



## Verified metadata

With every RPC method call, a metadata `Struct` with verified information is passed as first argument. The metadata `Struct` contains at least the following information:

Property	Type	Set by	Optional	Description
<code>sourceModuleId</code>	<code>String</code>	<code>c1-core</code>	no	The ID of the sending module. This parameter is filled (or overridden) in <code>c1-core</code> with the ID of the sending module.
<code>sourceModuleClientId</code>	<code>String</code>	Module	yes	The ID of the sending module client. Needs to be set to a verified value by the module. This can't be checked by <code>c1-core</code> . The value is only required for requests from module clients.
<code>userId</code>	<code>Struct</code>	Sender	yes	Filled with the ID of the sending user. For requests coming from UIs to <code>c1-core</code> this is filled with the logged in user. This parameter can be set by any sender. Just make sure the information is verified, as the validity cannot be checked by <code>c1-core</code> .
<code>accessedPrincipalId</code>	<code>Struct</code>	<code>c1-core</code>	yes	Only relevant when logged in as a system provider or system distributor. Specifies the principal the user wants to access (set by HTTP header). Using this property, you can be sure, the user has access to this principal.
<code>sourceModulePrincipalId</code>	<code>Struct</code>	<code>c1-core</code>	yes	This property is always and only set when the RPC method's call origin is a module or module

Property	Type	Set by	Optional	Description
				client. When the source module is associated to a specific principal, this Struct is set to this principal.
homeClientId	String	c1-proxy	yes	Filled with the home client ID (= edge client ID) for requests coming from edge clients.
homeClientUsers	Struct	c1-core	yes	Filled with the end(!) users associated to the edge client specified with homeClientId. The users are always associated to the same business partner as the edge client.
userHomeClients	Struct	c1-core	yes	Filled with the edge client IDs associated to the user specified with userId. This is only filled for end users, as only end users can be associated to edge clients.
resultingPrincipal	Struct	Module (set by libc1-module and c1-module-proxy)	no	This Struct should be used to check access permissions. It is calculated using information from userId, accessedPrincipalId and homeClientId. For example: When a system provider user accesses the module, the user's ID and type is taken from user ID, the system distributor ID and business partner ID is taken from accessedPrincipalId. See below for all options.

## userId Struct

The userId Struct contains the following fields:

Property	Type	Description
sp	String	The ID of the system provider.
sd	String	The ID of the system distributor. Empty for system provider users.
bp	String	The ID of the business partner. Empty for system provider and system distributor users.
id	String	The users's ID.
type	Int	1 for super users (unused currently), 2 for system provider users, 3 for system distributor users, 4 for business partner users and 5 for end users.

Always check `type` to assign the user to a principal level if required.

## homeClientUsers Array

This is an `Array` of user ID `Structs`. See the `userId` `Struct` for the properties.

## resultingPrincipal Struct

This `Struct` should be used for access checks. It contains the resulting access permissions of the client and merges `userId`, `homeClientId` and `accessedPrincipalId`. It has the following fields:

Property	Type	Description
sp	String	The ID of the system provider.
sd	String	The ID of the system distributor. This is always set, also for system provider users. For module access a system distributor must always be specified.
bp	String	The ID of the business partner. This is always set, also for system provider and system distributor users. For module access a business partner must always be specified.
id	String	The users's, edge client's or module's ID.

Property	Type	Description
type	Int	1 for super users (unused currently), 2 for system provider users, 3 for system distributor users, 4 for business partner users, 5 for end users, 6 for edge clients and 7 for modules.

## Examples

### User call

Here's an example for a call from a system provider user (i. e. a user logged in into c1-core):

```
{
  "homeClientId": "",
  "homeClientUsers": {},
  "sourceModuleId": "c1-core",
  "userHomeClients": {
    "active": {},
    "all": {}
  },
  "userId": {
    "type": 2,
    "sp": "48109350-1db6-11e9-8e66-2f71a0be4cc5",
    "sd": "",
    "bp": "",
    "id": "157d9350-1db8-11e9-8e66-2f71a0be4cc5"
  },
  "accessedPrincipalId": {
    "sp": "48109350-1db6-11e9-8e66-2f71a0be4cc5",
    "sd": "76f3016a-8231-0512-8588-ff6f0f525dbb",
    "bp": "d1faa8d0-2db4-11ea-af75-674069e60b74"
  },
  "resultingPrincipal": {
    "type": 2,
    "sp": "48109350-1db6-11e9-8e66-2f71a0be4cc5",
    "sd": "76f3016a-8231-0512-8588-ff6f0f525dbb",
    "bp": "d1faa8d0-2db4-11ea-af75-674069e60b74",
    "id": "157d9350-1db8-11e9-8e66-2f71a0be4cc5"
  }
}
```

Here's an example for a call from a business partner user (i. e. a user logged in into c1-core):

```
{
  "homeClientId": "",
  "homeClientUsers": {},
  "sourceModuleId": "c1-core",
  "userHomeClients": {
    "active": {},
    "all": {}
  }
}
```

```

},
"userId": {
  "type": 2,
  "sp": "48109350-1db6-11e9-8e66-2f71a0be4cc5",
  "sd": "37917b52-0d0a-40e2-9228-cc77c734bd84",
  "bp": "ef88f0fc-d9fc-4327-8b70-55083c99b28d",
  "id": "2111cb54-3851-47c7-a95a-d1935817dd0e"
},
"accessedPrincipalId": {
  "sp": "48109350-1db6-11e9-8e66-2f71a0be4cc5",
  "sd": "37917b52-0d0a-40e2-9228-cc77c734bd84",
  "bp": "ef88f0fc-d9fc-4327-8b70-55083c99b28d"
},
"resultingPrincipal": {
  "type": 2,
  "sp": "48109350-1db6-11e9-8e66-2f71a0be4cc5",
  "sd": "37917b52-0d0a-40e2-9228-cc77c734bd84",
  "bp": "ef88f0fc-d9fc-4327-8b70-55083c99b28d",
  "id": "2111cb54-3851-47c7-a95a-d1935817dd0e"
}
}
}

```

Todo: Add an example for an end user containing `userHomeClients` .

### Module call

Here's another example for a call originating from another global module:

```

{
  "homeClientId": "",
  "homeClientUsers": {},
  "sourceModuleId": "c1-device-management",
  "userHomeClients": {
    "active": {},
    "all": {}
  },
},
"userId": {},
"accessedPrincipalId": {},
"resultingPrincipal": {
  "type": 7,
  "sp": "0",
  "sd": "0",
  "bp": "0",
  "id": "c1-device-management"
}
}

```

When the originating module is associated to a principal, `sourceModulePrincipalId` is filled:

```

{
  "homeClientId": "",
  "homeClientUsers": {},
  "sourceModuleId": "c1-device-management",
  "userHomeClients": {
    "active": {},

```

```

    "all": {}
  },
  "userId": {},
  "accessedPrincipalId": {},
  "sourceModulePrincipalId": {
    "sp": "05178911-2ce8-46fc-859e-ba690657b315",
    "sd": "97f8a8dc-f7f2-4e25-bd64-a2ffdd245f9e",
    "bp": "d0f00894-f7d2-4060-a4e1-fc0b5bfdd902"
  },
  "resultingPrincipal": {
    "type": 7,
    "sp": "05178911-2ce8-46fc-859e-ba690657b315",
    "sd": "97f8a8dc-f7f2-4e25-bd64-a2ffdd245f9e",
    "bp": "d0f00894-f7d2-4060-a4e1-fc0b5bfdd902",
    "id": "c1-wodis-connector-fluewo"
  }
}

```

### edge client call

And finally an example for a call originating from an edge client:

```

{
  "homeClientId": "0604b020-7905-11eb-ad7b-f9e2c6c59018_6261.102.32_1",
  "homeClientUsers": {
    "a70868e6-f33d-4cf1-8cbf-952f2f0fe9a9": {
      "roles": ["tenant", "occupant"]
    },
    "1b4b834e-47ae-4bb9-9a83-2c4e8357ad6a": {
      "roles": ["tenant", "occupant"]
    }
  },
  "sourceModuleId": "c1-proxy",
  "sourceModuleClientId": "0604b020-7905-11eb-ad7b-f9e2c6c59018_6261.102.32_1",
  "userHomeClients": {
    "active": {},
    "all": {}
  },
  "userId": {},
  "accessedPrincipalId": {
    "sp": "48109350-1db6-11e9-8e66-2f71a0be4cc5",
    "sd": "76f3016a-8231-0512-8588-ff6f0f525dbb",
    "bp": "d1faa8d0-2db4-11ea-af75-674069e60b74"
  },
  "resultingPrincipal": {
    "type": 6,
    "sp": "48109350-1db6-11e9-8e66-2f71a0be4cc5",
    "sd": "76f3016a-8231-0512-8588-ff6f0f525dbb",
    "bp": "d1faa8d0-2db4-11ea-af75-674069e60b74",
    "id": "0604b020-7905-11eb-ad7b-f9e2c6c59018_6261.102.32_1"
  }
}

```