Smart Device Communications; Protocol Aspects; Introduction

TIA-4940.020

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4 M2M Frame

The communication between the client and server should be based on the reliable network communication when M2M frames are used.

4.1 M2M Request Frame Description

The M2M request frames are based on a JSON structure and consist of two major sections:

1. ***Authentication*** – this is the place where the entire authentication items are placed.
2. ***Command(s)*** – this is the place where the commands items are placed

Below is the structure of the M2M frame:

```
{

  "auth": {

    "applicationToken": "<application token>",

    "sessionId": "<session token>"

  },

  "ref": {

    "command": "<command keyword>",

    "params": []

  }

}
```

In order to minimize the traffic, it is possible to have M2M frames with multiple commands as shown below:

```
{

  "auth": {

    "applicationToken": "<application token>",

    "sessionId": "<session token>"

  },
```

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```
  "ref1": {

    "command": "<first command>",

    "params": []

  },

  "ref2": {

    "command": "<second command>",

    "params": []

  },

  "ref3": {

    "command": "<third command>",

    "params": []

  }

}
```

Name	Description	Type	Mandatory
auth	Keyword. Identifies the authentication stanza in the M2M request frame	String	Yes
applicationToken	Keyword. Identifies the application making the request	String	Yes
sessionId	Keyword. Unique ID received after the use of the authentication services. Identifies the current session between the two entities	String	Yes
ref1, ref2, ref3	Identifies the commands that are in the request. Can be simple identifiers. They are not keyword. It is expected that the response will contain them.	String	Yes
command	Keyword. Identifies a known command that can be executed	String	Yes
params	Keyword. Identifies the parameters required by the command. The field must exist, but it can be empty.	String	Yes

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4.2 M2M Response Frame Description

The frame is described in a JSON format.

The response frame has the following structure:

```
{
  "ref1": {
      "success": true,
      "params": []
  },
  "ref2": {
      "success": false,
      "errorCodes":
            [
                  <errorCode1>,
                  <errorCode2>
            ]
      "errorMessages":
        [
              "<errorMessage>",
              "<errorMessage>"
        ]
  },
}
```

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Name	Description	Type	Mandatory
ref1,ref2, ref3	Identifies the request commands.	String	Yes
success	Keyword. Identifies the response. Can be true or false	String	Yes
errorCodes	Keyword. Identifies the error codes .		
errorMessages	Keyword. Identifies the error message.	String	No
params	Keyword. Identifies the response parameters. Can be empty.	String	Yes

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