|
| Signature | Method | deleteGSMOperator | | |
| | URI | DELETE /application/administration/gsm/operator/{operatorId} | | |
| Parameters | Name | Type | Mandatory | Description |
| | operatorId | String | Yes | Operator identifier |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | | | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 204 | No Content | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 19 / 35 |
| Strict confidential | | | |

1.2.11 Update GSM operator

Used to update GSM operator parameters.

| Request | | | | |
|------------|----------------|--|-------------|---------------------|
| Signature | Method | updateGSMOperator | | |
| | URI | PUT /application/administration/gsm/operator/{operatorId} | | |
| Parameters | Name | Type | Mandatory | Description |
| | operatorId | String | Yes | Operator identifier |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | GSMOperatorDto | GSMOperatorDto | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 204 | No Content | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 20 / 35 |
| Strict confidential | | | |

1.2.12 Get time zones

| Request | | | | |
|------------|---------------|---|-------------|-------------|
| Signature | Method | getTimeZones | | |
| | URI | GET /application/administration/timezones | | |
| Parameters | Name | Type | Mandatory | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | | | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 200 | TimeZonesDto | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 21 / 35 |
| Strict confidential | | | |

1.2.13 Get time configuration

| Request | | | | |
|------------|---------------|--------------------------------------|-------------|-------------|
| Signature | Method | getTimeConfiguration | | |
| | URI | GET /application/administration/time | | |
| Parameters | Name | Type | Mandatory | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | | | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 200 | TimeDto | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 22 / 35 |
| Strict confidential | | | |

1.2.14 Set time configuration

| Request | | | | |
|------------|---------------|---|-------------|-------------|
| Signature | Method | setTimeConfiguration | | |
| | URI | PUT /application/administration/time | | |
| Parameters | Name | Type | Mandatory | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | timeDto | TimeDto. Leave field date_time blanked to not set date/time | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 204 | No Content | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 23 / 35 |
| Strict confidential | | | |

1.2.15 Update

| Request | | | | |
|------------|---------------|---|-------------|-------------|
| Signature | Method | update | | |
| | URI | POST /application/administration/update | | |
| Parameters | Name | Type | Mandatory | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | Content-Type: multipart/form-data; boundary= | | |
| | Authorization | Bearer <token> | | |
| Body | firmware | Binary firmware update file with the following properties: Content-Disposition: form-data; name="file"; filename="firmware.ipk" Content-Type: application/octet-stream | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 204 | No Content | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 24 / 35 |
| Strict confidential | | | |

1.2.16 Restore

| Request | | | | |
|------------|---------------|--|-------------|---------------------|
| Signature | Method | restore | | |
| | URI | POST /application/administration/restore/{restoreType} | | |
| Parameters | Name | Type | Mandatory | Description |
| | restoreType | String | no | “backup” or “stock” |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | | | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 204 | No Content | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 25 / 35 |
| Strict confidential | | | |

1.2.17 Reboot

| Request | | | | |
|------------|---------------|---|---------------|-------------|
| Signature | Method | reboot | | |
| | URI | POST /application/administration/reboot | | |
| Parameters | Name | Type | Mandator y | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | | | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 204 | No Content | | |
| | 4xx, 5xx | ErrorDto | | |

1.2.18 Halt

| Request | | | | |
|------------|---------------|---------------------------------------|---------------|-------------|
| Signature | Method | halt | | |
| | URI | POST /application/administration/halt | | |
| Parameters | Name | Type | Mandator y | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | | | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 204 | No Content | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 27 / 35 |
| Strict confidential | | | |

1.2.19 Set password

| Request | | | | |
|------------|---------------|--|-------------|-------------|
| Signature | Method | setPassword | | |
| | URI | PUT /application/administration/password | | |
| Parameters | Name | Type | Mandatory | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | passwordDto | PasswordDto | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 204 | No Content | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 28 / 35 |
| Strict confidential | | | |

1.2.20 Get version

| Request | | | | |
|------------|---------------|---|-------------|-------------|
| Signature | Method | getVersion | | |
| | URI | GET /application/administration/version | | |
| Parameters | Name | Type | Mandatory | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | | | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 200 | VersionDto | | |
| | 4xx, 5xx | ErrorDto | | |

1.2.21 Get status

| Request | | | | |
|------------|---------------|--|-------------|-------------|
| Signature | Method | getStatus | | |
| | URI | GET /application/administration/status | | |
| Parameters | Name | Type | Mandatory | Description |
| | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Authorization | Bearer <token> | | |
| Body | | | | |
| Response | | | | |
| Header | Name | Value | | |
| | Content-Type | application/vnd.kerlink.iot-v1+json | | |
| | Location | | | |
| Parameters | Name | Type | Description | |
| | | | | |
| Body | Status | Value | | |
| | 200 | StatusDto | | |
| | 4xx, 5xx | ErrorDto | | |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 30 / 35 |
| Strict confidential | | | |

2. Data Transfer Object

2.1 UserDto

| Field | Type | Description |
|----------|--------|-------------|
| login | String | Login |
| password | String | Password |

2.2 JWTDto

| Field | Type | Description |
|-----------------|---------|-------------------------------------|
| token | String | Token value |
| token_type | String | Token type {Bearer} |
| expiration_date | Integer | Expiration date (EPOCH date in sec) |

2.3 LANConfigurationDto

| Field | Type | Direction | Description |
|--------------|---------|-----------|---|
| available | Boolean | Get | LAN availability |
| enable | Boolean | Get/Set | True: on; False: off |
| ipv4 | String | Get/Set | IPv4 configuration type {dhcp, static, off} |
| ipv4_address | String | Get/Set | IPv4 address |
| ipv4_netmask | String | Get/Set | IPv4 netmask or prefix length |
| ipv4_gateway | String | Get/Set | IPv4 gateway |
| ipv4_dns | String | Get/Set | IPv4 DNS |

2.4 WLANConfigurationDto

| Field | Type | Direction | Description |
|-----------|------------------|-----------|----------------------|
| available | String | Get | Wi-Fi availability |
| enable | Boolean | Get/Set | True: on; False: off |
| services | WLANServiceDto[] | Get | Wi-Fi service list |

2.5 WLANServiceDto

| | | | |
|---------------------|--|--|--|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | |
| Strict confidential | | | |

| Field | Type | Description |
|--------------------|---------|--|
| id | String | Unique identifier |
| name | String | Wi-Fi service name |
| state | String | Wi-Fi service state ("idle", "failure", "association", "configuration", "ready", "disconnect" or "online") |
| error | String | If not empty, indicates an error |
| strength | Integer | Signal strength |
| security | String | Security |
| already_configured | Boolean | Already configured |

2.6 WLANConnectDto

| Field | Type | Description |
|------------|--------|-------------|
| passphrase | String | Passphrase |

2.7 GSMConfigurationDto

| Field | Type | Direction | Description |
|-----------|------------------|-----------|---|
| available | Boolean | Get | True: GSM available; False: GSM not available (Read only) |
| enable | Boolean | Get/Set | True: on; False: off |
| pin_code | String | Get/Set | PIN code |
| operators | GSMOperatorDto[] | Get | List of declared operators |

2.8 GSMOperatorDto

| Field | Type | Description |
|----------|---------|---------------------|
| id | Integer | Unique identifier |
| mcc | String | Mobile Country Code |
| mnc | String | Mobile Network Code |
| apn | String | APN |
| user | String | User |
| password | String | Password |

2.9 TimeZonesDto

| Field | Type | Description |
|-----------|--------------------|---------------------------|
| timezones | Object[] string | of Array of time zones |

2.10 TimeDto

| Field | Type | Direction | Description |
|---------------|--------|-----------|---|
| mode | String | Get/Set | - "auto": automatic date and time with NTP - "manual": manual configuration |
| ntp | Object | Get/Set | NTP object |
| ntp.address_1 | String | Get/Set | NTP address 1 |
| ntp.address_2 | String | Get/Set | NTP address 2 |
| timezone | String | Get/Set | Timezone |
| date_time | String | Get/Set | Date/time in YYYYmmddHHMMSS format: - YYYY: year, 0000 to 9999 - mm: month, 01 to 12 - dd: day, 01 to 12 - HH: hour, 00 to 23 - mm: minute, 00 to 59 - ss: second, 00 to 59 |

2.11 PasswordDto

| Field | Type | Description |
|----------|--------|-------------|
| password | String | Password |

2.12 VersionDto

| Field | Type | Description |
|------------------------|--------|---|
| firmware_version | String | Firmware version |
| hardware_serial_number | String | Hardware serial number |
| platform_type | String | Device platform type ("ibts" or "iFemtoCell") |

2.13 StatusDto

| Field | Type | Description |
|------------------------------|---------|----------------------|
| system | Object | System |
| system.cpu | Float | CPU usage |
| system.ram | Float | RAM usage |
| system.user_volume_usage | Float | User volume usage |
| system.temperature | Float | Temperature |
| network | Object | Network |
| network.lan | Object | LAN |
| network.lan.status | Boolean | LAN status |
| network.lan.hardware_address | String | LAN hardware address |

| | | | |
|---------------------|--|--|--------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | | |
| Internal Use | Kerlink communication is everything reserved rights | | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | | Page 33 / 35 |
| Strict confidential | | | |

| | | |
|-------------------------------|---------|---|
| network.lan.address | String | LAN address |
| network.lan.broadcast | String | LAN broadcast |
| network.lan.netmask | String | LAN netmask |
| network.wlan | Object | WLAN (iFemtoCell only) |
| network.wlan.status | Boolean | WLAN status (iFemtoCell only) |
| network.wlan.hardware_address | String | WLAN hardware address (iFemtoCell only) |
| network.wlan.address | String | WLAN address (iFemtoCell only) |
| network.wlan.broadcast | String | WLAN broadcast (iFemtoCell only) |
| network.wlan.netmask | String | WLAN netmask (iFemtoCell only) |
| network.gsm | Object | GSM |
| network.gsm.status | Boolean | GSM status |
| network.gsm.address | String | GSM address |
| network.gsm.netmask | String | GSM netmask |

2.14 ErrorDto

| Field | Type | Description |
|------------|----------|--|
| code | String | Message code: <pre>{ ERROR_BAD_PARAMETER, ERROR_INTERNAL, ERROR_INVALID_JSON, ERROR_LICENSE ERROR_LOGIN, ERROR_NOT_IMPLEMENTED, WARNING_SYSTEM_BUSY, WARNING_INVALID_FIRMWARE }</pre> |
| message | String | Error message |
| parameters | Object[] | The array objects used to build the message |

END OF DOCUMENT

| | | |
|-----------------------|--|---------------------|
| Classification | This document is the strict property of Kerlink and shall not be either copied nor sent without express written authorization of Kerlink | |
| Internal Use | Kerlink communication is everything reserved rights | |
| Confidential | Kerlink - 1 rue Jacqueline Auriol - 35235 THORIGNÉ-FOUILLARD | Page 35 / 35 |
| Strict confidential | | |