MNGPLAT Feature

Teldat Dm830-I

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Chapter 1 MNGPLAT feature

1.1 Introduction

The *Management-platform* feature allows the Colibri NetManager management platform to manage devices remotely.

Devices communicate with the platform by means of a REST-based protocol and are responsible for making requests to the server, which provides an API for device configuration, event monitoring and other management tasks. The requests are sent periodically by an agent running on the device using the HTTP/HTTPS protocols.

A full example follows:

The device sends periodic REST requests to the platform asking for a list of pending tasks.

```
[GET] http://apps.teldat.com/api/task/all/
```

If there are no pending tasks, the server returns no results.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<result>
   <status>OK</status>
   <data/>
</result>
```

When a user changes the configuration of a group of devices, a new task will be issued to each member of the group. The device's next REST request returns a new task as a result.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<result>
   <status>OK</status>
   <data>
      <task>
         <name>LOAD_CONFIGURATION</name>
         <params>system</params>
      </task>
   </data>
</result>
```

The device requests the new configuration from the server.

```
[GET] http://apps.teldat.com/api/configuration/app/fileserver/
```

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<result>
   <status>OK</status>
   <data>
      <configuration>
         <configuration>
; Showing Menu and Submenus Configuration for access-level 15 ...
; ATLASi60Router  WNMS-L Development System 28 307 Version 11.01.02-Beta-90b0d51+

   log-command-errors
   no configuration
   description config_router
;
   add device eth-subinterface ethernet0/2 20
   add device loopback 1
   add device bvi 0
   set data-link at cellular0/0
   set data-link at cellular0/1
   set hostname prueba
;
   feature management-platform
; -- MANAGEMENT PLATFORM configuration --
      server netmanager
         address discover.networkcloudmanager.com
         enable
```

```
      exit
;
   exit
;
;
   network ethernet0/0
; -- Ethernet Interface User Configuration --
      ip address 192.168.212.92 255.255.252.0
;
   exit
;
;
   network loopback1
; -- Loopback interface configuration --
      ip address 192.168.212.95 255.255.252.0
;
   exit
;
;
   protocol ip
; -- Internet protocol user configuration --
      route 0.0.0.0 0.0.0.0 192.168.212.2
;
;
   exit
;
;
;
   feature dns
; -- DNS resolver user configuration --
      server 8.8.8.8
   exit
;
dump-command-errors
end
        </configuration>
      </configuration>
   </data>
</result>
```

The device loads the new configuration and sends the result to the server.

```
[POST] http://apps.teldat.com/api/configuration/app/result/system/
```

Chapter 2 Configuration

2.1 Accessing the configuration

To access the MNGPLAT feature configuration menu, use the **feature management-platform** command (found in the main configuration menu).

```
Config>feature management-platform

-- MANAGEMENT PLATFORM configuration --
MNGPLAT config>
```

In the MNGPLAT feature global configuration menu, the following commands are available:

Command	Function
? (HELP)	Displays the configuration commands and their options.
NO	Undoes a command action or restores a parameter's default value.
MAP	Configures a **key**-**tag** mapping for monitoring purposes.
SERVER	Configures a management server endpoint.
SKIP-HOST-NAME-VERIFICATION	Disables hostname verification for HTTPS URLs.
EXIT	Exits the configuration menu.

2.1.1 ? (HELP)

Displays the available commands and their options.

Syntax:

```
MNGPLAT config>?
  map                           Defines a map for servers
  no                            Negate a command or set its defaults
  server                        Configuration of a management server endpoint
  skip-hostname-verification    Hostname verification control
  exit
MNGPLAT config>
```

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.
11.00.05	The "*skip-hostname-verification*" command was introduced as of version 11.00.05.
11.01.01	The "*skip-hostname-verification*" command was introduced as of version 11.01.01.
11.01.07	The "*map*" command was introduced as of version 11.01.07.

2.1.2 NO

Undoes a command action or restores a parameter's default value.

Syntax:

```
MNGPLAT config>no ?
  map                           Defines a map for servers
  server                        Configuration of a management server endpoint
  skip-hostname-verification    Hostname verification control
```

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.
11.00.05	The "*skip-hostname-verification*" command was introduced as of version 11.00.05.
11.01.01	The "*skip-hostname-verification*" command was introduced as of version 11.01.01.
11.01.07	The "*map*" command was introduced as of version 11.01.07.

2.1.3 SERVER

Accesses a management server's configuration mode.

Syntax:

```
MNGPLAT config>server <id-server>
```

id-server Name of management server to configure.

Example:

```
MNGPLAT config>server colibri
MNGPLAT Server colibri config>
```

To delete a configured management server, enter **no server <id-server>**.

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.

2.1.4 SKIP-HOSTNAME-VERIFICATION

Disables hostname verification for HTTPS URLs. This is enabled by default, meaning the fully qualified hostname in the HTTPS request URL and the hostname specified in the SSL certificate must match.

Syntax:

```
MNGPLAT config>skip-hostname-verification
```

Command history:

Release	Modification
11.00.05	This command was introduced as of version 11.00.05.
11.01.01	This command was introduced as of version 11.01.01.

2.1.5 MAP

This command is used for monitoring purposes and allows mapping <keys> to <tags> to make key-tag string pairs. The **key** option indicates to device firmware which feature/element to monitor. The **tags** option contains the string with the tags which CNM uses to accurately represent monitoring information. For each configured **map**, a new monitoring event is sent to CNM.The following is a list of currently managed keys:

- *network.ethernetX/Y:* LAN/WAN Ethernet interface monitoring, where *X/Y* is the interface number.
- *network.direct-ipX:* WAN LTE interface monitoring, where *X* is the interface number.
- *network.atmX/Y:* WAN xDSL interface monitoring, where *X* is the interface number.
- *network.tnipX:* Tunnel monitoring, where *X* is the interface number.
- *tnipX.nhsY.peerA.B.C.D:* NHRP monitoring, where *X* is the interface number, *Y* is the NHS index and *A.B.C.D* is the IP address of the remote host. The NHS index value is selected by the user and must be unique. For further information, see Teldat manual *Dm768-I Dynamic Multipoint VPN*.
- *bgpX.peerA.B.C.D:* BGP monitoring, where *X* is the BGP index and A.B.C.D is the IP address of the remote host. As with NHS, the BGP index is selected by the user and must be unique. For further information, see Teldat manual *Dm763-I BGP Protocol.*

- *operation.X:* SLA monitoring (jitter, RTT, packet loss), where *X* is the operation index configured in the NSM feature. For further information, see Teldat manual *Dm749-I NSM.*
- *advisor.X:* SLA monitoring, where X is the advisor index configured in the NSLA feature. For further information, see Teldat manual *Dm754-I NSLA.*
- *alarm.X:* SLA monitoring, where X is the alarm index configured in the NSLA feature. For further information, see Teldat manual *Dm754-I NSLA.*

Unlike the **key**, the **tags** option is interpreted by CNM rather than being managed by the device. In other words, key syntax is understood by the device firmware while tag syntax is understood by CNM.

Syntax:

```
MNGPLAT config>map <1..64 chars> <1..256 chars>
```

Example:

```
MNGPLAT config>map network.ethernet0/1 wan.Wan
```

You cannot configure a **key** string that has already been used. If you try, a CLI error message will be displayed:

```
MNGPLAT config>map network.ethernet0/1 wan.Wan2
CLI Error: Key "network.ethernet0/1" is already configured
CLI Error: Command error
```

To delete a single map, enter **no map <key>**. To delete all configured maps, enter **no map**.

Command history:

Release	Modification
11.01.07	This command was introduced as of version 11.01.07.

2.1.6 EXIT

Exits the MNGPLAT feature configuration menu.

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.

2.2 CNM Server Configuration

Configures a management server endpoint.

The following commands are available at the server configuration menu:

2.2.1 ? (HELP)

Displays the available commands and their options.

Syntax:

```
MNGPLAT Server xxxx config>?
  address              Address of server
  alternate-id         Device alternate ID to be used in this server for identification
  customer-uuid        Customer UUID to be used in this server for registration
  description          Configure server with a description
  device-role          Device role to be managed by this server
  enable               Enables this server
  frequency            Polling to the server frequency
  no                   Negate a command or set its defaults
  port                 Port where server is listening
  protocol             Protocol (http/https) to communicate with server
  source-address       SRC address for the IP packets sent to this server
  exit                 Exit to parent menu
MNGPLAT Server colibri config>
```

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.
11.01.01	The "*device-role*" optionwas introduced as of version 11.01.01.
11.00.06	The "*source-address*" option was introduced as of version 11.00.06.
11.01.02	The "*source-address*" option was introduced as of version 11.01.02
11.01.06	The "*alternate-id*" option was introduced as of version 11.01.06.
11.00.07	The "*autoconfiguration*" option was obsoleted as of version 11.00.07.
11.01.07	The "*autoconfiguration*" option was obsoleted as of version 11.01.07.

2.2.2 ADDRESS

Configures the address of the management server. It may contain an IPv4/IPv6 address or a domain name.

Syntax:

```
MNGPLAT Server xxxx config>address <1..64 chars>
```

Example:

```
MNGPLAT Server xxxx config>address 192.168.20.1
```

```
MNGPLAT Server xxxx config>address 2001:ffff:20:3::AC10:10E1>
```

```
MNGPLAT Server xxxx config>address server.netcloudmang.com
```

To delete the allocated address, enter **no address**.

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.

2.2.3 ALTERNATE-ID

Configures an alternate identifier for the device to be used in the management server for identification purposes. When used together with the "*customer-uuid*" command, this can also automatically register the device with the management server.

Under the *name* option, an "alternate-id" can be entered directly by means of a string. Under the *ipv6-prefix* option, the "*alternate-id*" will be the IPv6 prefix that stems from the IPv6 address of the interface chosen. If the selected interface has no active IPv6 address, the "*alternate-id*" will be a zero string.

Syntax:

```
MNGPLAT Server xxxx config>alternate-id ?
  name           ID name to be used in this server for identification
  ipv6-prefix    IPv6 prefix to be used in this server for identification
MNGPLAT Server xxxx config>alternate-id name ?
  <1..256 chars>    ID name to be used in this server for identification
MNGPLAT Server xxxx config>alternate-id ipv6-prefix ?
  <interface>    Interface name
```

Example:

```
MNGPLAT Server xxxx config>alternate-id name device1
```

```
MNGPLAT Server xxxx config>alternate-id ipv6-prefix ethernet0/0
```

To delete this option, enter **no alternate-id**.

Command history:

Release	Modification
11.01.06	This command was introduced as of version 11.01.06.

2.2.4 AUTOCONFIGURATION

Enables device autoconfiguration from the management server.

Syntax:

```
MNGPLAT Server xxxx config>autoconfiguration
```

To disable this option, enter **no autoconfiguration**.

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.
11.00.07	This command is obsolete as of version 11.00.07
11.01.07	This command is obsolete as of version 11.01.07

2.2.5 CUSTOMER-UUID

This data is used to automatically register the device with the management server. It can be manually configured through this command or received by DHCP. If the first option is chosen, you must specify this parameter in the format <xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx>.

Syntax:

```
MNGPLAT Server xxxx config>customer-uuid <36 chars>
```

Example:

```
MNGPLAT Server xxxx config>customer-uuid w234er56-6h78-y7u8-frt5-we34fv567u65
```

To delete this option, enter **no customer-uuid**.

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.

2.2.6 DESCRIPTION

Configures a textual description on the management server.

Syntax:

```
MNGPLAT Server xxxx config>description <1..256 chars>
```

Example:

```
MNGPLAT Server xxxx config>description server1
```

To delete this option, enter **no description**.

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.

2.2.7 DEVICE-ROLE

Configures the device role to be managed by the management server. The server can manage the embedded AP or the router. By default, the role is **router**.

Syntax:

```
MNGPLAT Server xxxx config>device-role ?
  ap          Manage the embedded AP
  router      Manage the Router
```

Example:

```
MNGPLAT Server xxxx config>device-role ap
```

```
MNGPLAT Server xxxx config>device-role router
```

To set the default value, enter **no device-role**.

Command history:

Release	Modification
11.01.01	This command was introduced as of version 11.01.01.

2.2.8 ENABLE

Enables the management server. By default, the server is disabled.

Syntax:

```
MNGPLAT Server xxxx config>enable
```

To disable the server, enter **no enable.**

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.

2.2.9 FREQUENCY

Configures how frequently the device queries the management server. The default value is 30 seconds.

Syntax:

```
MNGPLAT Server xxxx config>frequency <30s..52w1d>
```

Example:

```
MNGPLAT Server xxxx config>frequency 60s
```

To set the default value, enter **no frequency.**

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.

2.2.10 NO

Undoes a command action or restores a parameter's default value.

Syntax:

```
MNGPLAT Server xxxx config>no ?
  address              Address of server
```

```
alternate-id          Device alternate ID to be used in this server for identification
customer-uuid         Customer UUID to be used in this server for registration
description           Configure server with a description
device-role           Device role to be managed by this server
enable                Enables this server
frequency             Polling to the server frequency
port                  Port where server is listening
protocol              Protocol (http/https) to communicate with server
source-address        SRC address for the IP packets sent to this server
```

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.
11.01.01	The "*device-role*" option was introduced as of version 11.01.01.
11.00.06	The "*source-address*" option was introduced as of version 11.00.06.
11.01.02	The "*source-address*" option was introduced as of version 11.01.02.
11.01.06	The "*alternate-id*" option was introduced as of version 11.01.06.
11.00.07	The "*autoconfiguration*" option was obsoleted as of version 11.00.07.
11.01.07	The "*autoconfiguration*" option was obsoleted as of version 11.01.07.

2.2.11 PORT

Configures the server to listen on a specific port. The default value is 443.

Syntax:

```
MNGPLAT Server xxxx config>port <1..65535>
```

Example:

```
MNGPLAT Server xxxx config>port 8080
```

To set the default value, enter **no port**.

Note

Port 80 is not valid for HTTPS connections. When the server is configured in this way, the system will use port 443 (which is the default port for HTTPS connections) for internal traffic.

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.

2.2.12 PROTOCOL

Configures the protocol (http/https) to be used by the device to communicate with the management server. The default value is https.

Syntax:

```
MNGPLAT Server xxxx config>protocol ?
  http     HTTP Protocol
  https    Secure HTTP Protocol
```

Example:

```
MNGPLAT Server xxxx config>protocol http
```

```
MNGPLAT Server xxxx config>protocol https
```

To set the default value, enter **no protocol**.

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.

2.2.13 SOURCE-ADDRESS

Configures the source IP address assigned to outgoing packets destined to the management server. If you do not configure this parameter, outgoing packets are assembled using the source address of the interface they are sent through.

Syntax:

```
MNGPLAT Server xxxx config>source-address ?
<a.b.c.d>      Ipv4 format
<interface>    Interface name
```

Example:

```
MNGPLAT Server xxxx config>source-address 192.168.20.1
```

```
MNGPLAT Server xxxx config>source-address ethernet0/0
```

To delete this option, enter **no source-address**.

Command history:

Release	Modification
11.00.06	This command was introduced as of version 11.00.06.
11.01.02	This command was introduced as of version 11.01.02.

2.2.14 EXIT

Exits the configuration menu.

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.

Chapter 3 Monitoring

3.1 Accessing the monitoring menu

To access the MNGPLAT monitoring menu, use the **feature management-platform** command (found in the main monitoring menu).

Syntax:

```
+feature management-platform

--  Management Platform Console  --

management-platform+
```

The following table describes the monitoring commands that are available:

Command	Function
?(HELP)	Displays the monitoring commands and their options.
CLEAR	Deletes the statistics or the certificate used during the connection for a specific management server.
CONFIRM	Confirms the configuration received from the management server.
LIST	Displays the status and statistics for all configured servers.
EXIT	Exits the feature's monitoring menu.

3.1.1 ? (HELP)

Displays the available commands and their options.

Syntax:

```
management-platform+?
  clear    Clear menu
  confirm  Confirm configuration
  list     List monitoring information
  exit
management-platform+
```

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.
11.01.04	The "*confirm*" option was added as of version 11.01.04.

3.1.2 CLEAR

Allows you to initialize the statistics or delete the certificate used during connection for a specific management server.

Syntax:

```
management-platform+clear {cert | statistics} <server-name>
```

server-name Name of management server to monitor.

Example:

```
management-platform+clear cert colibri
```

```
management-platform+clear statistics colibri
```

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.

3.1.3 CONFIRM

Allows you to confirm the configuration received from the management server. If, after 5 minutes, the configuration is not confirmed, the device discards it and uses the previous configuration received from the server.

Syntax:

```
management-platform+confirm
```

Command history:

Release	Modification
11.01.04	This command was introduced as of version 11.01.04.

3.1.4 LIST

Displays the status and statistics for all configured servers.

Syntax:

```
management-platform+list servers
```

Example:

```
management-platform+list servers

Management Platform Servers
---------------------------
Server "colibri"
        Description: "SERVER_COLIBRI"
        Protocol: HTTP
        Host: "192.168.20.5"
        Address: "192.168.20.5"
        Port: 8080
        SRC Address: "192.168.10.2"
        Role: ROUTER
        Certificate: not present
        UUID: ""
        Alternate ID: ""
        Regist. URL: ""
        Enabled: Yes
        Status: Idle
        AutoConfig: Yes
        AutoRegister: No
        Poll interval: 30
        Monitor interval: 30
        Bytes TX: 0
        TX bitrate (5 min mean): 0 bps
        Compression ratio: 0%
        Bytes RX: 0


management-platform+
```

The meaning of each field is as follows:

Parameter	Description
Description	Textual description of the management server.
Protocol	Protocol used by the device to communicate with the management server.
Host	IP address or domain name of the management server.

Address	IP address of the management server. If the server is defined through a domain name, this address is the address assigned by DNS when it resolves the domain name.
Port	Port on which the management server is listening.
SRC Address	Source address assigned to outgoing packets destined to the management server. If it is not configured, the value shown is 0.0.0.0.
Role	Device role managed by the management server.
Certificate	Certificate used during connection.
UUID	UUID used to automatically register the device in the management server. If it was not manually configured, the value received by DHCP is displayed.
Alternate-ID	Alternate ID used to identify the device in the management server. When used together with the UUID, it can automatically register the device in the management server.
Regist. URL	URL to register and connect the device to the server. This field shows the URL when there is a UUID defined by configuration or by DHCP, and, optionally, an alternate ID.
Enabled	Whether the management server is enabled or disabled.
Status	Status of the agent running on the device. **Idle:** Initial state of the agent when it starts. **First contact:** Waiting to contact the server for the first time. **Autoconfiguring:** Awaiting configuration from the management server. **Updating info:** Updating device information on the server. **Running:** Operating. **Contacting:** The server connection has failed and the agent is trying to reconnect. **Stopped:** Not operating.
AutoConfig	Whether device autoconfiguration from the management server is enabled or disabled.
AutoRegister	Whether a customer UUID is defined, either because it was manually configured or received by DHCP. Optionally, an alternate ID can be defined, together with the UUID for automatic registration.
Poll interval	How frequently the device queries the management server.
Monitor interval	How frequently the device sends monitoring data to the management server.
Bytes TX	Amount of data sent from the device to the management server.
TX bitrate (5 min mean)	Real transmission rate. This rate is measured in 5-minute intervals.
Compression ratio	Percentage of data compression produced by the gzip algorithm until now.
Bytes RX	Amount of data received by the device from the management server.

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.
11.01.00	This command was introduced as of version 11.01.00.
11.00.06	The "*SRC Address*" field appears as of version 11.00.06.
11.01.02	The "*SRC Address*" field appears as of version 11.01.02.
11.01.06	The "*Alternate ID*" field appears as of version 11.01.06.

3.1.5 EXIT

Exits the MNGPLAT monitoring menu.

Command history:

Release	Modification
11.00.04	This command was introduced as of version 11.00.04.

Release	Modification
11.01.00	This command was introduced as of version 11.01.00.

Chapter 4 Annex A

4.1 Third Party Software

When it comes to TLS negotiation, CIT uses the OpenSSL library code.

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This package is an SSL implementation written by Eric Young (eay@cryptsoft.com).

The implementation was written so as to conform with Netscape's SSL.

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