

An aerial photograph of a large-scale mining operation. The scene is dominated by a massive, light-colored rock face or pile of earth. In the foreground, a long, single-file train of yellow and black ore cars stretches across the frame. To the right, a large yellow excavator or loader is positioned near the train. In the center, a complex network of yellow metal structures, including conveyor belts and support beams, is visible. The overall lighting is dim, giving the image a dark, industrial feel.

EPEC Gate

EPEC

CONTENTS

- INTRODUCTION
- SITEMANAGER
- GATEMANAGER
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INTRODUCTION

- Epec GatE is a service that is used to provide secure remote connection between a PC and Epec devices
- Can be used for remote connection, for example, CODESYS login, FTP connection, SSH connection or web visualization
- Required licenses
 - SiteManager device
 - One per device
 - LinkManager users (floating)



INTRODUCTION

- SiteManager
 - Embedded software in a device that communicates with GateManager
 - Enables the device to work as a secure access gateway
- GateManager
 - Web portal which is used to manage accounts, devices and licenses
 - GateManager Server acts as a switch-board for connections between LinkManagers and SiteManagers
- LinkManager
 - PC application for opening a connection from a PC to SiteManager through GateManager

SECOMEA INFO & LIBRARIES


- <https://www.secomea.com/linkmanager-client/>
- <https://www.secomea.com/sitemanager-software/>
- <https://www.secomea.com/gatemanager/>

- Supported operating systems for LinkManager
 - Windows 32/64 bit
- Supported browsers for LinkManager
 - Internet Explorer, Edge, Chrome, Firefox, Opera
- *EPEC_GatE*
 - Library to provide VPN connection through Secomea VPN server
 - For more information, see *Epec Programming and Libraries manual*

SITEMANAGER

SITEMANAGER LICENSES

- Provided by Epec to customer *License_Stock*
- Binding the license to a SiteManager device needs to be approved by a GateManager administrator
- To release a license, SiteManager device has to be deleted from GateManager
 - License is released within the next 24 hours

Name:	ExampleModem 16188012 [6000-series]
Product:	SiteManager Embedded for Epec
Serial:	6136:C04301022338-svWhOWepJg2v
Created:	2018-01-30 14:59
Source IP:	188.238.244.203
Firmware:	v6136_18084
License:	 8803 ¼ (SiteManager Embedded Basic, 2 Agents #1) 

GATEMANAGER

A combine harvester is shown from a rear-quarter perspective, working in a vast field of golden-brown grain. The harvester's headlights are on, and the scene is set against a dramatic sunset sky with a gradient from deep blue to orange. The horizon is flat, with some distant structures visible.

GATEMANAGER

- <https://gate.epec.fi/admin>
 - Login with the certificate file and password sent via email



GateManager
sec0mea

GateManager Login

Certificate: ExampleCustomer_Admin (ADM)

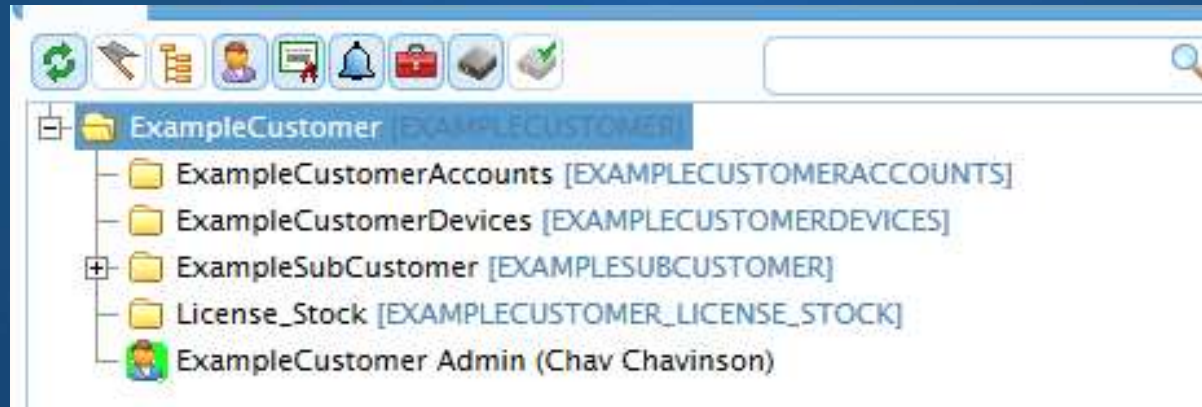
User name:

Password:

sec0mea

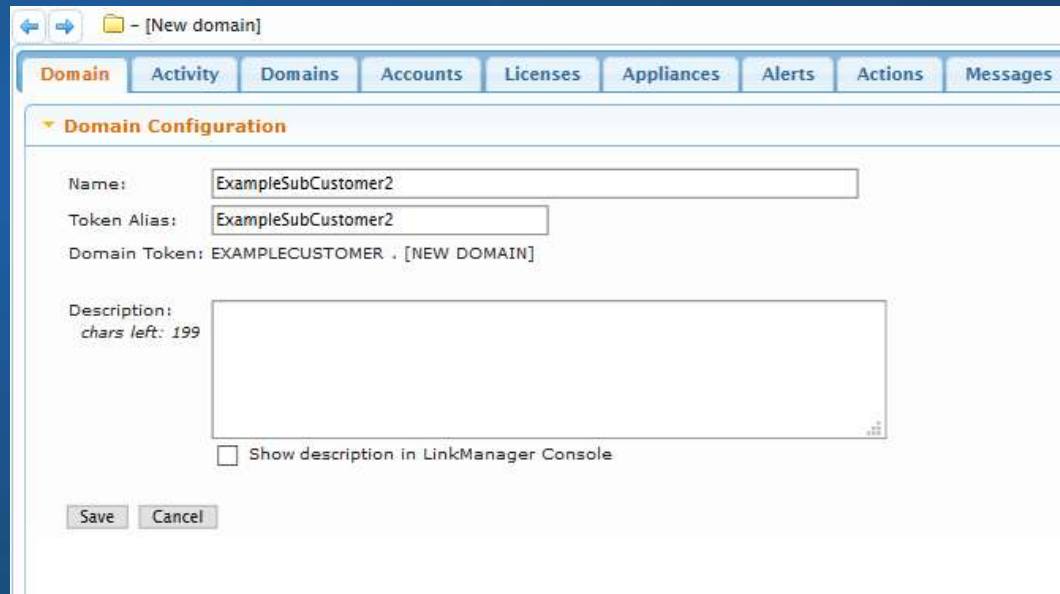
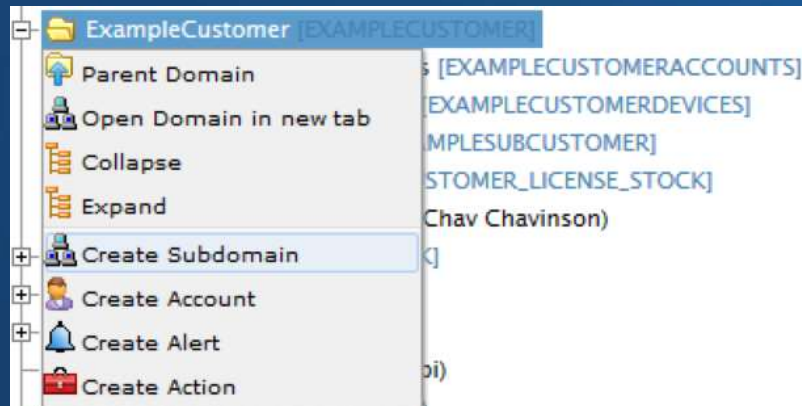
GATEMANAGER DOMAIN TREE

- Shows the domains (folders) which can be accessed with the used credentials
- Recommended directory structure (shown below)
 - Own domain for licenses, devices and accounts
 - Also applies to subcustomers



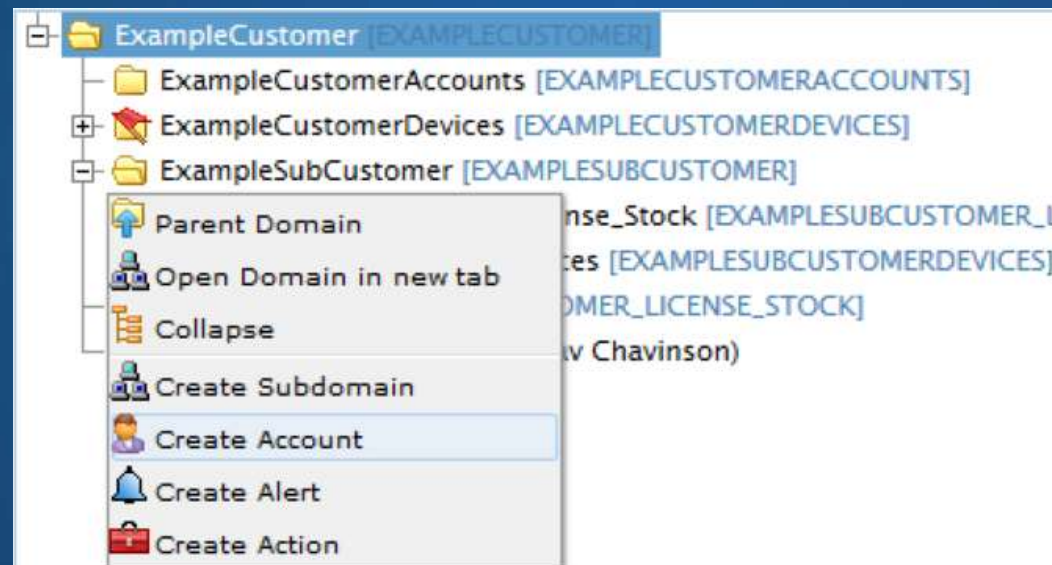
CREATING A NEW SUBDOMAIN

- A new subdomain can be created, for example, if a new customer wants to use GatE services



CREATING A NEW ACCOUNT FOR A DOMAIN

- To create a new subcustomer account, right-click the subcustomer domain and select **Create Account**



CREATING NEW ACCOUNT TO A GATEMANAGER

- Specifies the account information and the account role

The screenshot displays the 'Account' configuration page in a web application. The interface is divided into several sections:

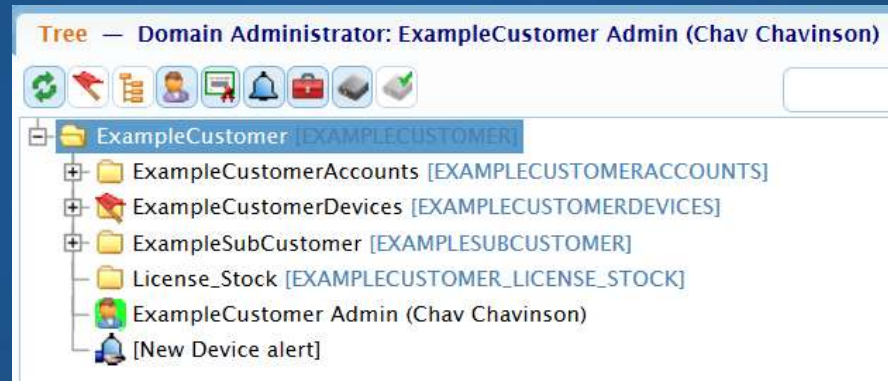
- Account Information:** Includes fields for 'Account Name' (ExampleSubCustomer Admin), 'Account Role' (Domain Administrator), 'Account Language' (English), and a 'Description' text area.
- Person Information:** Includes fields for 'Person Name' (James Jameson), 'Email' (example@mail.com), 'Mobile', and a 'Person Info' text area.
- Group Member:** A field for selecting a group member.
- Account Status:** Includes 'Disabled' (checkbox), 'Auto-Disable' (Never), 'Last Login', 'Created' (2018-03-01), 'Renewed', and 'Expires'.
- Authentication and Settings:** Includes 'Authentication' (X.509 Certificate (with password)), 'Duration' (Permanent), 'Mail Template' (Use default), and a 'Message' text area.
- Delivery and Password:** Includes 'Deliver to' (checked, example@mail.com), 'Zip Format' (checkbox), 'New password' and 'Repeat' fields, and 'Auto password' (checked).

At the bottom, there are 'Save' and 'Cancel' buttons.

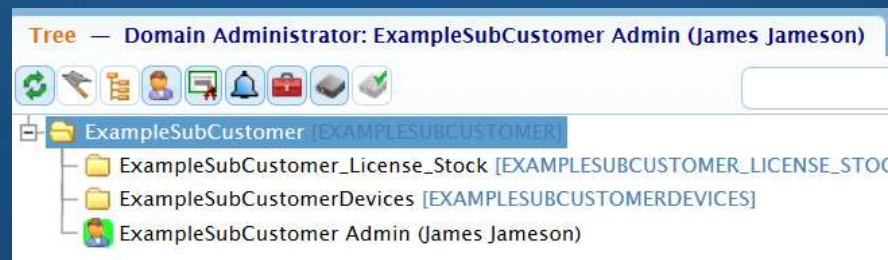
SUBCUSTOMER EXAMPLE

- User can see the content of their own domain level and subdomains but not higher domain levels, for example,

- Customer view:



- Subcustomer view:

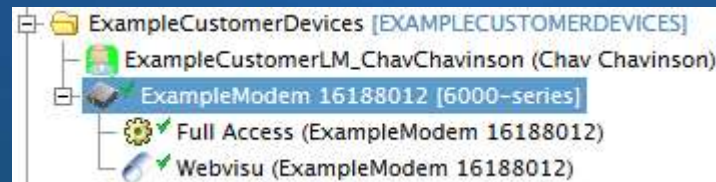


GATEMANAGER ACCOUNT

- **Domain Administrator**
 - Create subdomains for easier overview within your domain.
 - Restrict access to certain devices for specific users by “drag-n-drop”
 - Distribute messages for LinkManager users, which are displayed to the users logged into LinkManager
 - Display service messages for all your LinkManager users
- **Basic Administrator**
 - Can not see subdomains, operates only in own domain
 - Create and administer LinkManager accounts
- **Domain Observer**
 - Read-only access for accounts, devices and reports

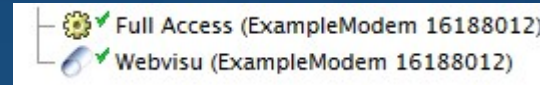
DEVICES IN GATEMANAGER

- Shows the modem online status, uptime and IP address
- A device is first created to the domain given in i_Domain
 - To change the location, drag-and-drop the device to the desired domain in GateManager
 - The device serial number is included



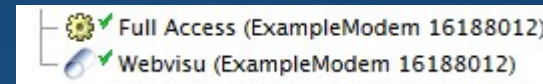
Last heartbeat:	2018-05-09 10:17:07 (6 seconds ago)	Next: 10:26:29 (in 05:36)
DEV1 port:	192.168.11.131	
Operating System:	Linux [user-mode]	
Uptime:	18 hours 38 minutes 36 seconds	
Date/time:	2010-01-02 17:38:54	
GateManager Address:	gate.epec.fi	

DEVICE AGENTS



- SiteManager license defines how many device agents a device can have
- Device agents in GateManager define the access level to the device
 - Allow/disable connection to different ports, e.g. web visualization or FTP
- Device agents can be grouped
 - One connection uses all agents in the same group
- Device agents can be dragged to different domains
 - Does not require any changes to the device
 - Provides connection to a certain port(s) without giving access to the actual device

DEVICE AGENTS



- In the picture below, the service person only sees the device agent that allows to use the web visualization of *ExampleModem*
- *ExampleCustomerAccounts* is shown to the service person, since the account was created there and then joined to the *ServiceLevel*



REPLACING DEVICE IN GATEMANAGER

- If the device in the system gets replaced, it also needs to be replaced in GateManager

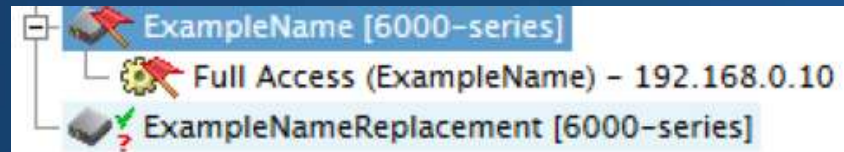
1. Select the device to be replaced and press **Replace**



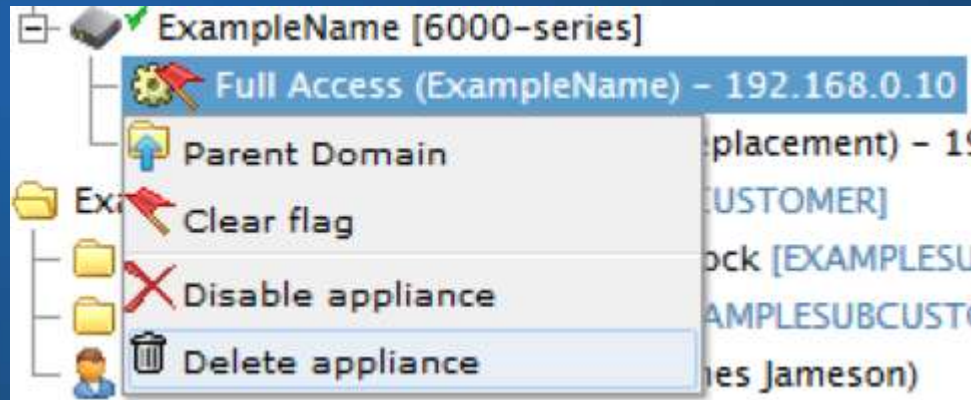
2. Verify the correct device to be replaced by selecting **OK**
3. Choose if the old device agents are brought for the new device

REPLACING DEVICE IN GATEMANAGER

- Drag the replacement device to Replace icon
 - Confirm the replacement



- Old agent(s) can be removed, if they are not used anymore





GATEMANAGER ALERTS

- GateManager alerts can be used for informing changes in domains, for example,
 - New device in domain
 - LinkManager connection to the device
- Alert is sent via email to desired email address

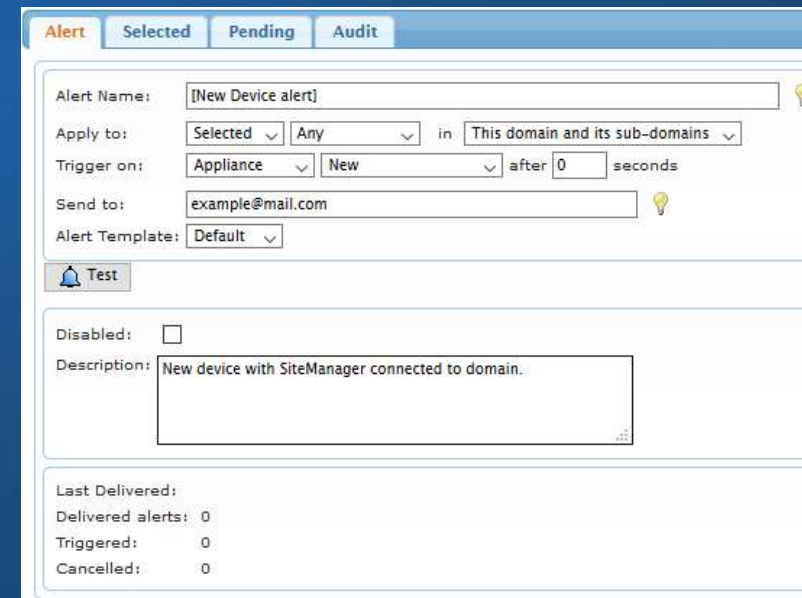
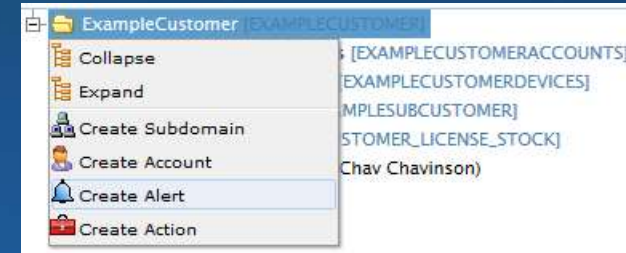
New device with SiteManager connected to domain.

ALERT: [New Device alert]
TRIGGERED: 2018-05-08 05:51:22 UTC
STATUS: New
APPLIANCE: TEST APPLIANCE
SERIAL: 00:00:00:00:00:00
DOMAIN: ExampleCustomer
SOURCE: 10.10.10.10

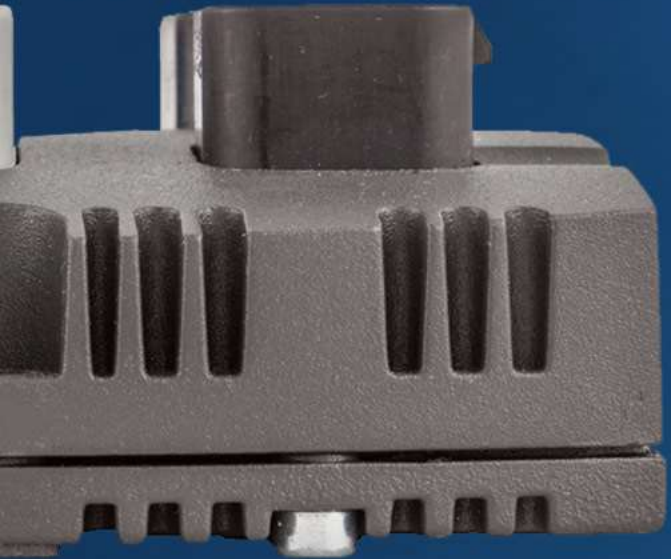
Last Heartbeat:

GATEMANAGER ALERTS

- Example of creating alert of a new device under specific domain or subdomain

A screenshot of the 'Alert' configuration form in the GateManager interface. The form is titled 'Alert' and has tabs for 'Selected', 'Pending', and 'Audit'. The 'Selected' tab is active. The form contains the following fields:

- Alert Name: [New Device alert]
- Apply to: Selected (dropdown), Any (dropdown), in This domain and its sub-domains (dropdown)
- Trigger on: Appliance (dropdown), New (dropdown), after 0 seconds
- Send to: example@mail.com
- Alert Template: Default (dropdown)
- Test button
- Disabled:
- Description: New device with SiteManager connected to domain.
- Last Delivered: Delivered alerts: 0, Triggered: 0, Cancelled: 0



LINKMANAGER

10.9.2018

www.epec.fi

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CREATING A LINKMANAGER USER

- LinkManager user can only see devices and device agents under the domain
- Create an account to the Accounts domain
 - **Account Role -> LinkManager User**



Account configuration form with tabs: Account, Joined Domains, Usage, Audit.

Account Name: ExampleCustomerLM_ChavChavinson

Account Role: LinkManager User

Account Language: English

Description:

Group Member:


Person Name: Chav Chavinson

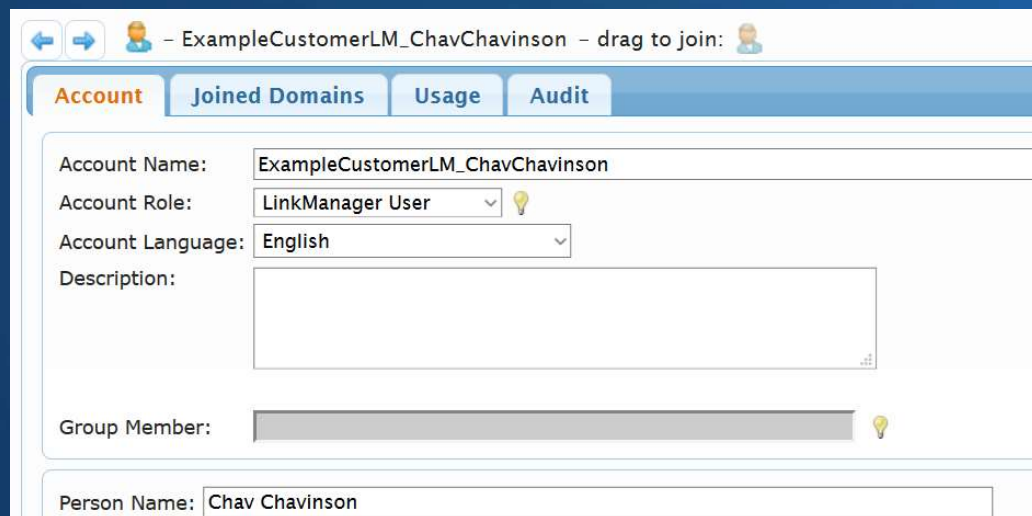
Email: example@mail.com

Mobile:

Person Info:

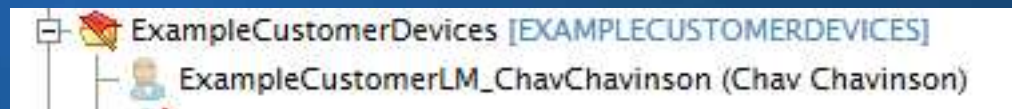
ADDING A LINKMANAGER ACCOUNT TO A SELECTED DOMAIN

- 1. Select LinkManager account to be added to a domain
- 2. Drag-and-drop  to the desired domain
- All the accounts that have access to the domain are listed under the domain



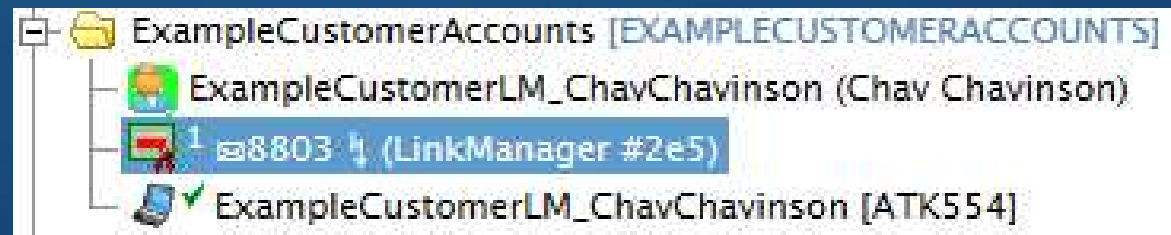
The screenshot shows a user management interface for the account 'ExampleCustomerLM_ChavChavinson'. The interface includes a header with navigation arrows and a 'drag to join' prompt. Below the header are four tabs: 'Account', 'Joined Domains', 'Usage', and 'Audit'. The 'Account' tab is active, displaying the following fields:

- Account Name: ExampleCustomerLM_ChavChavinson
- Account Role: LinkManager User (with a dropdown arrow and a lightbulb icon)
- Account Language: English (with a dropdown arrow)
- Description: (empty text area)
- Group Member: (empty text area with a lightbulb icon)
- Person Name: Chav Chavinson




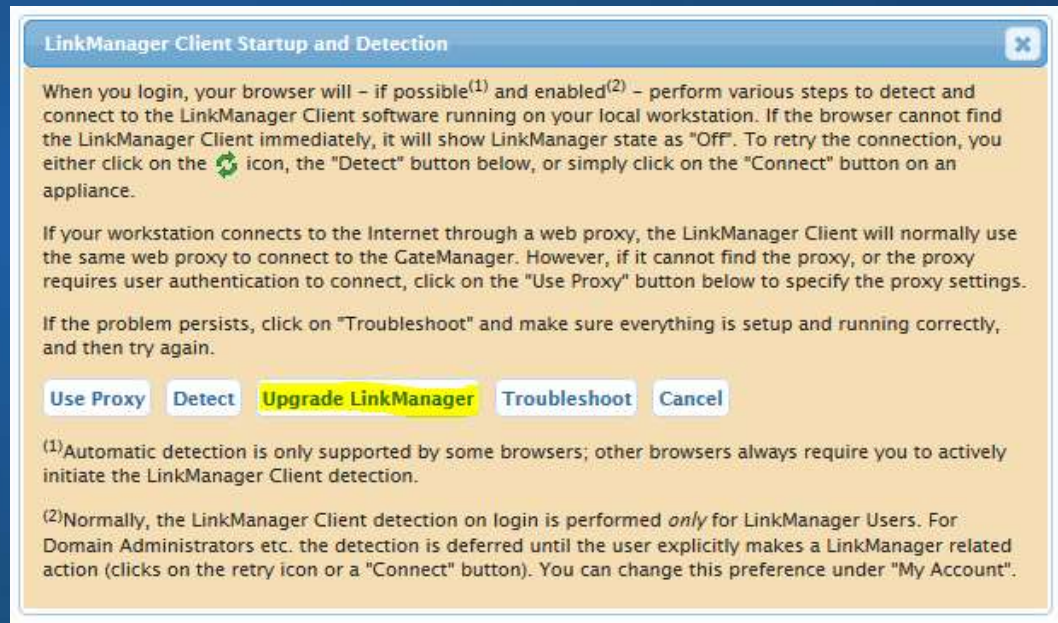
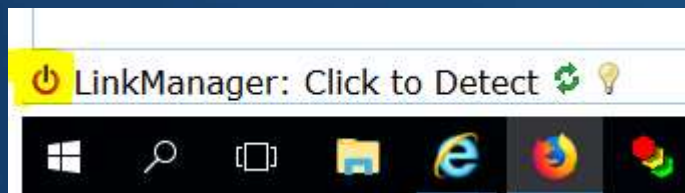
LINKMANAGER LICENSES

- Provided by Epec to customer *License_Stock*
- Customers can resell licenses to their customers
 - In this case, the license must be drag-and-dropped to the subcustomer *License_Stock*
 - NOTE: Do not use **drag to join**
- Add licenses to devices by dragging to the device




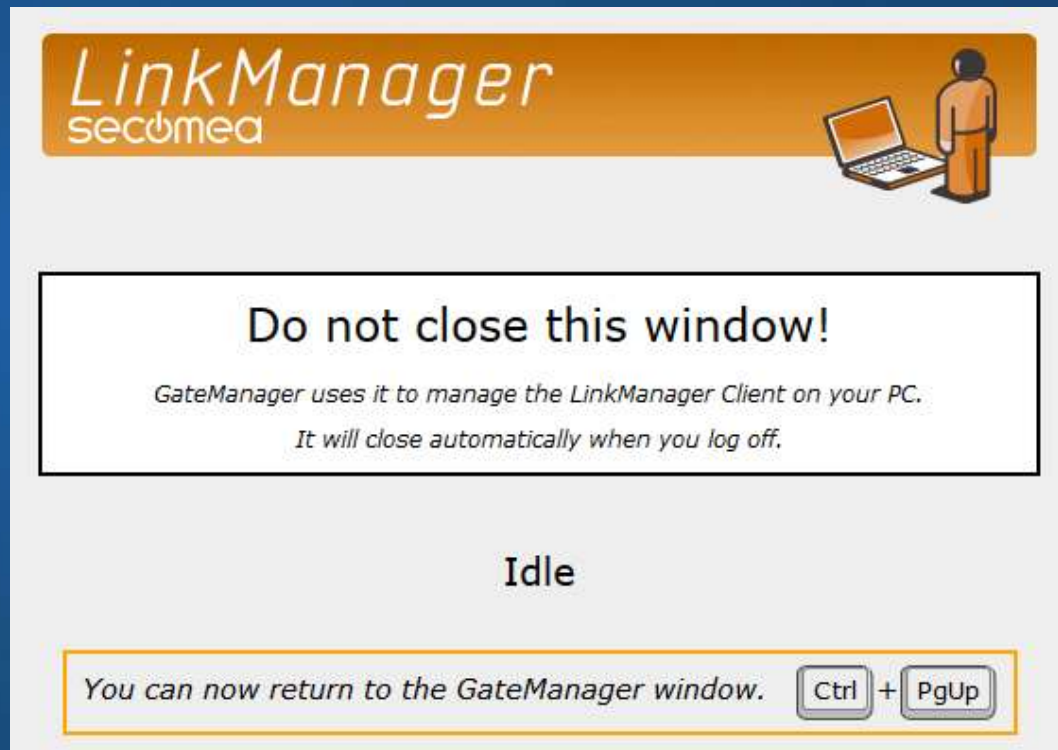
LINKMANAGER

- <https://gate.epec.fi/lm>
 - Log in with the certificate file and password
 - Provided via email when a LinkManager account is created
- Download LinkManager setup file from the bottom-left corner in LinkManager by selecting 
 - In the pop-up, select Upgrade LinkManager



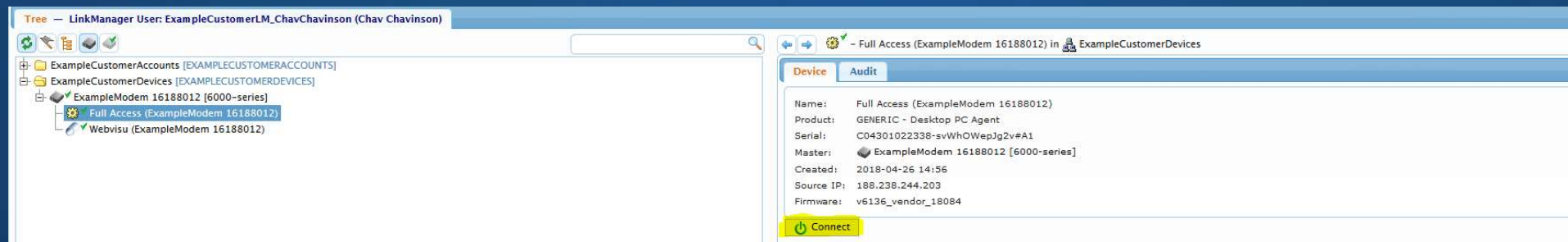
LINKMANAGER

- To start the LinkManager process select  from the bottom-left of the browser
- LinkManager will open in new browser window



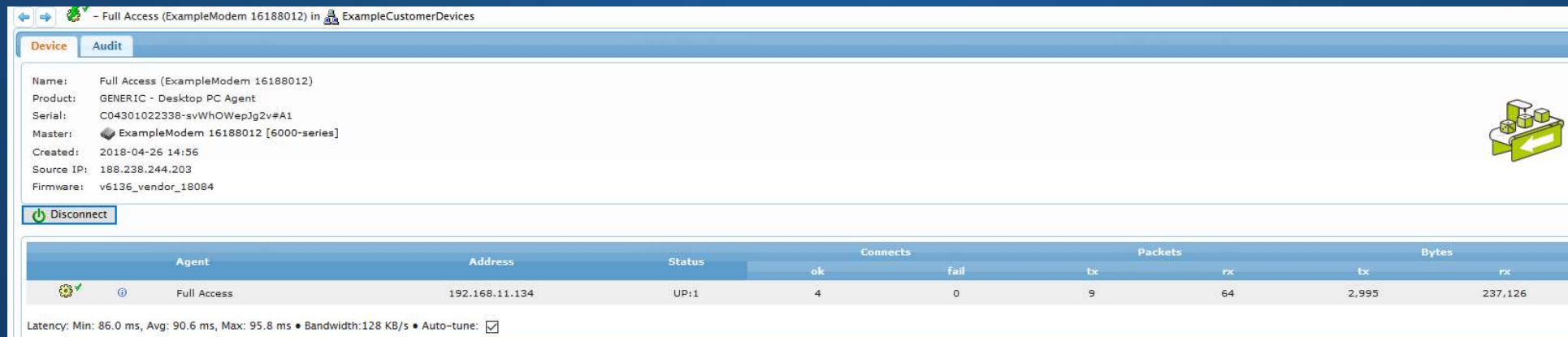
CONNECTING TO A DEVICE AGENT

- To establish connection between the PC and the device select the desired agent from the domain tree and select **Connect**
 - NOTE: Do not select **Connect All**
 - This will result in unrestricted access to a device
 - For more information, see <https://kb.secomea.com/hc/en-us/articles/115003758785-Agents-vs-Connect-All->



CONNECTION INFORMATION

- When connected to a device, diagnostics for the data session can be seen, for example,
 - IP address
 - Connection status
 - Data amount



The screenshot displays a network management interface with the following details:

- Device:** Full Access (ExampleModem 16188012)
- Product:** GENERIC - Desktop PC Agent
- Serial:** C04301022338-svWhOWepJg2v#A1
- Master:** ExampleModem 16188012 [6000-series]
- Created:** 2018-04-26 14:56
- Source IP:** 188.238.244.203
- Firmware:** v6136_vendor_18084

A **Disconnect** button is visible below the device information.

Agent	Address	Status	Connects		Packets		Bytes	
			ok	fail	tx	rx	tx	rx
Full Access	192.168.11.134	UP:1	4	0	9	64	2,995	237,126

Latency: Min: 86.0 ms, Avg: 90.6 ms, Max: 95.8 ms • Bandwidth: 128 KB/s • Auto-tune:



CONCLUSION

- While LinkManager connection is open, it is possible to connect to the ports that were opened by a device agent, for example,
 - CODESYS login – port 1217
 - NOTE: Remember to make a new Gateway in CODESYS with the IP address of a device
 - SSH (PuTTY) – port 22
 - FTP (FileZilla or WinSCP) – port 21



**THANK
YOU!**

14.12.2018

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