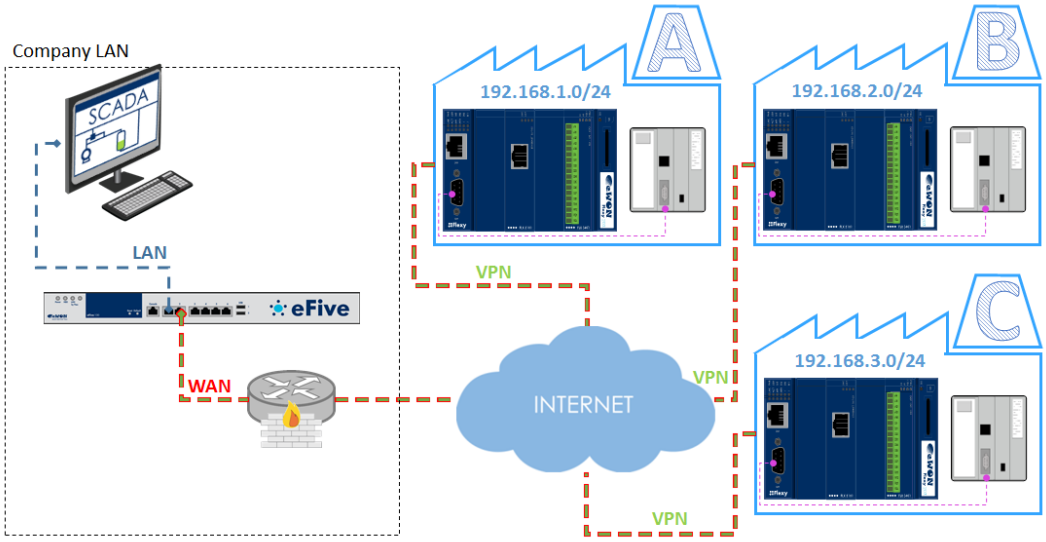
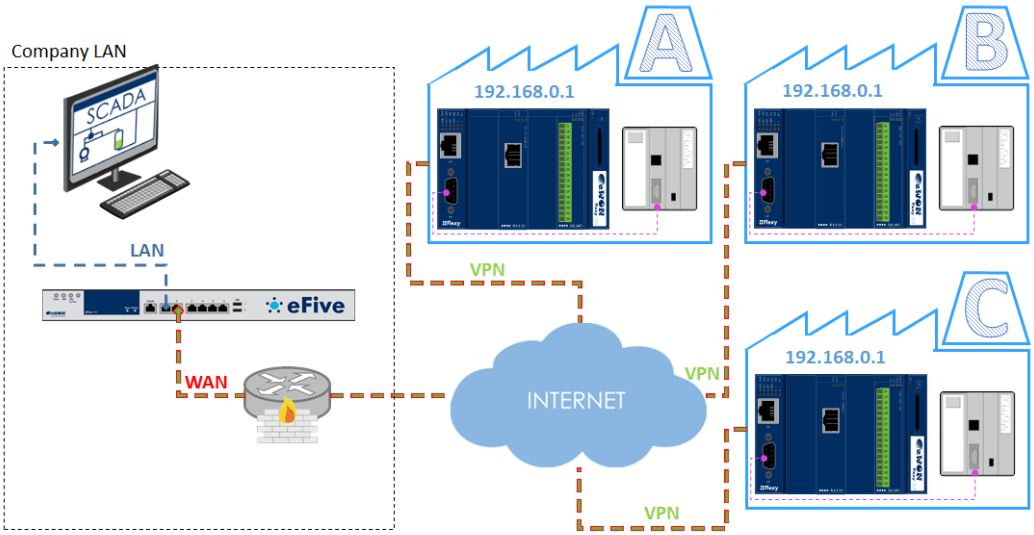
How to use identical remote networks on an eFive topology

On a VPN network, to allow routing and interconnections between remote networks, it is generally required to use different network ranges for every remote site.

Example of an eFive topology using different remote networks:



However, having different remote networks is not always possible. The remote devices will probably all have the same IP addresses.
Example:



To allow the SCADA system to access each remote device through the eFive VPN connection, we will use the NAT 1:1 feature on the eWON.

The NAT 1:1 feature exists on eWON Flexy running firmware version 10.0 or higher.
If needed you can update your Flexy base unit using the eBuddy companion tool.
For more details about firmware upgrades, refer to our Support website.

Note: The NAT 1:1 feature is not available on Flexy 1xx series. Only eWON Flexy 2xx and Cosy 131 support the NAT 1:1 feature.

1. eWON configuration

1. Configure your eWON to connect to the eFive VPN server.
2. Open the Routing configuration page:

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Configuration > System Setup > Communication > Networking > Routing
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3. Enable the NAT 1:1 option

4. Choose the mapping option "**NAT 1:1 on VPN**" and encode a new entry inside the mapping table.

NAT 1:1 ☑ Enabled			
Mapping	NAT 1:1 on VPN ▼		
	Device IP (LAN)	Mapped IP (WAN)	Nickname
Route 1	192.168.0.1	10.10.1.1	PLC 1
Route 2	192.168.0.2	10.10.1.2	PLC2

In our example: the Ethernet Device of the eWON LAN side with IP address 192.168.0.1, will become reachable on the VPN side using IP address: 10.10.1.1.
And the second PLC will be reachable on IP address: 10.10.1.2

5. Click Update on the bottom of the page to save the new mapping configuration.

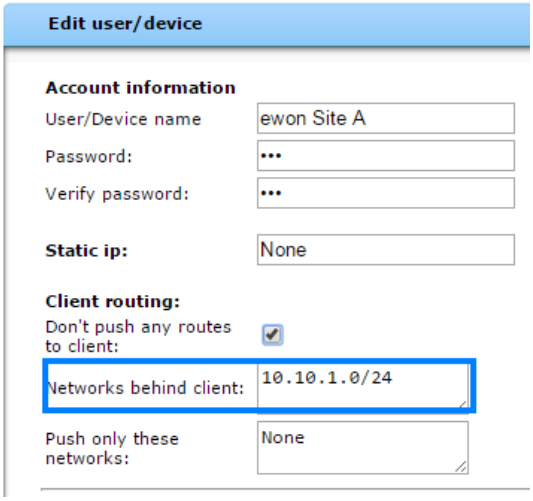
6. Proceed identically on all other eWONs.
   Apply the same configuration, but inside the NAT 1:1 mapping table use a different network range. For example:

NAT 1:1 ☑ Enabled			
Mapping	NAT 1:1 on VPN ▼		
	Device IP (LAN)	Mapped IP (WAN)	Nickname
Route 1	192.168.0.1	10.10.2.1	PLC 1
Route 2	192.168.0.2	10.10.2.2	PLC2
Route 3	0.0.0.0	0.0.0.0	

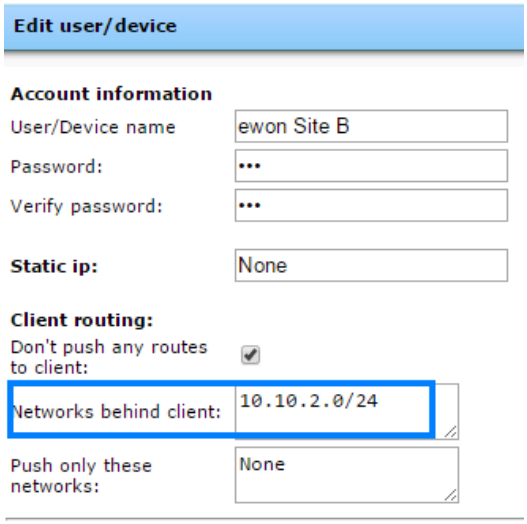
2. eFive configuration

On the eFive VPN server, we must now specify behind which eWON the new mapped network can be found.

1. On the eFive, open the VPN - Accounts menu
2. Edit the eWON account you want to modify
3. Under the Client routing section encode the IP range for the new mapped IP addresses inside the "Networks behind client" field.



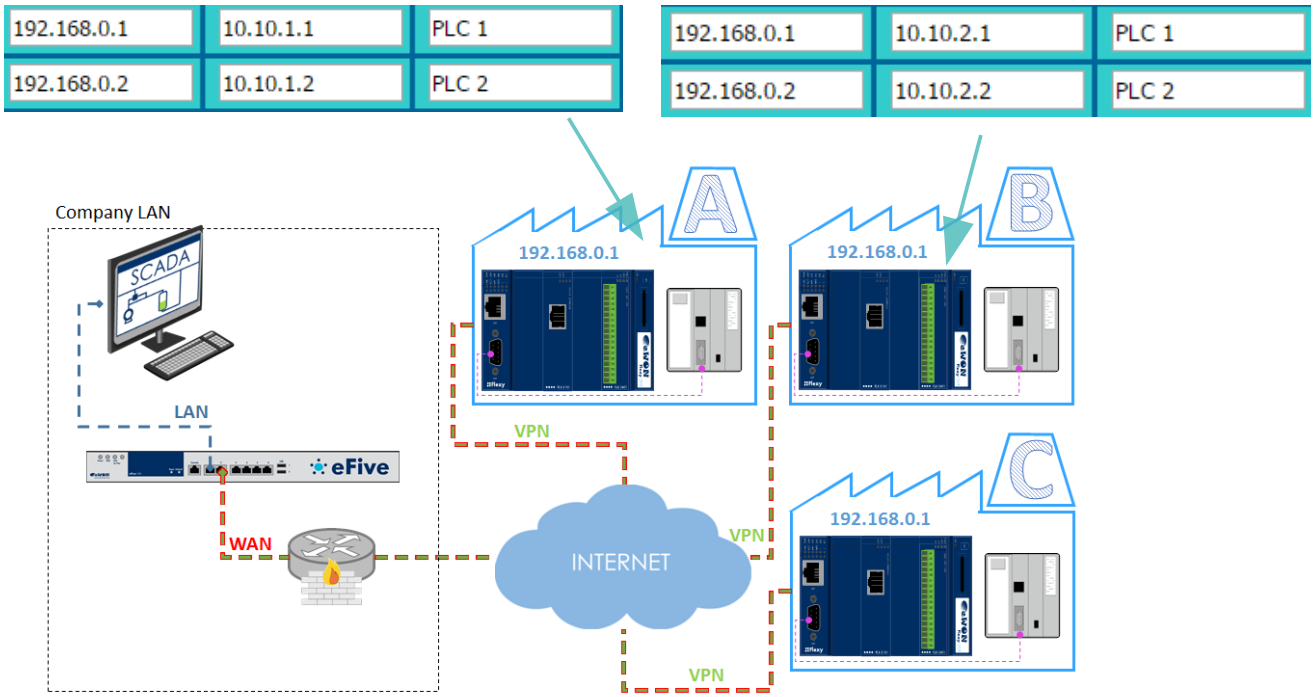
4. Proceed identically for the other eWON accounts.



5. Restart the VPN service on the eFive to take the modification into account.

3. SCADA configuration

The eWONs and the eFive server configured as explained inside the previous chapter, will allow the SCADA system to communicate with all remote PLCs.



To reach the PLC, the SCADA will need to use the mapped IP addresses instead of the real IP address of the PLC.

For example, to reach the PLC1 of site A , the SCADA system should use now the IP address 10.10.1.1 instead of the real PLC IP address. And use the IP address 10.10.2.2 to reach the PLC2 of site B.

Revision

Revision History

Revision Level	Date	Description
1.0	04/09/2015	Original Document

Document build number: 12