

1. System status on delivery

The econ application and the database server are based on Linux (debian 12). They are delivered as a VMWare "Open Virtual Appliance (ova-file)". VMWare Tools are already installed.

2. Load image into virtualization environment

The image is delivered as hardware version 13 (Workstation version 15.x, ESX 6.5 compatible) and runs immediately in VMWare Player and VMWare Workstation.

Note: A VMWare ESX Server or at least one VMWare workstation is recommended to run the application successfully. For a continuous operation, we cannot recommend VMWare Player, due to missing functionalities such as running it as a service on system start.

3. Required resources

You will find an overview of the required resources for econ4 and the optional econ connect server in the table below.

	econ4 Server VM	econ connect VM (optionally)
HDD	250 GB dynamically growing	80 GB dynamically growing
CPUs (cores)	cores 8 min. 4	2 CPUs (4 cores each)
RAM	16 GB (min. 8 GB)	8 GB
OS		Windows 2016/2019/2022 Server Windows 10Pro
Network connection		100 Mbit
Dongle protection		Software dongle alternatively free USB port for the dongle protection (USB-2.0) or USB-device server
File system		NTFS

4. Configuration console on the server

After the startup, a configuration console is available on the console screen. The network settings (fixed IP or DHCP), time server settings and security update settings can be defined. The virtual machine can be shut down or restarted. The operation is self-explaining, cursor navigation by arrow keys and tab, selection by Return / Enter.

The IP address should be reserved (in the case of DHCP). It is also the access route for users to the econ software. It is recommended to set up an internal DNS name so that the system is accessible via plaintext URL. Users must be able to reach port 80 (http) and / or port 443 (https).

5. Time server

An NTP server must be available to keep the time of the econ unit data loggers as well as other external data sources and the server synchronized. For this purpose, domain controllers or external NTP servers can be set. The official German time servers are preset.

6. Test of availability

The availability can be tested via "Ping" (ICMP). However, it is recommended to enter the IP address / URL in the browser. After that the login screen should appear:



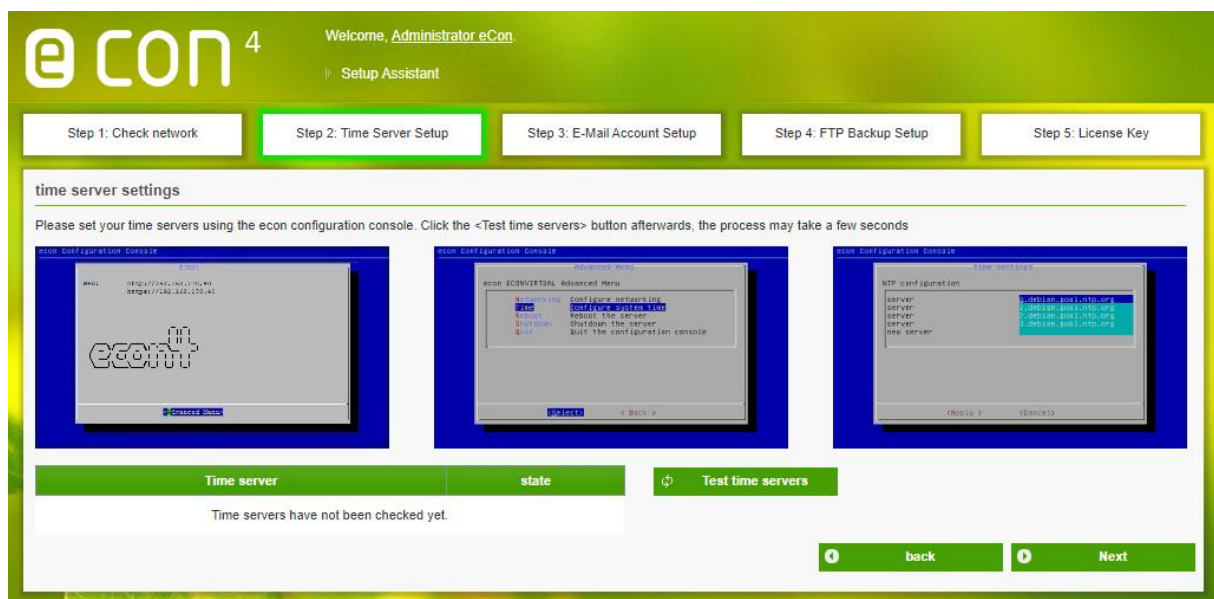
7. First login

For initial login into the application, use the following credentials:

- **User: administrator**
- **Password: econ**

8. Setup assistant

After the initial login, the setup assistant shows up. You are directed step by step through the verification of the network settings, time server, email and backup configuration. The final step is the license request that has to be sent to econ solutions. Completed steps (test buttons successful!) are highlighted in green in the upper area.



9. Enter licence key

After successful license request an individual keyfile will be provided, which must be imported. We recommend that this is done by the IT administrator. After importing the license file the econ application will be activated and is ready for use.

10. Background information to the configurations

An SMTP mail server (relay) is required if the system should be able to send notifications via email. This is used by various functions of the econ application. If necessary, the corresponding login information can be stored in the server.

11. Backup configuration

A daily backup of the database can be configured within the application. Therefore, an FTP server is necessary, on which the backup files can be stored. A backup rotation on days, weeks, months is adjustable. Alternatively, backups can also be implemented via snapshots of the entire VM or corresponding tools. Optionally, a backup can respectively also be done on CIFS / SMBShares. This must be manually set up by econ and is chargeable.

In addition, a time window is created in which you can use Snapshot-based backups using external tools. To do this, you must stop the database service on the econ server to create consistent backups. The time window for external server-based backup services is 23:30 to 00:30 every night. This can be adjusted manually. In addition to backups, an FTP server is also required to automatically import CSV files or to save the output files for other systems.

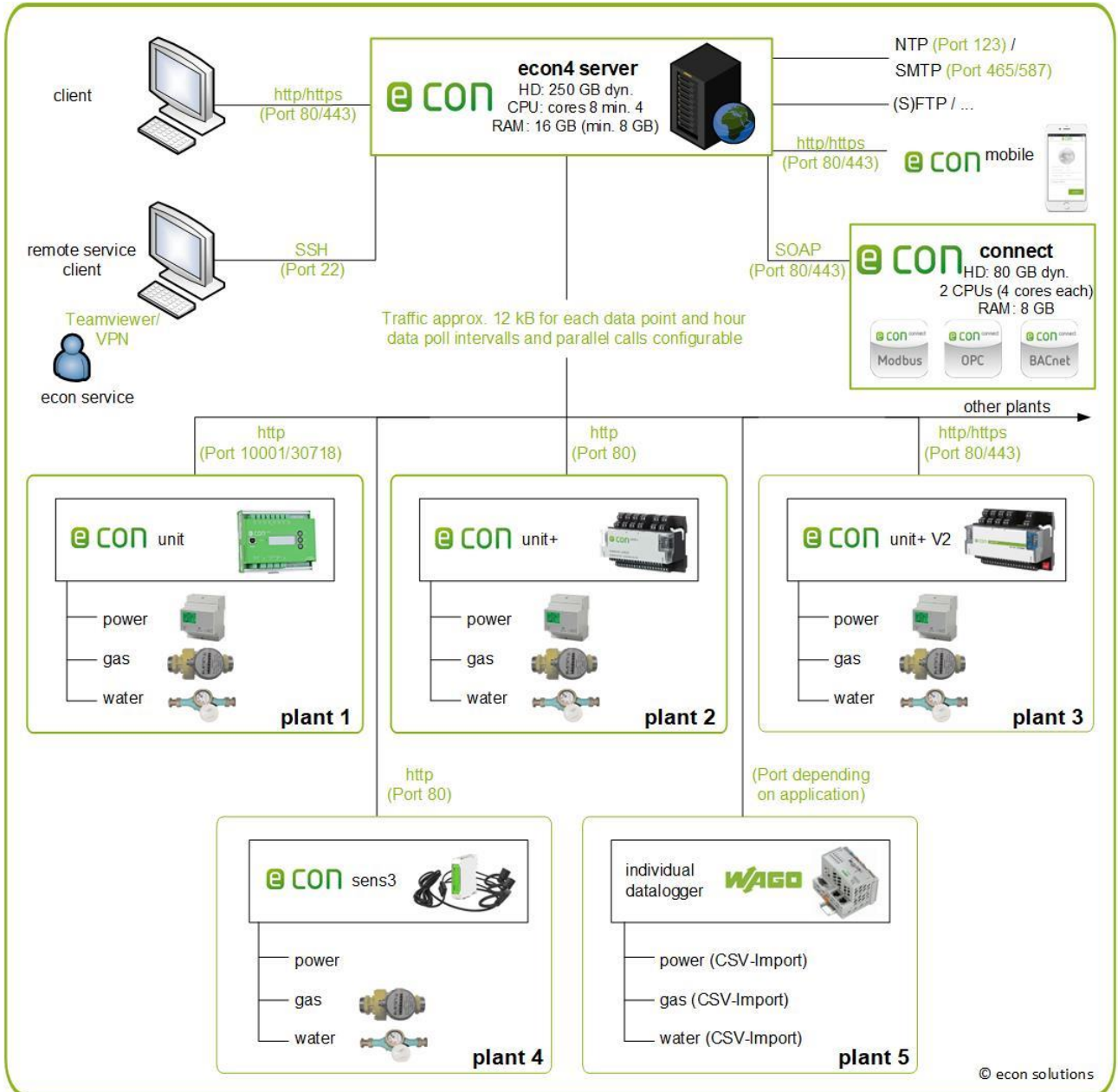
12. Maintenance

For maintenance measures by a remote console via putty/WinSCP (SSH port 22) any externally accessible PC is necessary (connection via Teamviewer, VPN etc)

13. Overview of connections

- a) Between econ unit+ V2 / unit+ / unit and server
 - econ unit+ V2: Port 80 http or Port 443 https
 - econ unit+: Port 80 http (Port 22 for service purposes)
 - econ unit: Port 10001/30718 http
 - Data volume of approx. 12kB for each data point and hour from device to server
 - Data collection minimum on 1-minute level, data poll intervalls can be configured (standard: 15 -30 minutes, once a week possible as well)
 - Parallel calls can be restricted in order to optimize traffic
- b) Between econ connect and server
as well as econ sens3 / sens+ and server (with direct integration)
 - Port 80 http or if required 443 https for webservices integration (SOAP)
- c) Between clients and server
 - Port 80 http or if required 443 https for access to the application
 - Port 22 SSH for remote maintenance via Teamviewer (then remote maintenance of the server possible from every client) or VPN
 - econ connect: possibly Teamviewer or RDP access to econ connect for configuration / maintenance via client
- d) Between clients and econ unit+ / unit+ V2 or econ sens3 / sens+
 - Port 80 http for web configuration

14. System overview



For support inquiries or assistance with the virtualization of the econ server you are welcome to contact software-support@econ-solutions.de by e-mail.